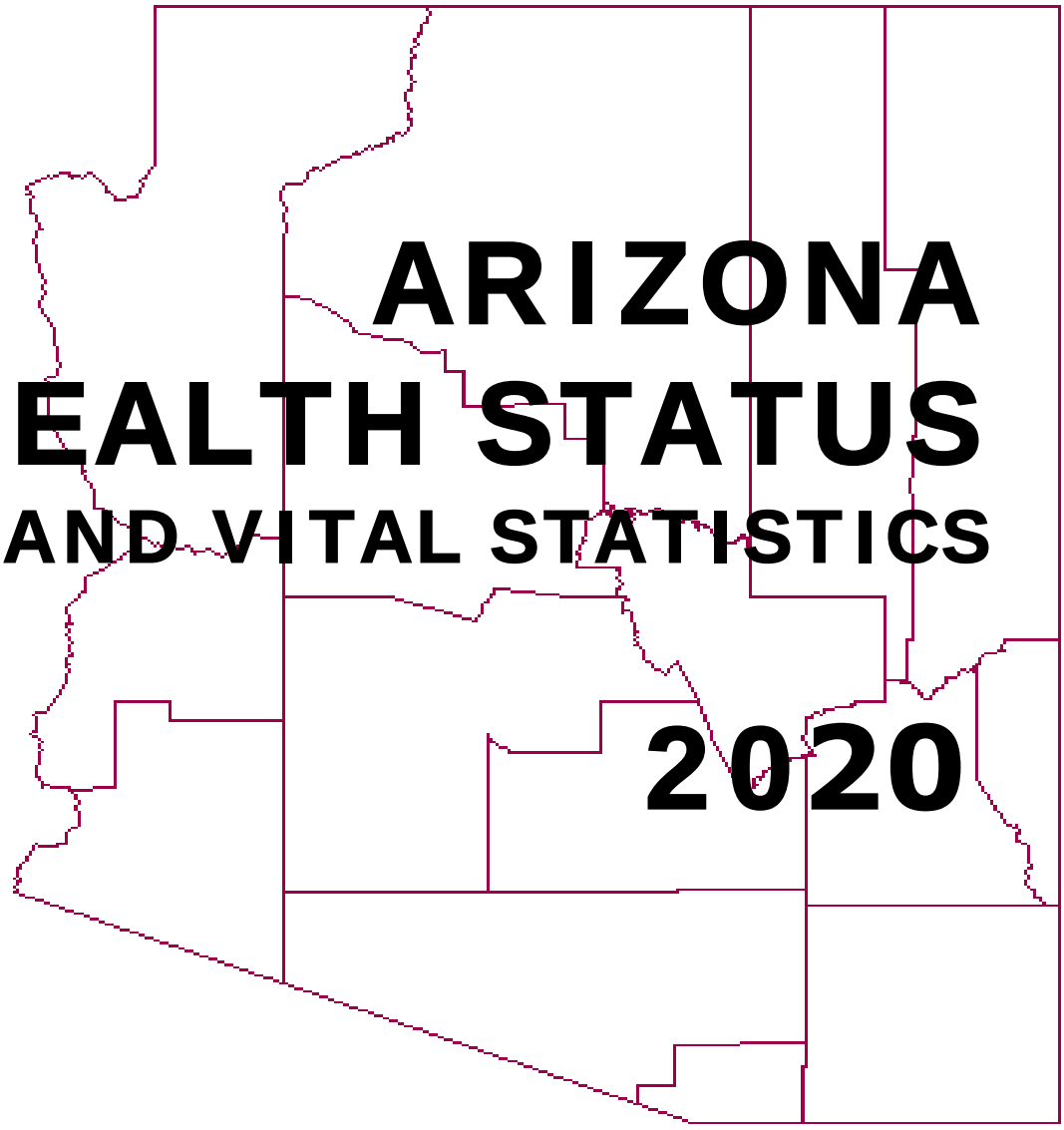
APPENDIX 13

Arizona Health Status and Vital Statistics Annual Report, 2020



ARIZONA HEALTH STATUS AND VITAL STATISTICS 2020

ARIZONA DEPARTMENT OF HEALTH SERVICES

~ Health and Wellness for all Arizonans ~

Katie Hobbs, Governor
State of Arizona

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ARIZONA

Health Status and Vital Statistics

2020

by

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February 2023

The vital events for the year 2020 analyzed in this report include birth, death, and fetal death certificates that were received on or before May 6, 2021. The same cutoff date is used for abortion reporting forms received from providers, as well as counts of marriages and dissolutions of marriage reported by the Clerk of the Superior Court in each county in which the marriage or divorce occurred.

Acknowledgments

Publication of *Arizona Health Status and Vital Statistics 2020* would not have been possible without the contributions of staff members throughout the Arizona Department of Health Services.

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We would also like to thank Jim Chang, PhD., State Demographer and Thara Salamone with the Office of Economic Opportunity (OEO), whose help in developing the population denominators used to compute the rates of vital events cannot be overestimated.

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INTRODUCTION

ORGANIZATION OF THE REPORT

This publication by the Arizona Department of Health Services, ***Arizona Health Status and Vital Statistics 2020***, is the annual update of information on vital statistics and the health status of Arizona residents. It provides population-wide data on *pregnancies*, *births*, *abortions*, *stillbirths*, *reportable diseases*, *deaths*, *marriages*, *divorces*, *hospital inpatient discharges*, *emergency department visits*, and the *population* of the state.

The 2020 report highlights both statewide trends as well as inequalities in health by subgroups including race/ethnicity, gender, and county. When possible, the data for 2020 are placed in a temporal context by comparison with the data for preceding years. The information in this volume consists of frequencies and rates of vital events for the state's residents (except as noted).

The updated *Index to Tables* in this report contains entries referring to specific health conditions, risk factors, disease categories, diagnostic groupings, procedures performed on hospital inpatients, and causes of death. The report provides information to monitor a number of indicators including mortality data on emerging topics such as COVID-19, obesity, enterocolitis due to *Clostridium difficile* (an infection associated with healthcare settings), and suicide, as well as information on births, fetal deaths, and abortions used to measure teenage pregnancy.

Since 1992, the report has been organized into three major parts, reflecting differences in geographic coverage:

Part I is concerned with ***statewide*** *statistics,*
Part II presents ***county-level*** *information,* and
Part III is focused on ***community-level*** *data.*

The first two parts are further divided into sections on reproductive and perinatal health, mortality, utilization of hospital care, and the status on year 2020 health objectives.

Not all health statistics are available or effectively reported at the community level. Hence, information about pregnancies, stillbirths, abortions, inpatient discharges, emergency room visits, reportable diseases, marriages, and marriage dissolutions is given only for the state and by county.

Part I of the report, ***THE STATE,*** has four chapters. The first chapter deals with *reproductive and perinatal health*, i.e., characteristics of women who became pregnant, factors related to the course of their pregnancies, and the status of pregnancy outcomes. Much of these data are given for each year from 2010 to 2020. The natality section of this report is concerned with fertility and birth rates, the general health of newborns as indexed by birthweight, prematurity, and selected demographic and prenatal care characteristics of the women giving birth.

The second chapter is focused on *trends and patterns in mortality*. It compares the annual age-adjusted profile of leading causes of death by gender from 2010 to 2020. Urban/rural and racial/ethnic differences in cause-specific mortality are also examined for Arizona residents. The five leading causes of death are discussed for infants (<1 year), children (1-14 years), adolescents (15-19 years), young adults (20-44 years), middle-aged adults (45-64 years), and the elderly (65 or more years). For each age group, cause-specific mortality is compared between urban (Maricopa, Pima, Pinal, and Yuma counties) and rural (Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Mohave, Navajo, Santa Cruz, and Yavapai) regions and between genders by year from 2010 to 2020. Urban and rural regions are compared in gender-specific total mortality. The chapter on mortality concludes with an examination of patterns of premature mortality by gender and race/ethnicity.

Morbidity, or the levels of disease in the population, is the topic of the third chapter. The presentation is limited to data on diseases reported for the entire population of the state by regulatory mandate. Separate sections focus on non-sexually transmitted diseases, sexually transmitted diseases, and human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS).

Chapter 4 is focused on *inpatient hospital care*, as well as *emergency room care* in Arizona in 2020. An inpatient discharge occurs when a person who was admitted to a hospital leaves that hospital. A person who has been admitted to the emergency room or as a hospital inpatient more than once in a given calendar year will be counted multiple times as a discharge and included more than once in the hospital discharge data set; thus, the statistics on inpatient hospital care and emergency room care in this report are for discharges, not persons.

The available data are for state-licensed hospitals including psychiatric facilities. Federal, military, and the Department of Veteran Affairs hospitals are not included. All discharges are for the residents of Arizona. Discharges of out-of-state residents are not included in this report.

Beginning in 2008, up to twenty-five diagnoses are coded for each discharge. In sections 4A and 7A, discharges are presented by first-listed (or principal) diagnosis, which is the first listed on the discharge summary of the medical record. The number of first-listed diagnoses is the same as the number of discharges.

The data on the number of procedures in sections 4B and 7B are for inpatients only. Procedures include surgical and non-surgical operations, diagnostic procedures, and special treatments reported on the medical record. Unlike years prior to 2016 where up to six procedures were analyzed for each discharge, in the current report, all the 12 listed procedures are taken into account in the hospital discharge analysis. These all-listed procedures include all occurrences of the procedure regardless of the order on the medical record.

Beginning in 2015, all Arizona hospitals transitioned from the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) to the International Classification of Diseases, 10th Revision, Clinical Modification/ Procedure Coding System (ICD-10-CM/PCS) for coding morbidity causes. The 2015 report included diagnostic groupings and code numbers based on ICD-9-CM for the first three quarters of the year, and ICD-10-CM for the last quarter (October to December). The 2020 report is the fifth of the series to contain diagnosis and procedures codes classified by ICD-10-CM/ICD-10-PCS.

Preceding the tabulated data in the first four chapters is a narrative description of the findings. This description is not meant to be exhaustive but rather is a presentation of the major highlights to be gleaned from the data.

Part II and Part III contain information with no accompanying narrative.

Part II, ***THE COUNTIES***, presents the tabulated data on 1) trends and patterns in health status and vital statistics by county of residence in Chapter 5, and 2) county profiles and statewide trends on indicators for assessing health status and monitoring Arizona's progress toward Healthy People 2020 objectives in Chapter 6. The health indicators are organized around ten subject areas: *maternal, infant, and child health*, *responsible sexual behavior*, *vaccine preventable diseases*, *injury and violence*, *cancer*, *diabetes*, *heart disease and stroke*, *respiratory diseases*, *human immunodeficiency virus (HIV) disease*, and *substance abuse*; 3) hospital inpatient and emergency room statistics by disease category, diagnosis group, and all-listed procedures by patient's county of residence in Chapter 7 and; 4) selected historical vital events including births, deaths, infant deaths, marriages, and dissolutions of marriage by year and county in the state for 1970-2009 in Chapter 8.

Part III, ***THE COMMUNITIES***, provides readers with selected community-level data by Primary Care Areas on live births and deaths in Arizona in 2020 (Chapter 9). In addition to the community-level data provided herein, a wealth of health and health-related information is now available at the Arizona Department of Health Services Community Profiles Dashboard: http://www.azdhs.gov/phs/phstats/profiles/index.php.

Chapter 10 presents population denominators for Arizona by gender, age groups, county of residence, and race/ethnicity.

To use ***Arizona Health Status and Vital Statistics 2020*** effectively, the reader should become familiar with the *Technical Notes* at the end of the report. They provide definitions of terms used in the report, as well as information about the sources of data. *Technical Notes* also provide a link to detailed comparability ratios used to make comparisons between cause-of-death data classified by the Ninth and Tenth Revisions of the International Classification of Diseases.

In addition to the bound form, the ***Arizona Health Status and Vital Statistics 2020*** report, as well as previously published reports for 2000-2019, are available online at: http://pub.azdhs.gov/health-stats.

FEATURES OF 2020 REPORT

THE 2003 REVISED BIRTH CERTIFICATE

On January 1, 2014, The Arizona State Vital records implemented the 2003 U.S. Certificate of live birth, a revised version of the 1989 Standard Certificate of birth. The 2020 Health Status report covered the seventh year of data collected using the 2003 Standard Certificate of birth.

The revised birth certificate introduced new items, and significant changes in content and format of pre-existing fields. Due to these amendments, items such as, mother's education, month prenatal began, pregnancy weight gain, and tobacco use during pregnancy, while in the 1998 certificate are not comparable between versions. *Mother's educational attainment* as collected on the revised birth certificate captures

the highest degree or level of education completed by the mother based on a collapsed set of eight categories, consistent with the Census classifications. This represents a change from the 1998 certificate in which mother's education was categorized in 17 response categories according to the number of years of school attended.

Month prenatal care began is no longer directly reported using date of first prenatal visit, but rather computed from the date of the last menstrual period and the date of the first prenatal care visit. Due to significant changes in how *month prenatal care* is calculated, the percent of births to mothers who received first trimester prenatal care is not comparable to previous years.

Pregnancy weight gain is no longer collected using total pregnancy weight gain. The 2003 birth certificate provides more detailed information to allow measurement of gestational weight gain specific to a woman's pre-pregnancy body mass index (BMI). Mother's height, pre-pregnancy weight, and weight at delivery are new items included in the revised birth certificate, making the assessment of prescribed gestational weight gain in relation to pre-pregnancy BMI possible.

Smoking during pregnancy as collected on the 2003 birth certificate captures the level of smoking before and during pregnancy. Smoking status is derived from the average number of cigarettes the mother reported smoking in the first, second and last trimester of the pregnancy. Mothers who reported smoking any number of cigarettes during pregnancy are considered smokers.

The 2003 revision of the birth certificate has also introduced some major changes on the following reported items: *medical risk factors in the pregnancy*, *obstetric procedures*, *characteristics of labor and delivery*, *method of delivery*, *abnormal conditions of the newborn*, and *congenital anomalies*. Several checkboxes included in these categories were revised or are completely new to the 2003 form. For more information see http://www.cdc.gov/nchs/nvss/vital_certificate_revisions.htm.

Due to changes on the selected items, the data prior to 2014 may not be comparable to the 2014 data and onward.

Cell Suppression

The 2020 *Arizona Health Status and Vital Statistics* report is the ninth report in this series to include cell suppression. Using suppression rules similar to those used by the National Center for Health Statistics (NCHS), this report attempts to maintain the anonymity of the individuals whose vital records are summarized herein.

Cell suppression is a method of removing potentially identifiable information from tables. In cell suppression, the first task is *primary suppression*, or removing non-zero counts in the body of a table that fall below a certain number. Primary cells that were less than six but greater than zero were suppressed and identified with an asterisk (*). Next, *secondary suppression* is used to obfuscate the totals or sums with components, or *addends* that fall below the threshold for primary suppression. These totals are typically reported in the margins of table rows and columns. Column or row totals that contained a non-zero addend less than 6 were rounded to the nearest tens-unit and identified with a dagger (†). Rates, ratios, and percentages that were based on a non-zero numerator less than six were suppressed and identified with a double asterisk (**). In certain cases where these rules would have dictated the rounding of a row or column total, or suppression of an overall rate/ratio/percentage, but the value of the information contained in the total was identified as important or attainable from other sources, these rules were relaxed and the original value was reported.

Bridging Race / Ethnicity

To calculate the rates used in this report, it was necessary to standardize race and ethnicity for both the vital events (in the birth, death, and fetal death data) and the population denominators. In these data sources, information on race and ethnicity is collected and categorized in a number of different ways, requiring a standard method of classifying race and ethnicity.

To create frequency counts of race and ethnicity that were adequate to compute statistically reliable rates, race was "bridged," or essentially collapsed into 5 categories; White non-Hispanic, Hispanic or Latino, Black or African American, Native American or Alaska Native, and Asian or Pacific Islander. When an individual was identified as both Hispanic and any other race, that person was included in the racial/ethnic group with the lowest population. For example, a person identified as both White and Hispanic would be coded as Hispanic, whereas a person identified as American Indian and Hispanic would be coded as American Indian. Please refer to the technical appendix for further explanation of the racial bridging used in this report.

The Implementation of the International Classification of Disease, Tenth Revision

On October 1, 2015, the International Classification of Diseases, Tenth Revision,

Clinical Modification/Procedure Coding Systems (ICD-10-CM/PCS) was implemented in replacement of the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) for reporting medical diagnoses and inpatient procedures in healthcare settings. ICD-10-CM represents an expansion of ICD-9-CM both in content and structure of the codes used to describe the severity and complexity of various diseases and injuries. Disease classification has been revised and some conditions have been reclassified into new chapters. For example, ICD-9-CM category *diseases of the nervous system and sense organs* has been restructured into three ICD-10-CM chapters: *diseases of the nervous system*, *diseases of the eye and adnexa*, and d*iseases of the ear and mastoid*. Several codes have been added in ICD-10-CM to provide a comprehensive description of the etiology, anatomic site, and severity of a health condition/injury, and some terminology has changed to reflect latest technology, current medical terms, and diseases discovered since the implementation of ICD-9-CM. In some cases, some codes have been combined to report the disease and common manifestations in a single code. For example, ICD-9-CM codes 415.11 (*Iatrogenic pulmonary embolism and infraction*) and 415.12 (*Septic pulmonary embolism*) have been merged into I26.90 (*Septic pulmonary embolism without acute cor pulmonale*) in ICD-10-CM.

Furthermore, ICD-10 codes have more character length, up to seven characters compared to three to five characters in ICD-9-CM. The seventh character code can be used to classify an initial encounter, subsequent encounter, or late effect (sequelae) and is predominantly used in the *injury* codes but can also be found in *musculoskeletal* and *obstetrics* sections. Another feature that distinguishes ICD-10-CM from ICD-9-CM is laterality, a dimension identifying right, left or bilateral anatomy sites. This is critical in a sense it adds specificity to the information captured in the coding. For example, if a patient is seen for treatment of an injury on the left knee, the ICD-9 diagnosis code does not specify that the injury is on the left knee. If the patient is seen weeks later for another injury on the right knee, the same ICD-9 diagnosis code would be used to report that injury, which may complicate medical claim processing.

Similar to the diagnostic codes (ICD-10-CM), the procedure codes (ICD-10-PCS) have been expanded in greater detail to incorporate the complexity of inpatient procedures. All these changes in ICD coding system lead to a substantial increase in number of diagnostic codes in ICD-10-CM, with more than 69,000 codes compared with 14,025 in ICD-9-CM and about 71,000 procedure codes in ICD-10-PCS versus 3,824 in ICD-9-CM.

In the current report, the diagnostic and procedures codes for inpatient and Emergency Room (ER) visits data are based on ICD-10-CM/PCS implemented on October 1, 2015. The transition to ICD-10-CM/PCS has some impact on comparability of hospital discharge data and continuity of statistical trends. Any comparison of hospital discharge events compiled in the current report and prior years' discharge events should take into account the differences between the classification systems.

KEY FINDINGS

Stability in Number of Resident Births

In 2020, there were 76,781 resident births, a decrease of 3 percent from the previous year's 79,183 births. Compared to 2019, the number of births decreased for American Indian or Alaska Natives (8.4 percent), Asians or Pacific Islanders (6.2 percent), White non-Hispanics (3.0 percent), Hispanics (2.2 percent), and Black or African Americans (2.0 percent).

Selected Characteristics of Newborns and Mothers in 2020

Among women who gave birth in Arizona in 2020:

- 36,620 births (47.7 percent) were paid for by the Arizona Health Care Cost Containment System (AHCCCS).
- 34,527 (45.0 percent) of births were to unmarried mothers, which may signify absence of emotional, social, and financial resources.
- 23,556 (30.7 percent) of births were to women who experienced complications during labor and/or delivery.
- 20,940 (27.3 percent) of births occurred to women who received late or no prenatal care.
- 21,243 (27.7 percent) of births were to women who had a serious medical condition such as hypertension, diabetes, or sexually transmissible diseases.
- 3,934 (5.1 percent) of births were to teenagers 19 years old or younger.
- 2,791 (3.6 percent) of births were to women who smoked during pregnancy.

Teen Pregnancies

In 2020, both the number of teen pregnancies among females 19 years or younger (5,180) and the teen pregnancy rate (11.2) were the lowest they have been since at least 1990 (the earliest information that could be found). From 2010 to 2020 the number of teen pregnancies decreased by 52.8 percent and the pregnancy rate decreased by 54.7 percent. The number of teenage pregnancies declined to 47.2 percent

from their 2010 levels.

Teenage females received more abortions in 2020 (1,218) than in 2019 (1,169), but fewer than the highest amount recorded since 2010 which was in 2011 (1,785).

Total Mortality

During 2020, 75,700 Arizona residents died, 15,539 more than in 2019. The 2020 age-adjusted mortality rate increased from 676.6 per 100,000 residents in 2019 to 842.2 per 100,000 residents in 2020. The median age at death in 2020 was 76.0 years.

Infant Mortality

In 2020, 404 infants died before reaching their first birthday, 297 fewer than the latest peak of 701 infant deaths in 2007. The 2020 infant mortality rate (IMR) of 5.3 represents a decline from the rate of 5.4 infant deaths per 1,000 live births recorded in 2019.

Newborn weight at birth is one of the most important predictors of an infant's survival chances. In 2020, the mortality rate among babies weighing less than 500 grams at birth was 88.9 per 100 newborns. Together, infants with low birth weight (weighing less than 2,500 grams) accounted for 7.4 percent of births and 66.1 percent of all infant deaths.

Cause-specific Mortality

In 2020, there were 526 deaths due to ***homicides***, an increase of 28.6 percent from 2019. ***Drug-induced*** fatalities increased by 33.1 from 2,004 deaths in 2019 to 2,668 in 2020. Deaths caused by opioids have claimed the lives of 1,884 Arizonans in 2020, an increase from 1,286 deaths in 2019. In 2020, 243 Arizonans died from ***obesity*** as the underlying (primary) cause of death, a 32.8 percent increase from 2019. The number of completed ***suicides*** decreased from 1,411 in 2019 to 1,359 in 2020. Males accounted for 78.4 percent of suicides. The age-adjusted suicide rate decreased from 18.9 suicides per 100,000 in 2019 to 18.2 per 100,000 in 2020.

The number of deaths due to ***diabetes*** increased from 2,170 deaths in 2019 to 2,563 in 2020. In 2020, in addition to the 2,563 deaths that had diabetes assigned as the underlying cause, another 5,502 deaths had diabetes assigned as a contributing factor. COVID-19 data collection began in mid-March 2020, but was the third leading underlying cause of death with 8,430 deaths among Arizona residents. Men accounted for 59.1 percent of COVID-19 deaths. Elderly Arizonans (65+) years of age accounted for 74.3 percent of COVID-19 deaths.

Hospital Care

In 2020, there were 630,882 inpatient discharges, excluding newborn infants, from non-Federal short stay hospitals in Arizona. Among those admitted as inpatients, 1,402 hospitalizations were primarily (i.e. listed as the first diagnosis) due to ***enterocolitis***, a bacterial inflammation of the intestines. ***Enterocolitis due to Clostridium difficile*** is a disease of growing public health concern because it is often acquired in hospitals and other health care institutions with long-term patients as residents. **Manic-depressive disorders** resulted in 38,765 hospitalizations while 23,495 inpatient discharges were recorded for **depression**. In 2020, 24,961 hospitalizations listed COVID-19 as the first-listed diagnosis with 83.9 percent of discharges recording an age of 45 years and older.

Emergency Room Care

During 2020, about 1.9 million visits were made by Arizona residents to hospital emergency rooms (ER), representing approximately 26.6 visits per 100 persons. In 2020, ***abdominal pain***, ***chest pain, acute upper respiratory infection***, ***mental disorders***, ***superficial injuries, COVID-19, and spinal disorders,*** were the leading diagnostic categories, accounting for approximately one-fourth (25.7 percent) of all the ER visits.

A total of 1,369 Arizonans, were treated in an emergency room with the diagnosis of ***exposure to excessive natural heat.***

A comparison of some of the basic findings for the state for 2010, 2015, and 2020 is presented on the following page.

COMPARISON
OF SELECTED VITAL STATISTICS FOR ARIZONA RESIDENTS, 2010, 2015, and 2020

	2010	2015	2020
POPULATION Total, all ages	6,392,017	6,758,251	7,176,401
Females aged 15-44	1,262,557	1,312,687	1,379,947
Elderly 65+	881,831	1,075,307	1,289,810
MARRIAGES	38,076	40,439	36,867
Marriage rate per 1,000 population	6.0	6.0	5.1
DIVORCES	22,479	24,434	18,778
Divorce rate per 1,000 population	3.5	3.6	2.6
PREGNANCIES Total, all ages	98,555	98,027	90,444
Teen* pregnancies	10,980	7,121	5,180
Teen* pregnancy rate per 1,000 females	24.7	15.9	11.2
BIRTHS Total, all ages	87,053	85,024	76,781
Birth rate per 1,000 population	13.6	12.6	10.7
Teen* births	9,416	5,884	3,934
Teen* birth rate per 1,000 females	21.2	13.1	8.5
Births to unmarried mothers	38,871	38,479	34,527
Births to unmarried mothers per 100 births	44.7	45.3	45.0
Low-birthweight (LBW) births	6,155	6,093	5,650
LBW ratio per 100 births	7.1	7.2	7.4
Multiple births	2,509	2,518	2,280
DEATHS Total deaths, all causes & ages	45,871	54,152	75,700
Death rate per 100,000 population	717.6	801.3	1054.8
Infant deaths	519	473	404
Infant mortality rate per 1,000 births	6.0	5.6	5.3
SIDS (Sudden Infant Death Syndrome) deaths	34	15	13
Maternal deaths	12	8	39
Deaths from cardiovascular diseases	12,754	15,075	19,063
Deaths from breast cancer among females	720	809	883
Deaths from lung cancer	2,655	2,885	2,592
Deaths from Alzheimer's disease	2,314	2,942	3,235
Deaths from influenza and pneumonia	729	739	1,109
Deaths from morbid obesity	138	177	243
Deaths from diabetes	1,372	2,050	2,563
Suicides, total	1,070	1,233	1,359
Elderly suicides	188	254	304
Teen** suicides	39	63	69
Homicides, total	404	364	526
Teen** homicides	31	24	48
Deaths from HIV disease	99	109	73
Deaths from motor vehicle-related injuries	711	855	1,035
Firearm-related deaths	907	951	1,263
Drug-induced deaths	1,106	1,328	2,668
Accidental drowning deaths, all ages	86	81	99
Drowning among children 0-4 years old	23	19	19
Deaths from exposure to excessive natural heat	51	43	210
Deaths from exposure to excessive natural cold	17	20	27
ABORTIONS Total, all ages	11,059	12,479	13,186
Abortions to teens*	1,512	1,189	1,218
FETAL LOSSES Total, all ages	443	524	477
Among pregnant teens*	52	48	28

Notes: * 19 years old or younger; ** 15-19 years old.

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Part I:

THE STATE

CHAPTER 1

REPRODUCTIVE AND PERINATAL HEALTH, ARIZONA, 2010-2020

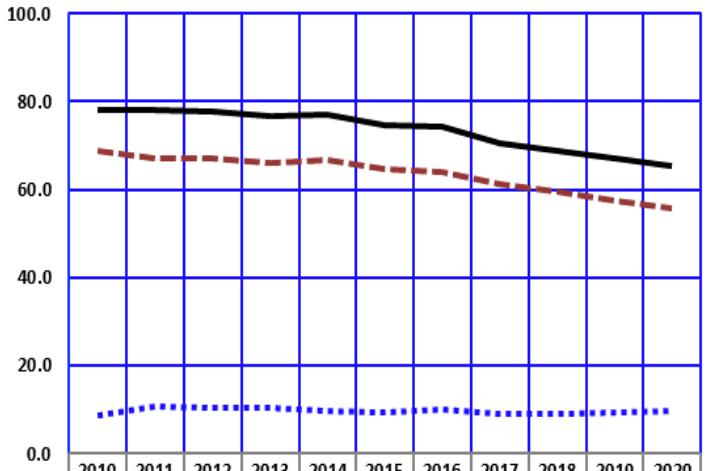
1A.

PREGNANCIES BY PREGNANCY OUTCOME, RACE / ETHNICITY, AND AGE GROUP

The expression "reproductive and perinatal health" refers to a variety of health and sociodemographic characteristics of women who became pregnant, factors related to the course of their pregnancies, and the status of pregnancy outcomes. In this report, pregnancies are measured as the sum of three components: **live births** (see Section 1B), **spontaneous terminations of pregnancy** (fetal deaths or stillbirths; Section 1C), and **abortions** (Section 1D).

There were 90,444 pregnancies in 2020 compared to 92,675 pregnancies in Arizona in 2019, 98,060 in 2016, and 98,548 in 2010. The number of resident live births decreased by 3.0 percent, from 79,183 in 2019 to 76,781 (**Table 1A-1**). The number of reported abortions increased by 1.4 percent, from 13,003 in 2019 to 13,186 in 2020. The number of reportable spontaneous fetal losses decreased 2.5 percent, from 489 in 2019 to 477 in 2020.

Figure 1A-1
Pregnancy, Fertility, and Abortion Rates[a] by Outcome and Year among Females of Childbearing Ages (15 – 44 years), Arizona, 2010-2020



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Pregnancy	78.1	78.0	77.9	76.8	77.0	74.7	74.3	70.7	68.9	67.2	65.5
Fertility	68.9	67.0	67.2	66.0	66.7	64.8	63.9	61.1	59.4	57.4	55.6
Abortion	8.8	10.7	10.3	10.3	9.8	9.5	10.0	9.2	9.1	9.4	9.6

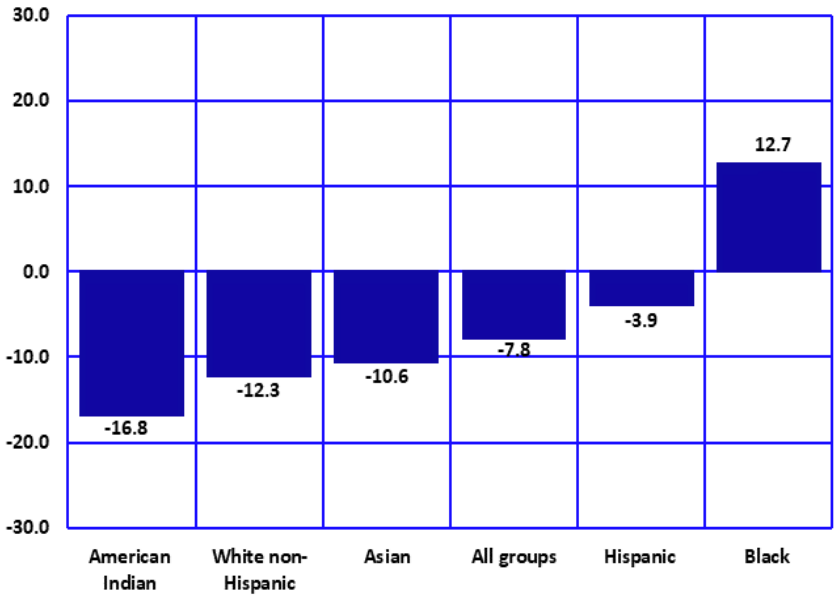
Note: [a] All rates per 1,000 females in specified age group.

A rate is a measure of the frequency of some event (such as pregnancy, or live birth) in relation to a unit of population during a specified time period such as a year; events in the numerator of the year occur to individuals in the denominator. The pregnancy rate decreased from 67.2 pregnancies per 1,000 females of childbearing age in 2019 to 65.5 pregnancies per 1,000 females of childbearing age in 2020 (**Figure 1A-1**, **Table 1A-1**).

The fertility rate (the number of births per 1,000 women of childbearing age) also decreased from 57.4/1,000 in 2019 to 55.6 in 2020. In 2020, the fertility rate was 19.3 percent lower than the high rate recorded in 2010.

The abortion rate (the number of abortions per 1,000 women of childbearing age) increased 2.1 percent, from 9.4 per 1,000 women of childbearing age in 2019 to 9.6 in 2020.

Figure 1A-2
Percent Change from 2016 to 2020 in the Number of Pregnancies by Woman's Race/Ethnicity, Arizona

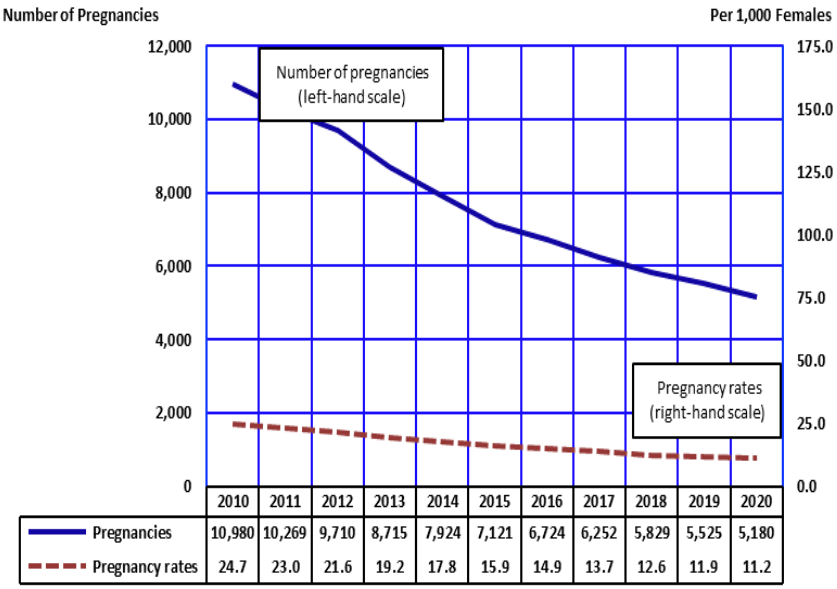


Overall, pregnancies in Arizona decreased 7.8 percent from 2016 to 2020. The changes in number of pregnancies varied by race/ethnicity. Between 2016 and 2020, while American Indian females (16.8 percent), White non-Hispanic (12.3 percent), Asian (10.6 percent), and Hispanic females (3.9 percent) experienced a decrease in number of pregnancies, Black females (12.7 percent) witnessed an increase in their pregnancy counts (**Figure 1A-2**, **Table 1A-1**).

There is a difference between pregnancy rates and the absolute number of pregnancies. The teen pregnancy rate measures the proportion of teenagers becoming pregnant in a given year; in other words, the relative "*risk for pregnancy*" in a population "*at risk.*" The number of pregnancies is also determined by the size of the population "*at risk:*" or in this case, by the number of teenage females in the population.

The number of teen pregnancies decreased by 52.8 percent from 10,980 in 2010 to 5,180 in 2020 (**Figure 1A-3**). The teen pregnancy rate declined even more, by 54.7 percent, from 24.7 pregnancies per 1,000 females 10-19 years in 2010 to 11.2 per 1,000 females in 2020. The number of teenage pregnancies and the teen pregnancy rate of 2020 were the lowest recorded since at least 1980.

Figure 1A-3
Trends in the Number of Pregnancies and Pregnancy Rates[a] among Females 19 or Younger, Arizona, 2010-2020



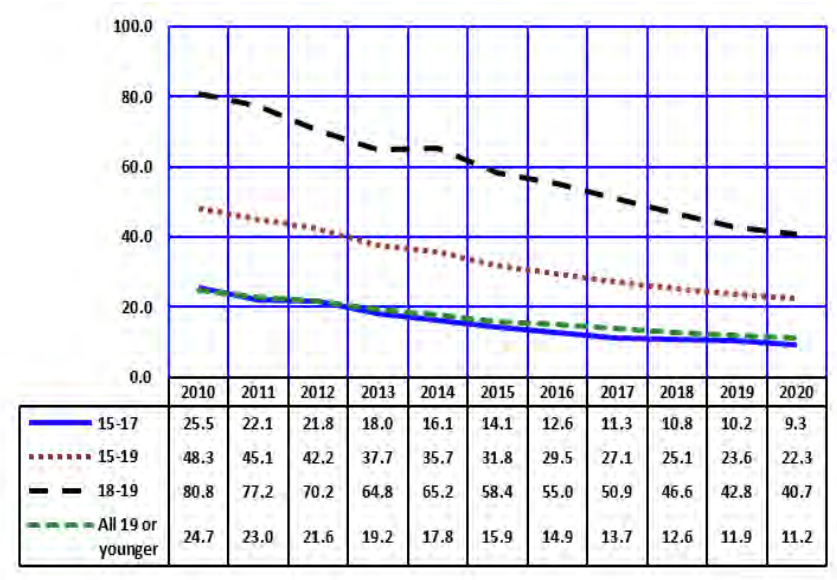
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Pregnancies	10,980	10,269	9,710	8,715	7,924	7,121	6,724	6,252	5,829	5,525	5,180
Pregnancy rates	24.7	23.0	21.6	19.2	17.8	15.9	14.9	13.7	12.6	11.9	11.2

Note: [a] Pregnancy rate is the number of pregnancies per 1,000 females in specified age group.

The pregnancy rate for Arizona teenagers 15-19 years old in 2020 was 22.3 pregnancies per 1,000 females (**Figure 1A-4**, **Table 5A-2**), 5.5 percent lower than in 2019 and 53.8 percent lower than in 2010. The pregnancy rate for younger teenagers 15-17 years old declined by 63.5 percent (**Table 1A-3**) from 25.5/1,000 in 2010 to 9.3 /1,000 in 2020. The pregnancy rate for older teenagers 18-19 years old declined by 49.6 percent from 80.8/1,000 in 2010 to 40.7 /1,000 in 2020 (**Table 1A-4**).

County-level information about teen pregnancies and pregnancy rates is provided in **Table 5A-2**, **Table 5A-3,** and **Table 5A-5**. Pregnancy statistics for Arizona are not available on a sub-county level.

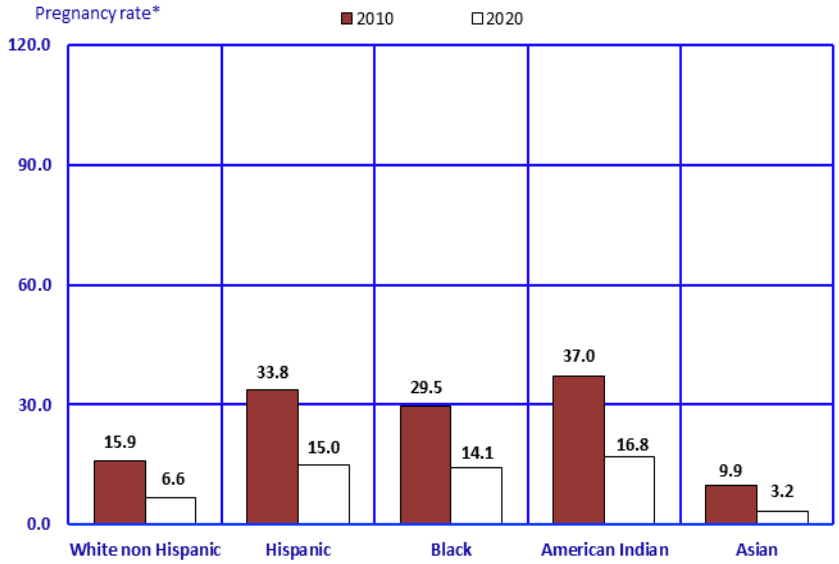
Figure 1A-4
Pregnancy Rates[a] by Age Group and Year among Females 19 or Younger, Arizona, 2010-2020



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
15-17	25.5	22.1	21.8	18.0	16.1	14.1	12.6	11.3	10.8	10.2	9.3
15-19	48.3	45.1	42.2	37.7	35.7	31.8	29.5	27.1	25.1	23.6	22.3
18-19	80.8	77.2	70.2	64.8	65.2	58.4	55.0	50.9	46.6	42.8	40.7
All 19 or younger	24.7	23.0	21.6	19.2	17.8	15.9	14.9	13.7	12.6	11.9	11.2

Note: [a] All rates per 1,000 females in specified age group.

Figure 1A-5
Comparison of Pregnancy Rates[a] by Race/Ethnicity and Year among Females 19 or Younger in Arizona, 2010 and 2020



Note: [a] All rates per 1,000 females in specified age group.

Teen pregnancy rates differ by race/ethnicity.

Between 2010 and 2020, pregnancy rates among females aged 19 and younger declined for all racial/ethnic groups (**Figure 1A-5**). The steepest decline in teenage pregnancy rates was recorded for Asian females, who experienced a 67.7 percent drop from 2010 to 2020. The White non-Hispanic teenage pregnancy rate decreased greatly also, by 58.5 percent from 15.9 in 2010 to 6.6 in 2020.

The changes in annual teen pregnancy rates from 2010 to 2020 are shown in detail below.

Figure 1A-6
Pregnancy Rates[a] by Race/Ethnicity and Year among Females 19 or Younger, Arizona, 2010-2020

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
White non-Hispanic	15.9	11.8	10.7	9.8	11.6	10.5	9.5	8.2	7.7	6.9	6.6
Hispanic	33.8	30.2	28.0	25.0	25.4	20.4	19.3	17.8	16.5	15.6	15.0
Black	29.5	24.9	26.2	25.1	16.9	16.6	17.3	17.8	14.3	15.1	14.1
American Indian	37.0	29.2	33.6	29.7	19.2	26.8	24.7	22.8	20.6	18.8	16.8
Asian	9.9	9.1	7.5	6.8	5.5	6.3	5.0	5.8	4.6	4.3	3.2

Note: [a] All rates per 1,000 females in specified age group.

The teen pregnancy rates for all racial/ethnic groups were lower in 2020 than in 2010 (**Figure 1A-6).** Compared to 2010, the teen pregnancy rate declined substantially, by more than half for all racial/ethnic groups.

From 2019 to 2020, teenage pregnancy rates decreased for all race/ethnic groups. The decline was greater among Asian females (25.6 percent), American Indian (10.6 percent), Black (6.6 percent), White non-Hispanic (4.3 percent), and Hispanic females (3.8 percent).

Figure 1A-7
Proportional Contribution by Race/Ethnicity to Pregnancies and Live Births among Females 19 or Younger, Arizona, 2020

In 2020, Hispanic females accounted for approximately 44.0 percent of all females 10-19 years old in Arizona. As in the past, they accounted for a large percentage of teen pregnancies (58.6 percent) and live births (61.3 percent; **Figure 1A-7**). In contrast, White non-Hispanic females made up 41.4 percent of all females 10-19 years old in Arizona, but had a lower proportional contribution to teen pregnancies (24.2 percent) and live births (22.6 percent). Note: percentages are based on the number of pregnancies and births in **Table 1A-5**.

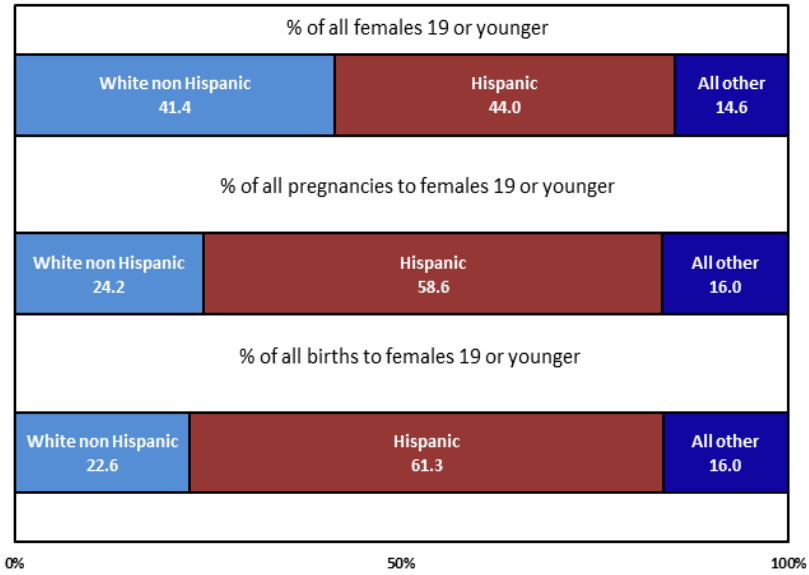
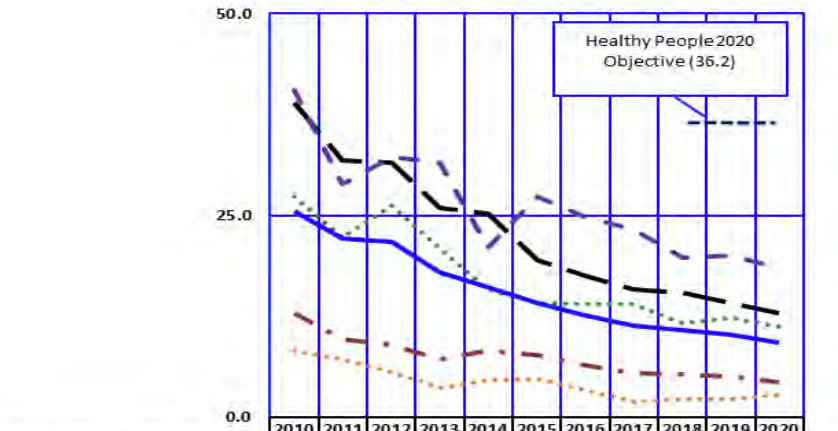


Figure 1A-8
Pregnancy Rates[a] by Race/Ethnicity and Year among Females 15-17 Years: 2010-2020 and the "Healthy Arizona 2020" Objective

In 2020, the pregnancy rate of 9.3 pregnancies per 1,000 adolescent females 15-17 years old in Arizona was 74.3 percent lower than the ***Healthy People 2020*** objective of 36.2/1,000 (**Figure 1A-8**, **Table 1A-3**). The 2020 pregnancy rate among Asians age 15-17 was 92.3 percent lower than the objective and among White non-Hispanics 87.8 percent lower than the objective. While lower than the 2020 objective, the 2020 pregnancy rates of American Indians, Hispanics, and Blacks were substantially higher than their White non-Hispanic and Asian counterparts.



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
White non-Hispanic	12.9	9.6	9.0	7.1	8.2	7.7	6.5	5.4	5.3	5.0	4.4
Hispanic	38.9	31.8	31.6	25.9	25.2	19.5	17.6	15.8	15.4	14.2	12.9
Black	27.3	22.3	26.2	20.9	15.9	14.2	14.0	14.0	11.6	12.3	11.2
American Indian	40.5	28.8	32.2	31.5	21.0	27.3	24.8	23.3	19.8	20.0	18.5
Asian	8.3	7.2	5.6	3.7	4.6	4.8	3.4	2.0	2.3	2.2	2.8
All groups	25.5	22.1	21.8	18.0	16.1	14.1	12.6	11.3	10.8	10.2	9.3

Note: [a] All rates per 1,000 females in specified age group.

TABLE 1A-1
NUMBER OF PREGNANCIES[a] BY PREGNANCY OUTCOME, RACE/ETHNICITY, AND YEAR WITH RATES[b], ARIZONA, 2010-2020

Race/ethnicity Pregnancy outcome	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2020 Rates
WHITE[c] NON-HISPANIC, total:	44,174	40,871	40,769	40,982	45,864	43,758	43,287	40,654	39,921	39,103	37,971	**59.0**
Births	38,777	38,294	38,670	38,220	40,097	38,180	37,762	35,685	34,909	34,118	33,101	**51.4**
Abortions	5,241	2,385	1,904	2,515	5,562	5,378	5,321	4,762	4,807	4,798	4,684	**7.3**
Fetal deaths	156	192	195	247	205	200	204	207	205	187	186	**0.3**
HISPANIC OR LATINO, total:	37,953	36,853	36,720	37,469	38,396	38,841	38,892	38,001	37,848	37,864	37,385	**71.4**
Births	34,333	32,398	33,146	33,075	33,715	34,264	33,874	33,191	32,995	32,575	31,859	**60.8**
Abortions	3,422	4,274	3,393	4,189	4,499	4,350	4,823	4,639	4,679	5,093	5,349	**10.2**
Fetal deaths	198	181	181	205	182	227	195	171	174	196	177	**0.3**
BLACK OR AFRICAN AMERICAN, total:	4,843	4,538	4,867	4,955	5,551	5,485	5,688	5,838	5,926	6,295	6,410	**81.2**
Births	4,328	4,366	4,715	4,726	4,522	4,361	4,388	4,595	4,655	4,865	4,766	**60.4**
Abortions	476	145	116	189	981	1,074	1,253	1,196	1,229	1,372	1,594	**20.2**
Fetal deaths	39	27	36	40	48	50	47	47	42	58	50	**0.6**
AMERICAN INDIAN OR ALASKA NATIVE, total:	6,063	5,921	5,650	5,577	5,483	5,355	5,406	5,254	5,060	4,843	4,500	**69.0**
Births	5,815	5,830	5,569	5,476	5,145	4,984	5,030	4,866	4,709	4,462	4,087	**62.7**
Abortions	218	48	38	61	291	331	340	348	315	344	372	**5.7**
Fetal deaths	30	43	43	40	47	40	36	40	36	37	41	**0.6**
ASIAN OR PACIFIC ISLANDER, total:	3,564	3,579	3,715	3,589	3,720	3,774	3,960†	3,941	3,838	3,786	3,541	**52.0**
Births	3,293	3,505	3,625	3,466	3,169	3,235	3,350	3,327	3,271	3,163	2,968	**43.6**
Abortions	254	47	75	110	534	532	608	598	552	612	550	**8.1**
Fetal deaths	17	27	15	13	17	7	*	16	15	11	23	**0.3**
ALL RACIAL/ETHNIC GROUPS[d], total:	98,548	99,266	99,324	98,762	99,914	98,027	98,060	94,481	93,373	92,675	90,444	**65.5**
Births	87,053	85,190	85,725	84,963	86,648	85,024	84,404	81,664	80,539	79,183	76,781	**55.6**
Abortions	11,059	13,606	13,129	13,254	12,747	12,479	13,170	12,336	12,362	13,003	13,186	**9.6**
Fetal deaths	443	470	470	545	519	524	486	481	472	489	477	**0.3**
Pregnancy rate, total:	**78.1**	**78.0**	**77.9**	**76.8**	**77.0**	**74.7**	**74.3**	**70.7**	**68.9**	**67.2**	**65.5**	
Fertility rate[e]	**68.9**	**67.0**	**67.2**	**66.0**	**66.7**	**64.8**	**63.9**	**61.1**	**59.4**	**57.4**	**55.6**	
Abortion rate	**8.8**	**10.7**	**10.3**	**10.3**	**9.8**	**9.5**	**10.0**	**9.2**	**9.1**	**9.4**	**9.6**	

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] The sum of recorded live births, abortions and fetal deaths; beginning in 2003, fetal deaths are spontaneous terminations of pregnancy at 20 or more weeks of gestation (or, if the gestational period is unknown, these are the deaths of fetuses weighing 350 grams or more); [b] All rates per 1,000 females of childbearing age (15-44 years); [c] Not of Hispanic origin; [d] Includes other and unspecified ethnicity; [e] Number of births per 1,000 females of childbearing age.

TABLE 1A-2
NUMBER OF PREGNANCIES[a] BY PREGNANCY OUTCOME, RACE/ETHNICITY, AND YEAR AMONG FEMALES AGED 17 AND YOUNGER WITH RATES[b], ARIZONA, 2010-2020

Race/ethnicity Pregnancy outcome	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2020 Rates
WHITE[c] NON-HISPANIC, total:	770	600	564	448	496	462	401	327	325	298	252	**1.7**
Births	553	507	483	373	352	344	291	225	217	218	167	**1.1**
Abortions	214	90	71	72	140	117	107	100	104	79	83	**0.6**
HISPANIC OR LATINO, total:	2,106	1,731	1,728	1,443	1,292	1,144	1,055	976	953	882	802	**5.0**
Births	1,927	1,528	1,574	1,291	1,138	1,000	909	837	812	733	672	**4.2**
Abortions	167	196	150	142	141	131	139	136	139	144	125	**0.8**
BLACK OR AFRICAN AMERICAN, total:	189	170†	174	140	145	106	111	111	94	100	91	**4.2**
Births	161	162	164	128	107	78	84	76	61	77	57	**2.6**
Abortions	25	*	9	9	36	27	27	34	31	22	32	**1.5**
AMERICAN INDIAN OR ALASKA NATIVE, total:	361	310†	260†	260†	217	204	191	180†	147	147	128	**6.9**
Births	345	307	258	251	205	184	178	171	141	130	116	**6.2**
Abortions	15	*	*	*	7	17	13	*	6	14	9	**0.5**
ASIAN OR PACIFIC ISLANDER, total:	30†	30†	20†	20†	25	20†	20†	10†	10†	10†	10†	**1.0**
Births	24	28	18	13	14	17	12	7	10	7	11	**0.8**
Abortions	*	*	*	*	11	*	*	*	*	*	*	**
ALL RACIAL/ETHNIC GROUPS[d], total:	3,513	3,089	2,976	2,476	2,193	1,953	1,792	1,619	1,548	1,452	1,306	**3.6**
Births	3,015	2,548	2,497	2,056	1,816	1,623	1,474	1,316	1,241	1,165	1,023	**2.8**
Abortions	479	527	463	402	352	312	308	296	299	280	271	**0.7**
Pregnancy rate, total:	**10.0**	**8.7**	**8.4**	**6.9**	**6.1**	**5.4**	**5.0**	**4.4**	**4.2**	**3.9**	**3.6**	
Fertility rate[e]	**8.6**	**7.2**	**7.1**	**5.8**	**5.1**	**4.5**	**4.1**	**3.6**	**3.4**	**3.1**	**2.8**	
Abortion rate	**1.4**	**1.5**	**1.3**	**1.1**	**1.0**	**0.9**	**0.9**	**0.8**	**0.8**	**0.8**	**0.7**	

Notes: * Cell suppressed due to non-zero count less than 6; ** Cell suppressed due to rate based on non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Fetal deaths are included in the total counts of pregnancies; [b] All rates per 1,000 females 10-17 years old; [c] Not of Hispanic origin; [d] Includes other and unspecified ethnicity; [e] Number of births per 1,000 females 10-17 years old.

TABLE 1A-3
NUMBER OF PREGNANCIES[a] BY PREGNANCY OUTCOME, RACE/ETHNICITY, AND YEAR AMONG FEMALES 15-17 YEARS OLD WITH RATES[b], ARIZONA, 2010-2020

Race/ethnicity Pregnancy outcome	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2020 Rates
WHITE[c] NON-HISPANIC, total:	742	577	549	434	481	451	382	319	310	290	246	**4.4**
Births	541	494	475	365	344	339	283	224	213	214	166	**2.9**
Abortions	198	80	65	66	133	111	96	93	93	75	78	**1.4**
HISPANIC OR LATINO, total:	2,021	1,653	1,670	1,390	1,262	1,103	1,015	936	925	852	767	**12.9**
Births	1,859	1,467	1,528	1,244	1,115	972	877	816	795	711	650	**11.0**
Abortions	151	179	138	136	134	118	131	117	128	136	113	**1.9**
BLACK OR AFRICAN AMERICAN, total:	178	160†	166	133	138	103	104	105	90	96	88	**11.2**
Births	151	152	159	122	102	77	81	71	60	73	56	**7.1**
Abortions	24	*	6	8	34	25	23	33	28	22	31	**3.9**
AMERICAN INDIAN OR ALASKA NATIVE, total:	345	300†	250†	250†	210†	193	178	170†	140†	136	123	**18.5**
Births	331	293	251	243	196	177	167	163	134	124	112	**16.9**
Abortions	13	*	*	*	*	13	11	*	*	12	8	**1.2**
ASIAN OR PACIFIC ISLANDER, total:	30†	26	20†	10†	23	20†	20†	10†	10†	10†	10†	**2.8**
Births	23	26	17	11	13	17	12	6	10	7	11	**2.2**
Abortions	*	0	*	*	10	*	*	*	*	*	*	**
ALL RACIAL/ETHNIC GROUPS[d], total:	3,363	2,939	2,860	2,385	2,125	1,887	1,707	1,554	1,491	1,401	1,256	**9.3**
Births	2,910	2,447	2,430	1,985	1,770	1,582	1,420	1,280	1,212	1,129	995	**7.4**
Abortions	435	478	414	382	330	287	277	267	271	265	251	**1.9**
Pregnancy rate, total:	**25.5**	**22.1**	**21.8**	**18.0**	**16.1**	**14.1**	**12.6**	**11.3**	**10.8**	**10.2**	**9.3**	
Fertility rate[e]	**22.1**	**18.4**	**18.5**	**15.0**	**13.4**	**11.8**	**10.5**	**9.3**	**8.8**	**8.2**	**7.4**	
Abortion rate	**3.3**	**3.6**	**3.1**	**2.9**	**2.5**	**2.1**	**2.0**	**1.9**	**2.0**	**1.9**	**1.9**	

Notes: * Cell suppressed due to non-zero count less than 6; ** Cell suppressed due to rate based on non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Fetal deaths are included in the total counts of pregnancies; [b] All rates per 1,000 females 15-17 years old; [c] Not of Hispanic origin; [d] Includes other and unspecified ethnicity; [e] Number of births per 1,000 females 15-17 years old.

TABLE 1A-4
NUMBER OF PREGNANCIES[a] BY PREGNANCY OUTCOME, RACE/ETHNICITY, AND YEAR AMONG FEMALES 18-19 YEARS OLD WITH RATES[b], ARIZONA, 2010-2020

Race/ethnicity Pregnancy outcome	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2020 Rates
WHITE[c] NON-HISPANIC, total:	2,316	1,792	1,675	1,602	1,759	1,562	1,433	1,248	1,170	1,043	1,000	**24.7**
Births	1,833	1,582	1,494	1,408	1,405	1,187	1,056	939	872	781	724	**17.8**
Abortions	480	199	167	185	348	371	369	300	292	256	276	**6.8**
HISPANIC OR LATINO, total:	3,812	3,566	3,357	3,175	3,078	2,764	2,668	2,537	2,377	2,308	2,234	**54.6**
Births	3,421	3,103	3,053	2,789	2,675	2,409	2,227	2,137	1,982	1,861	1,741	**42.5**
Abortions	365	442	291	367	390	336	425	390	389	437	486	**11.9**
BLACK OR AFRICAN AMERICAN, total:	446	413	390†	397	345	294	320	339	278	305	293	**52.5**
Births	401	399	380	379	287	234	232	253	210	203	200	**35.8**
Abortions	42	13	*	14	54	58	86	83	65	98	92	**16.5**
AMERICAN INDIAN OR ALASKA NATIVE, total:	664	690†	640†	530†	417	423	388	369	347	309	263	**57.6**
Births	643	680	632	524	397	385	362	348	322	280	226	**49.5**
Abortions	21	*	*	*	18	34	25	18	25	24	30	**6.6**
ASIAN OR PACIFIC ISLANDER, total:	88	90†	68	70†	67	72	61	79	62	62	41	**11.3**
Births	79	83	61	66	43	46	39	48	32	33	20	**5.5**
Abortions	9	*	7	*	24	25	22	31	30	28	20	**5.5**
ALL RACIAL/ETHNIC GROUPS[d], total:	7,467	7,180	6,734	6,239	5,731	5,168	4,932	4,633	4,281	4,073	3,874	**40.7**
Births	6,401	5,887	5,620	5,166	4,807	4,261	3,916	3,725	3,418	3,158	2,911	**30.6**
Abortions	1,033	1,258	1,077	1,039	897	877	989	883	847	889	947	**9.9**
Pregnancy rate, total:	**80.8**	**77.2**	**70.2**	**64.8**	**65.2**	**58.4**	**55.0**	**50.9**	**46.6**	**42.8**	**40.7**	
Fertility rate[e]	**69.2**	**63.3**	**58.6**	**53.6**	**54.7**	**48.2**	**43.7**	**41.0**	**37.2**	**33.2**	**30.6**	
Abortion rate	**11.2**	**13.5**	**11.2**	**10.8**	**10.2**	**9.9**	**11.0**	**9.7**	**9.2**	**9.3**	**9.9**	

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Fetal deaths are included in the total count of pregnancies; [b] All rates per 1,000 females 18-19 years old; [c] Not of Hispanic origin; [d] Includes other and unspecified ethnicity; [e] Number of births per 1,000 females 18-19 years old.

TABLE 1A-5
NUMBER OF PREGNANCIES[a] BY PREGNANCY OUTCOME, RACE/ETHNICITY, AND YEAR AMONG FEMALES 19 AND YOUNGER, WITH RATES[b], ARIZONA, 2010-2020

Race/ethnicity Pregnancy outcome	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2020 Rates
WHITE[c] NON-HISPANIC, total:	3,086	2,392	2,239	2,050	2,255	2,024	1,834	1,575	1,495	1,341	1,252	**6.6**
Births	2,386	2,089	1,977	1,781	1,757	1,531	1,347	1,164	1,089	999	891	**4.7**
Abortions	694	289	238	257	488	488	476	400	396	335	359	**1.9**
HISPANIC OR LATINO, total:	5,918	5,297	5,085	4,618	4,370	3,908	3,723	3,513	3,330	3,190	3,036	**15.0**
Births	5,348	4,631	4,627	4,080	3,813	3,409	3,136	2,974	2,794	2,594	2,413	**11.9**
Abortions	532	638	441	509	531	467	564	526	528	581	611	**3.0**
BLACK OR AFRICAN AMERICAN, total:	635	580	562	537	490	400	431	450	372	405	384	**14.1**
Births	562	561	544	507	394	312	316	329	271	280	257	**9.5**
Abortions	67	17	14	23	90	85	113	117	96	120	124	**4.6**
AMERICAN INDIAN OR ALASKA NATIVE, total:	1,025	1,000†	900†	787	634	627	579	546	495	453	391	**16.8**
Births	988	987	890	775	602	569	540	519	463	410	342	**14.7**
Abortions	36	*	*	8	25	51	38	23	31	38	39	**1.7**
ASIAN OR PACIFIC ISLANDER, total:	117	120†	88	80†	92	92	77	89	74	73	55	**3.2**
Births	103	111	79	79	57	63	51	55	42	40	31	**1.8**
Abortions	14	*	9	*	35	28	26	34	32	32	23	**1.4**
ALL RACIAL/ETHNIC GROUPS[d], total:	10,980	10,269	9,710	8,715	7,924	7,121	6,724	6,252	5,829	5,525	5,180	**11.2**
Births	9,416	8,435	8,117	7,222	6,623	5,884	5,390	5,041	4,659	4,323	3,934	**8.5**
Abortions	1,512	1,785	1,539	1,441	1,249	1,189	1,297	1,179	1,146	1,169	1,218	**2.6**
Pregnancy rate, total:	**24.7**	**23.0**	**21.6**	**19.2**	**17.8**	**15.9**	**14.9**	**13.7**	**12.6**	**11.9**	**11.2**	
Fertility rate[e]	**21.2**	**18.9**	**18.0**	**15.9**	**14.9**	**13.1**	**12.0**	**11.1**	**10.1**	**9.3**	**8.5**	
Abortion rate	**3.4**	**4.0**	**3.4**	**3.2**	**2.8**	**2.7**	**2.9**	**2.6**	**2.5**	**2.5**	**2.6**	

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Fetal deaths are included in the total counts of pregnancies; [b] All rates per 1,000 females 19 or younger; [c] Not of Hispanic origin; [d] Includes other and unspecified ethnicity; [e] Number of births per 1,000 females 19 or younger.

TABLE 1A-6
NUMBER OF PREGNANCIES[a] BY PREGNANCY OUTCOME, AGE GROUP, AND RACE/ETHNICITY, ARIZONA, 2020

PREGNANCIES BY OUTCOME:

		All ages	<15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45+	Un-known
All groups	**Total pregnancies**	90,444	50†	1,256	3,874	20,138	26,891	23,564	11,792	2,672	210†	0†
	Births	76,781	28	995	2,911	16,020	23,135	20,947	10,347	2,244	152	*
	Abortions[b]	13,186	20	251	947	4,011	3,633	2,501	1,359	414	50	0
	Fetal deaths	480†	*	10	16	107	123	116	86	14	*	0
White non Hispanic	**Total pregnancies**	37,971	10†	250†	1,000	6,745	11,253	11,442	5,893	1,273	110†	0†
	Births	33,100†	*	166	724	5,397	9,911	10,439	5,285	1,087	89	*
	Abortions[b]	4,680†	*	78	276	1,308	1,291	955	572	178	21	0
	Fetal deaths	190†	0	*	0	40	51	48	36	8	*	0
Hispanic or Latino	**Total pregnancies**	37,385	40†	770†	2,234	10,080	11,345	8,140	3,825	900†	55	0
	Births	31,859	22	650	1,741	8,199	9,874	7,201	3,364	770	38	0
	Abortions[b]	5,349	12	113	486	1,832	1,424	899	437	129	17	0
	Fetal deaths	180†	*	*	7	49	47	40	24	*	0	0
Black or African American	**Total pregnancies**	6,410†	0†	90†	290†	1,552	1,937	1,551	783	180†	20†	0
	Births	4,770†	*	56	200	1,086	1,429	1,206	626	145	17	0
	Abortions[b]	1,590†	*	31	92	455	497	333	145	36	*	0
	Fetal deaths	50†	*	*	*	11	11	12	12	*	0	0
American Indian or Alaska Native	**Total pregnancies**	4,500†	10†	120†	263	1,200†	1,257	1,066	476	108	0†	0
	Births	4,090†	*	112	226	1,092	1,155	978	427	91	*	0
	Abortions[b]	370†	*	8	30	102	95	78	41	17	0	0
	Fetal deaths	40†	0	*	7	*	7	10	8	0	*	0
Asian or Pacific Islander	**Total pregnancies**	3,541	0	10†	40†	360†	913	1,264	756	185	10†	0
	Births	2,970†	0	11	20	246	766	1,123	645	151	6	0
	Abortions[b]	550	0	*	20	108	140	135	105	34	*	0
	Fetal deaths	20†	0	0	*	*	7	6	6	0	*	0

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] The sum of recorded live births, spontaneous fetal losses and abortions; [b] Abortions include unknown or multiple race.

TABLE 1A-7
PREGNANCY RATES[a] AND NUMBER OF LIVE BIRTHS, FETAL DEATHS, AND ABORTIONS TO TEENS BY INDIVIDUAL AGE, ARIZONA, 2020

Age	Population	PREGNANCIES BY OUTCOME			TOTAL PREGNANCIES	
		Live births	Abortions	Spontaneous fetal losses	Number	Rate
10	44,719	0	*	0	*	**
11	46,782	0	0	0	0	**0.0**
12	46,848	0	*	0	*	**
13	46,270	6	*	*	8	**0.2**
14	45,988	22	16	*	39	**0.8**
10-14	230,607	28	20	*	50	**0.2**
15	45,733	110	45	0	155	**3.4**
16	44,352	312	71	*	385	**8.7**
17	44,982	573	135	8	716	**15.9**
15-17	135,067	995	251	10	1,256	**9.3**
18	47,454	1,050	361	*	1,416	**29.8**
19	47,822	1,861	586	11	2,458	**51.4**
18-19	95,276	2,911	947	16	3,874	**40.7**
Total 10-19	460,950	3,934	1,220†	30†	5,180†	**11.2**

Notes: * Cell suppressed due to non-zero count less than 6; ** Cell suppressed due to rate based on non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Rates per 1,000 female population in specific group.

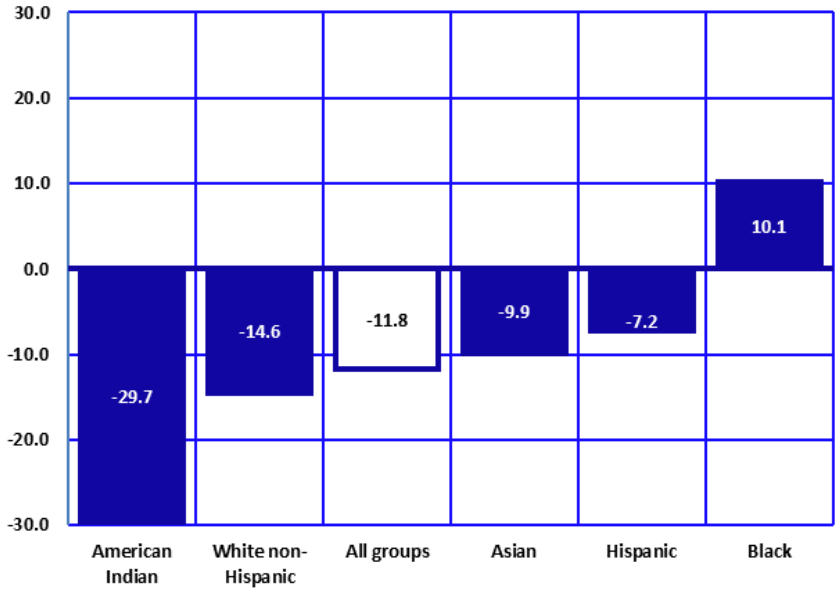
1B.

NATALITY:
MATERNAL CHARACTERISTICS AND NEWBORN'S HEALTH

From 2019 to 2020, the number of residents' births decreased by 3 percent from 79,183 (2019) to 76,781 (2020), representing a reduction of 2,402 births.

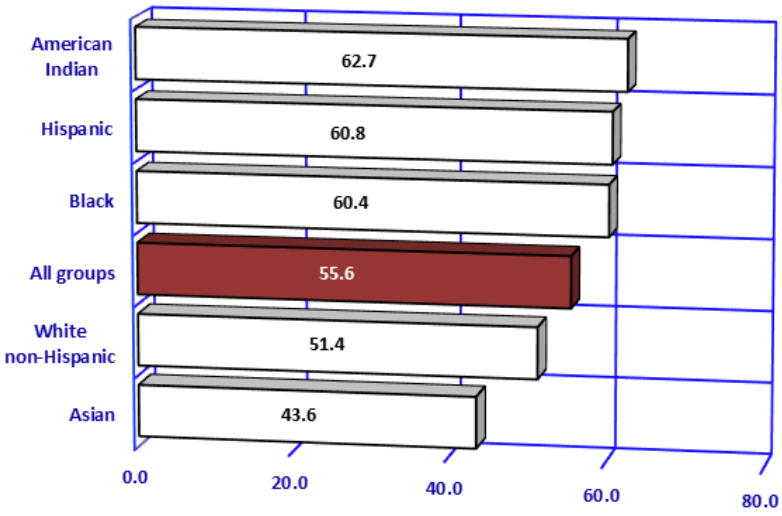
There were striking differences in how the number of births changed from 2010 to 2020 by mother's race/ethnicity. Compared to 2010, the number of births for all combined racial/ethnic groups was 11.8 percent lower in 2020. Taken separately, while the number of births rose by 10.1 percent for Black or African American mothers between 2010 and 2020, the remaining racial/ethnic groups witnessed a decline in their birth counts, with American Indian women experiencing most of the decrease (29.7) during the period of time under consideration (**Figure 1B-1**).

Figure 1B-1
Percent Change from 2010 to 2020 in the Number of Resident Live Births by Mother's Race/Ethnicity, Arizona



From 2010 to 2020, the number of resident live births declined by 11.8 percent (**Figure 1B-1**). All racial/ethnic groups experienced a decrease in the number of live births, with the exception of Blacks. The magnitude of the reduction in the number of births was the largest among American Indians (29.7 percent) and Hispanics or Latinos (7.2 percent).

Figure 1B-2
General Fertility Rates[a] by Race/Ethnicity among Females of all Ages, Arizona, 2020



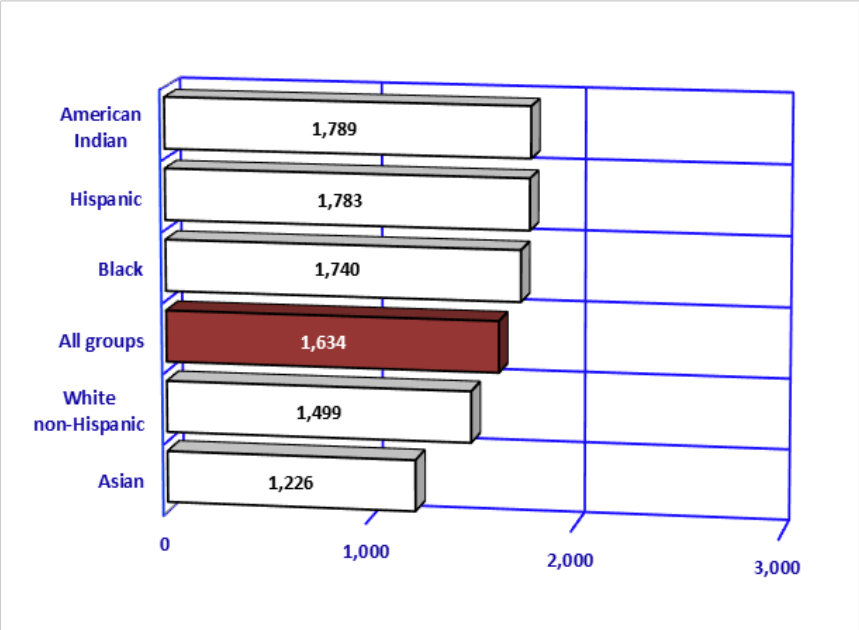
From among 1,379,947 women of childbearing age (15-44 years), 76,599 (99.8 percent) of 76,781 total births in 2020 were from mothers in this age group. The *general fertility rate* (the number of births per 1,000 women 15-44 years old GFR) was the highest for American Indian females followed by Hispanic and Black females. The GFR for Asian females was the lowest of all racial/ethnic groups.

A comparison of fertility rates by county in Arizona is provided in **Table 5A-1**.

Note: [a] Number of births per 1,000 females 15-44 years old in specified group.

Figure 1B-3
Total Fertility Rates[a] by Race/Ethnicity, Arizona, 2020

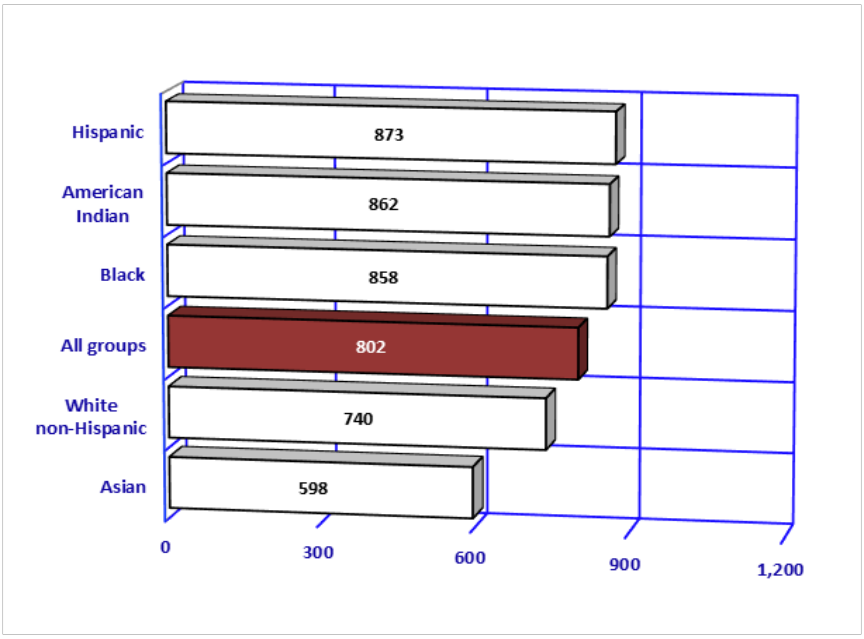
The *total fertility rate* (TFR) indicates the average number of births to a hypothetical cohort of 1,000 women, if they experienced the age-specific birth rates observed in a given year throughout their childbearing years. From 2003 to 2008, Arizona's TFRs always exceeded the rate of "replacement" (2,110 births per 1,000 women. The "replacement" rate is considered the value at which a given generation can exactly replace itself. The TFR was 2,058 births per 1,000 women of childbearing age in 2009 and 2010, decreasing to 1,634 in 2020 (**Table 1B-1**). In 2020, The TFR for American Indian women (1,789) was the highest of all racial/ethnic groups and was still 15.2 percent lower than the generation replacement rate. The rate for Asian women (1,226), the lowest of all groups, was 42.0 percent lower than the replacement rate.



Notes: [a] The sum of age group-specific birth rates multiplied by five (the number of years in the age group). The rate of 1,634 above for example, means that if a hypothetical group of 1,000 women were to have the same birth rates in each age group that were observed in the actual childbearing population in 2020, they would have a total of 1,634 children (or 1.6 children each) by the time they reached the end of the reproductive period (taken here as age 50), assuming that all of the women survived to that age.

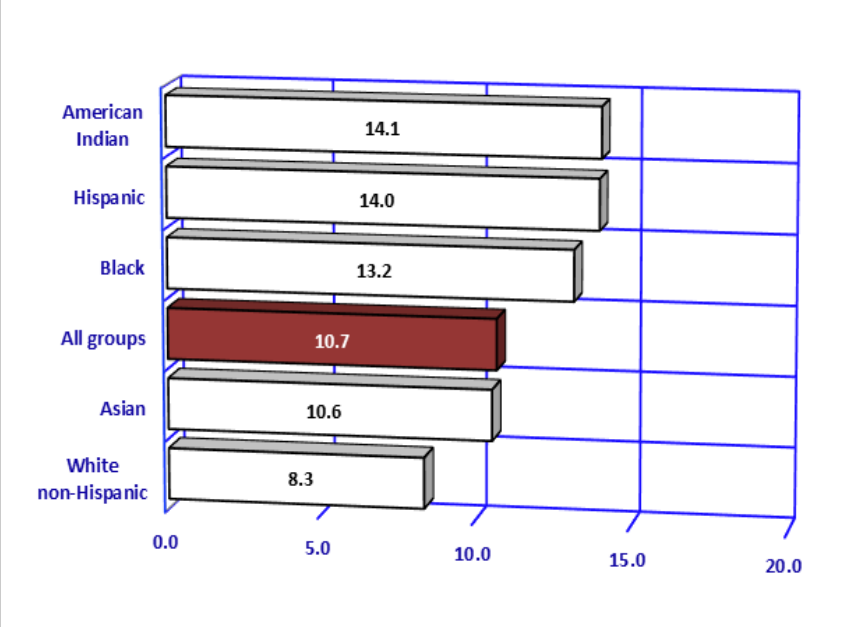
Figure 1B-4
Gross Reproduction Rates[a] by Race/Ethnicity, Arizona, 2020

Another measure used to summarize reproduction patterns is the *gross reproduction rate* (GRR). It represents the average number of daughters born to a hypothetical cohort of 1,000 women if they experienced the age-specific birth rates observed in a given year throughout their childbearing years. This measure is similar to the total fertility rate except that it measures only female births, since reproduction is largely dependent on the number of females in a given population. In 2020, the gross reproduction rates in Arizona ranged from 598 for Asian women to 873 for Hispanic women (**Figure 1B-4**, **Table 1B-1**).



Notes: [a] The sum of birth rates by 5-year age groups multiplied by the proportion of births which were female. The gross reproduction rate represents the average number of daughters born to a hypothetical cohort of 1,000 women if they experienced the age-specific birth rates observed in a given year throughout their childbearing years, and if none of the cohort was to die during their childbearing years.

Figure 1B-5
Birth Rates[a] by Race/Ethnicity, Arizona, 2020



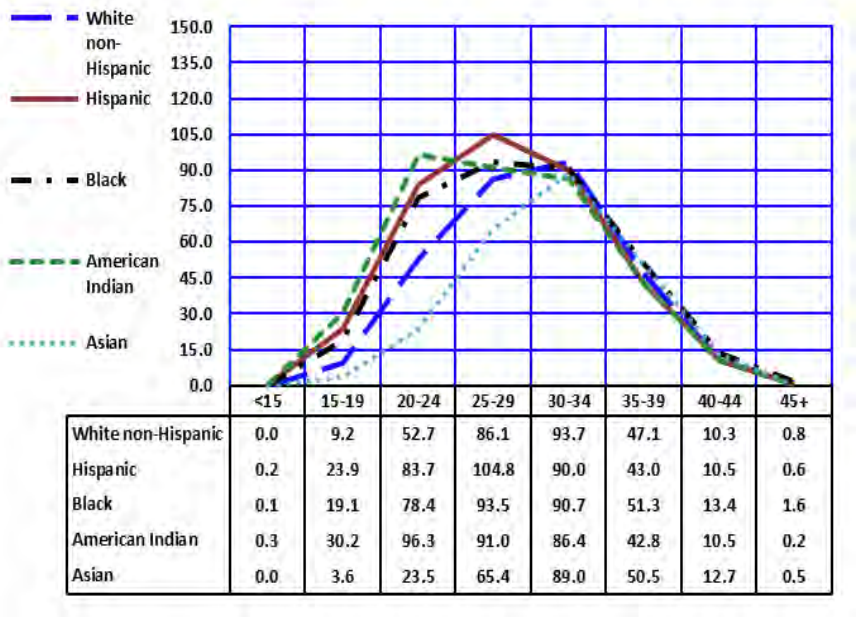
Note: [a] Number of births per 1,000 population in specified group.

The crude birth rate, often simply called the birth rate, relates the number of births to the total population in a specified group. The birth rate is expressed as the total number of births per 1,000 persons, without regard to the age or sex distribution of the population.

The birth rate for Arizona decreased from 11.4 in 2018 to 11.0 in 2019 and 10.7 in 2020.

In 2020, the crude birth rates by mother's race/ethnicity ranged from 8.3 births per 1,000 White non-Hispanics to 14.1 per 1,000 American Indians (**Figure 1B-5**).

Figure 1B-6
Birth Rates[a] by Mother's Age Group and Race/Ethnicity, Arizona, 2020



	<15	15-19	20-24	25-29	30-34	35-39	40-44	45+
White non-Hispanic	0.0	9.2	52.7	86.1	93.7	47.1	10.3	0.8
Hispanic	0.2	23.9	83.7	104.8	90.0	43.0	10.5	0.6
Black	0.1	19.1	78.4	93.5	90.7	51.3	13.4	1.6
American Indian	0.3	30.2	96.3	91.0	86.4	42.8	10.5	0.2
Asian	0.0	3.6	23.5	65.4	89.0	50.5	12.7	0.5

Note: [a] Number of births per 1,000 females in specified group.

The age-specific birth rates (the number of births to mothers in a particular age group per 1,000 women in that age group) differed substantially by race/ethnicity (**Figure 1B-6**).

In 2020, American Indian and Hispanic women had the highest birth rates for women under the age of 25 years. The birth rates for women between the ages of 30-34 were highest among White non-Hispanic women and those between ages 35-39 were the highest among Black women. In general, Hispanic, Black, and American Indian women tend to give birth at younger ages (less than 25 years of age) than Asian and non-Hispanic White women.

Figure 1B-7
Percent of Births to Unmarried Mothers by Age Group, Arizona, 2020

Unmarried mothers have accounted for a large portion of births with more than 4 of every 10 births in Arizona. In 2020, 34,527 infants were born to unmarried mothers compared to 38,871 in 2010. It is important to note that beginning 2015, divorced mothers have been included in the proportion of unmarried mothers; therefore, caution should be exercised in comparing data for this year to those of the previous years.

A decade ago, the proportion of births among unmarried women aged 20-24 years was 62.9 percent, while in 2020, approximately 68.7 percent of mothers 20-24 years old were unmarried (**Figure 1B-7**).

Births and birth ratios by mother's marital status, age group, and race/ethnicity are given in (**Table 1B-22)**. County-level information is provided in (Table **5B-14** and **5B-15)**.

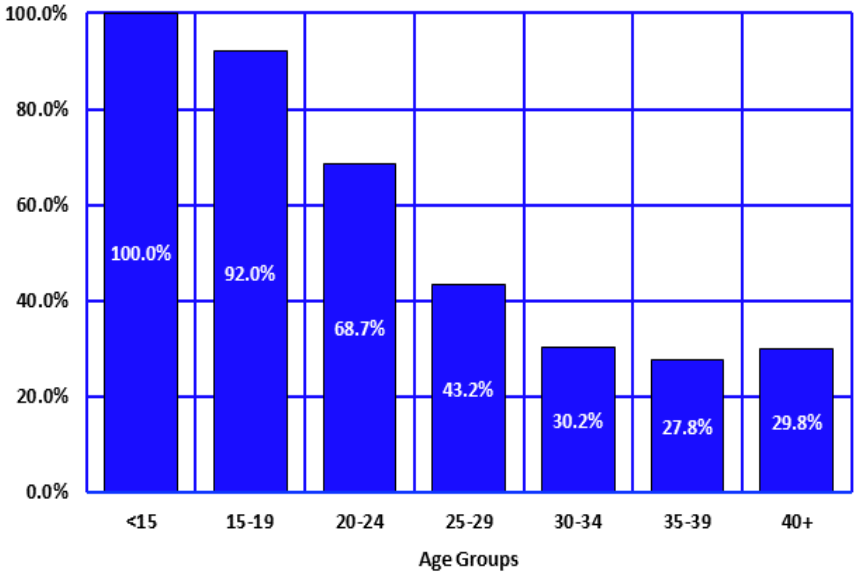
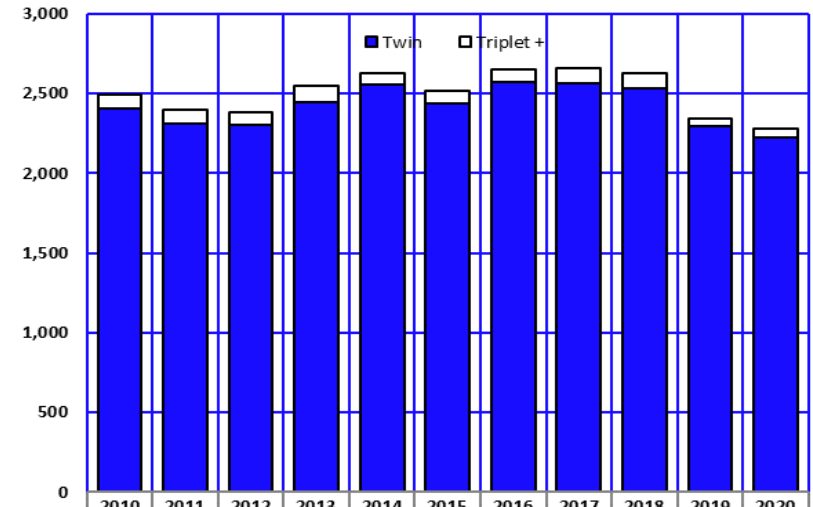


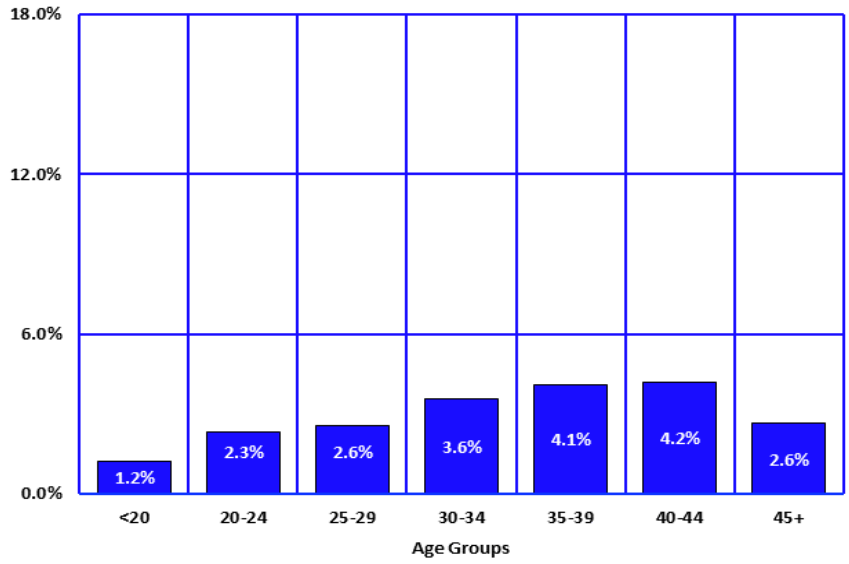
Figure 1B-8
Number of Births in Twin and Triplet+ Deliveries by Year, Arizona, 2010-2020

The number of multiple birth events in Arizona declined from 2,489 in 2010 to 2,280 in 2020 (**Figure 1B-8**). The number of babies born in twin deliveries decreased from 2,409 in 2010 to 2,226 in 2020 (**Figure 1B-8**). The number of triplets and higher order multiple birth events decreased by 32.5 percent from 80 in 2010 to 54 in 2020.



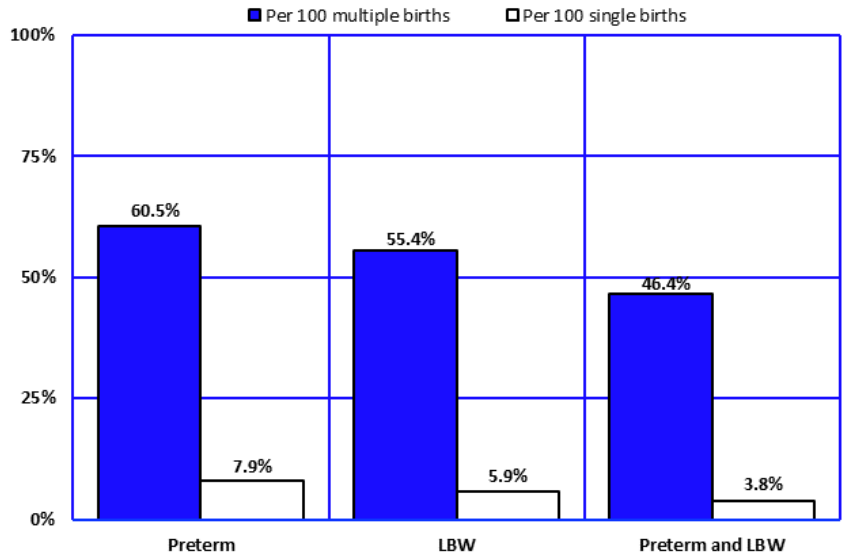
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Triplet +	80	85	81	102	68	84	73	91	96	51	54
Twin	2,409	2,312	2,301	2,445	2,559	2,434	2,574	2,566	2,534	2,292	2,226

Figure 1B-9
Multiple Births by Mother's Age Group, Arizona, 2020



In 2020, the proportion of multiple births gradually increased with maternal age among mothers below 45 years of age and sharply decreased among mothers age 45 years and older. Among women aged 45 years and older, 2.6 percent of all births were twins, triplets, or quadruplets (**Figure 1B-9**). The percent of all births that were multiple births to women age 45 and over decreased from 10.2 percent in 2019 to 2.6 percent in 2020. Ongoing monitoring of multiple births among older mothers will help better understand the recent variation that has been found in this measure.

Figure 1B-10
Infants Born too Early (Preterm)[a] and Infants Born too Small (LBW)[b] among Multiple and Single Births, Arizona, 2020



Notes: [a] Preterm is < 37 weeks of gestation; [b] Low birthweight is less than 2,500 grams or 5 pounds 8 ounces.

Infants born in multiple deliveries tend to be born at shorter gestation age and with low birth weight than those born in singleton deliveries (**Figure 1B-10**). In 2020, infants born in multiple deliveries were 7.7 times more likely (60.5 vs. 7.9 percent) to be born earlier than expected (at less than 37 completed weeks of gestation) and smaller (at less than 2,500 grams) than singleton births.

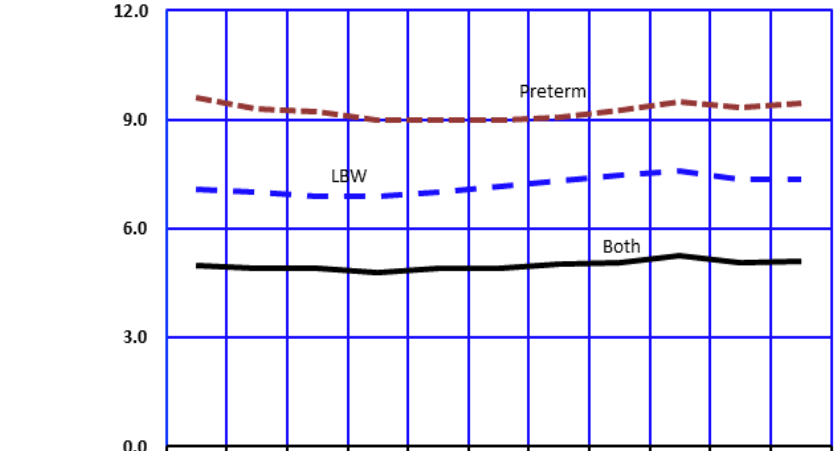
Preterm birth is a leading cause of infant morbidity and mortality, accounting for about 60% percent of all infant deaths (only those with matching death records); (**Figure 2C-4** in section 2C). The weight of the newborn also is an important predictor of future morbidity and mortality. In 2020, infants born at very low birth weight (<1,500 grams) accounted for 48.7 percent of all infant deaths (**Figure 2C-3**).

The proportion of preterm births reached 9.5 percent of all births in 2020, a slight increase from 9.3 percent in 2019.

The proportion of infants born prematurely and who were also low birth weight (LBW; at less than 2,500 grams) slightly increased from 5.0/100 births in 2019 to 5.1/100 births in 2020 (**Figure 1B-11**).

Detailed characteristics of births by birthweight and gestational age are provided in (**Table 1B-32**). Comparative data by county of residence are available in (**Table 5B-16 – Table 5B-24**).

Figure 1B-11
Preterm[a] and Low Birthweight (LBW)[b] Births by Year, Arizona, 2010-2020



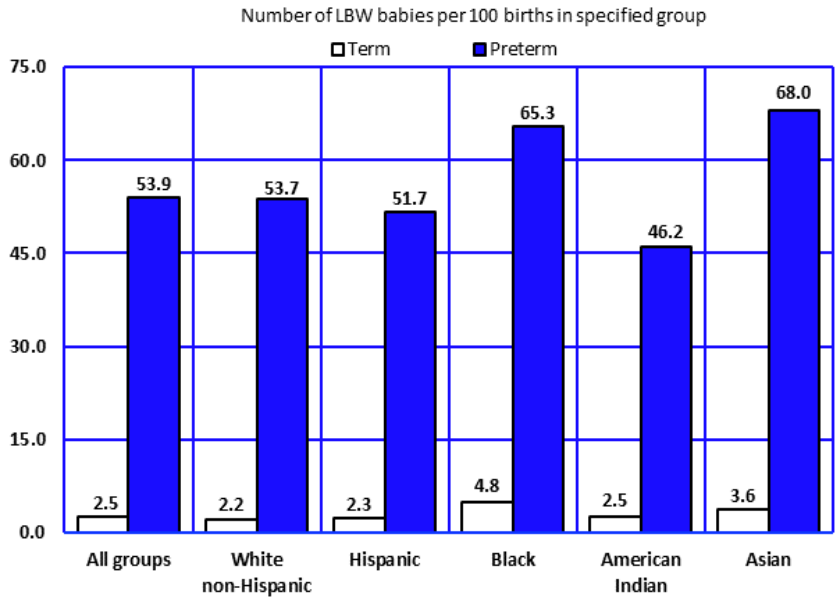
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
LBW	7.1	7.0	6.9	6.9	7.0	7.2	7.3	7.5	7.6	7.4	7.4
Preterm	9.6	9.3	9.2	9.0	9.0	9.0	9.0	9.3	9.5	9.3	9.5
Both	5.0	4.9	4.9	4.8	4.9	4.9	5.0	5.1	5.2	5.0	5.1

Notes: [a] Preterm: < 37 weeks of gestation; [b] Low birthweight (less than 2,500 grams or 5 pounds 8 ounces); In this report, the primary measure used to determine the gestational age is the clinical estimate of gestation as reported on the birth certificate.

In 2020, 7.4 percent of all babies were born at low birthweight (LBW), (weight less than 2,500 grams or 5 pounds 8 ounces), representing a slight increase from the rate recorded in 2010 (7.1 percent). Preterm delivery is the strongest risk factor for LBW. Infants born at less than 37 completed weeks of gestation were 21.6 times (53.9 vs. 2.5 percent) more likely to be LBW than infants born at term (**Figure 1B-12**). Approximately, seven out of ten (69.3 percent) LBW babies born in 2020 were preterm (**Table 1B-3**).

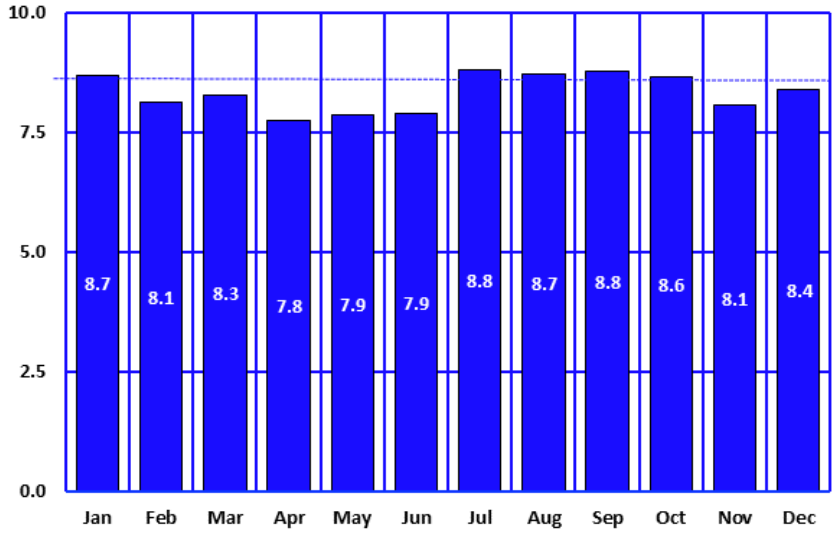
County-level data for LBW newborns are available in (**Tables 5B-16 – 5B-23**). Community level information is in (**Table 9A**).

Figure 1B-12
Low-Birthweight (LBW) Births by Length of Gestation and Mother's Race/Ethnicity, Arizona, 2020



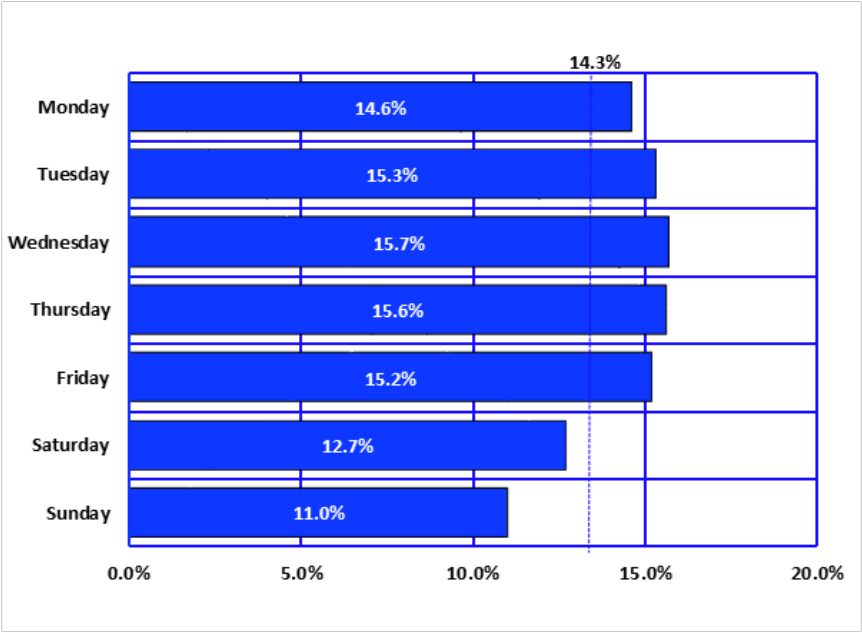
Notes: Number of LBW babies per 100 births in specified group; Preterm: < 37 weeks of gestation; Low birthweight (less than 2,500 grams or 5 pounds 8 ounces).

Figure 1B-13
Percent of Resident Births by Month, Arizona, 2020



In 2020, monthly births in Arizona averaged around 8.3 percent. (**Figure 1B-13**). In 2020, the seasonal fluctuation of the frequency of births is marked by 3 month raised peak in July (8.8 percent), August (8.7 percent), and September (8.8 percent) compared to other months throughout the year.

Figure 1B-14
Percent of Resident Births by Day of the Week, Arizona, 2020

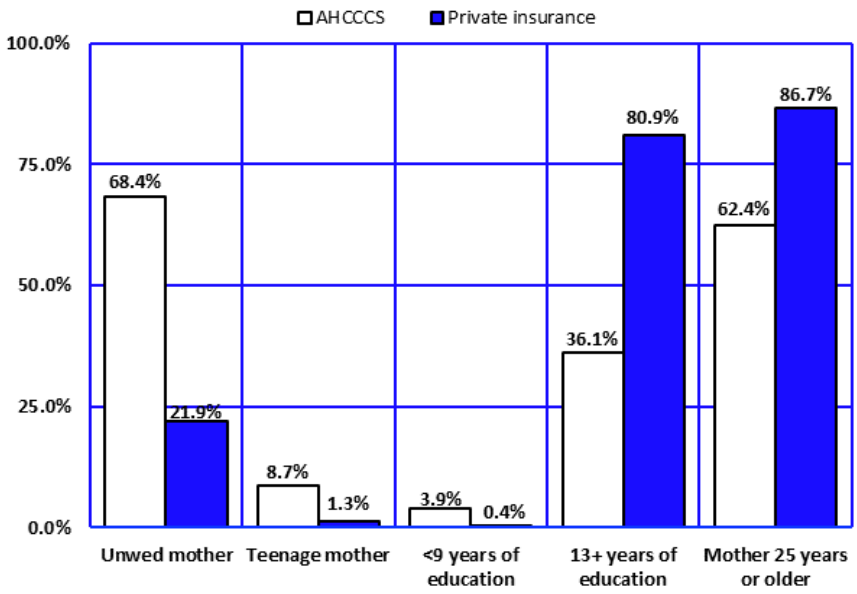


On average, 210 infants were born per day in 2020 to Arizona residents. The daily percent of resident live births in 2020 was substantially lower on weekends than on weekdays (**Figure 1B-14**). Many studies suggest that weekly, daily, and hourly variations observed in hospitals and clinics are not due to a biological rhythm of labor, but to increased frequency of obstetric interventions in the timing of delivery (induced labors and elective cesarean deliveries), making it more aligned with the work week schedule.

In 2020, only 8.8 percent of cesarean deliveries occurred on Sundays, compared to 16.6 percent on Mondays. The average rate of induction of labor was substantially lower on weekend days (12 percent) than it was on week days (15.2 percent).

The number of years of maternal education was the only possible proxy of socioeconomic status (SES) on the birth certificate prior to 1989. Paying party for the delivery became another SES indicator in 1989. The Arizona Health Care Cost Containment System (AHCCCS, the State's Medicaid Program) versus private health insurance (PHI) compares mothers of lower and higher SES respectively. PHI mothers were 2.2 times more likely to have some college education or higher (13+ years of education) than were AHCCCS mothers (80.9 and 36.1 percent respectively, **Figure 1B-15**). Mothers recipient AHCCCS were more likely to be unmarried (68.4%) than their counterparts with PHI. Nine out of ten mothers with PHI were at least 25 years old compared to 6 out of 10 AHCCCS mothers.

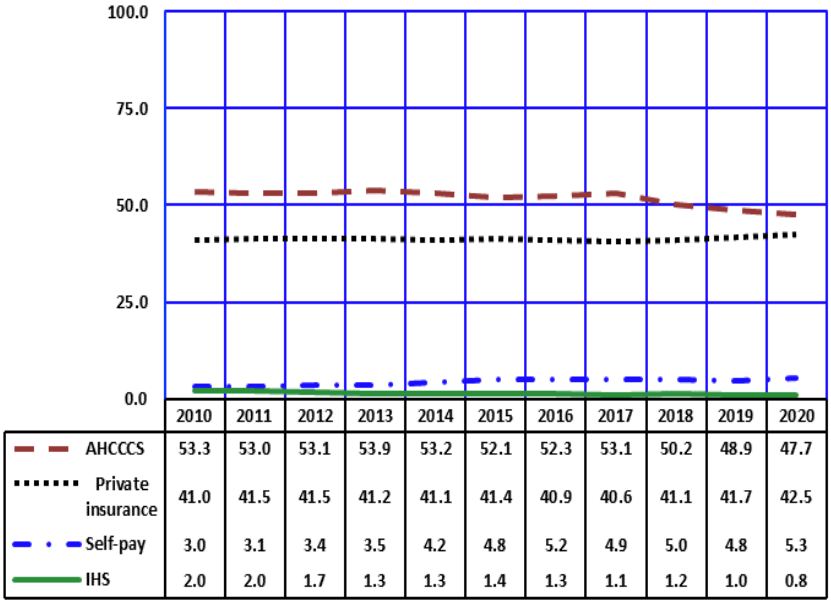
Figure 1B-15
Comparison of Selected Sociodemographic Characteristics by the Payer for Delivery, Arizona, 2020



Note: The Arizona Health Care Cost Containment System (AHCCCS) is the State's Medicaid program.

Since 2002, the share of resident births paid for by AHCCCS has exceeded the share paid by private health insurance (**Figure 1B-16**). In 2010, private insurance funded 41.0 percent of births and AHCCCS paid for 53.3 percent of births. The share of AHCCCS funded births varied little from 2010 to 2020. The share of private health insurance also remained stable during this time period. In 2020, the proportion of births paid by AHCCCS decreased 10.5 percent, while the percent of births paid by a private insurance increased 3.7 percent. In 2020, 5.3 percent of births were paid by mothers themselves and/or their families (i.e. self-pay). The Indian Health Service (IHS) paid for 0.8 percent of the births in 2020, a slight decrease from last year **(Table 1B-25 and Table 1B-27)**.

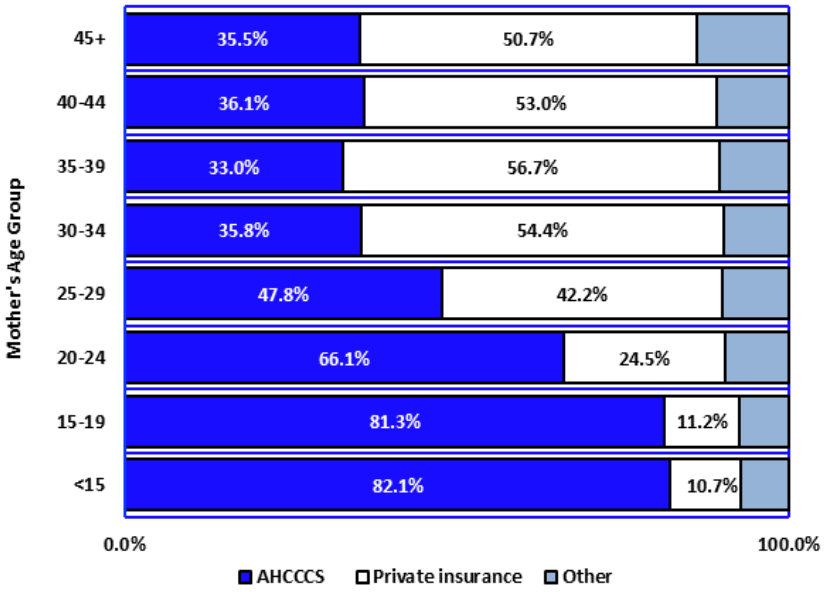
Figure 1B-16
Births by Payer and Year, Arizona, 2010-2020



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
AHCCCS	53.3	53.0	53.1	53.9	53.2	52.1	52.3	53.1	50.2	48.9	47.7
Private insurance	41.0	41.5	41.5	41.2	41.1	41.4	40.9	40.6	41.1	41.7	42.5
Self-pay	3.0	3.1	3.4	3.5	4.2	4.8	5.2	4.9	5.0	4.8	5.3
IHS	2.0	2.0	1.7	1.3	1.3	1.4	1.3	1.1	1.2	1.0	0.8

Notes: The Arizona Health Care Cost Containment System (AHCCCS) is the State's Medicaid program; IHS is the Indian Health Service.

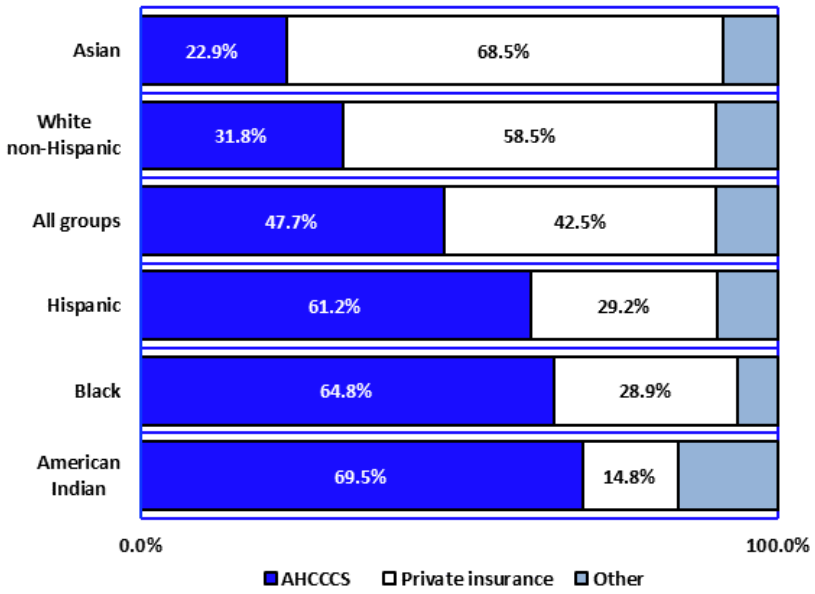
Figure 1B-17
Payer for Delivery by Mother's Age Group, Arizona, 2020



In 2020, the Arizona Health Care Cost Containment System (AHCCCS) paid for the majority of the deliveries to mothers 29 years or younger (**Figure 1B-17**). In contrast, private insurance was the largest payer for the deliveries of women aged 30 years old or older in 2020 (based on data in **Table 1B-28**).

Note: The Arizona Health Care Cost Containment System (AHCCCS) is the State's Medicaid program.

Figure 1B-18
Payer for Delivery by Mother's Race/Ethnicity, Arizona, 2020



In 2020, private insurance was the largest payer for deliveries of Asian (68.5 percent) and White non-Hispanic infants (58.5 percent). In contrast, the Arizona Health Care Cost Containment System was the largest payer for deliveries of American Indian (69.5 percent), Black or African American (64.8 percent), and Hispanic or Latino infants (61.2 percent).

The Indian Health Service as a payer accounted for 12.7 percent of deliveries of American Indian or Alaska Native infants in the State (**Figure 1B-18,** based on data in **Table 1B-27**).

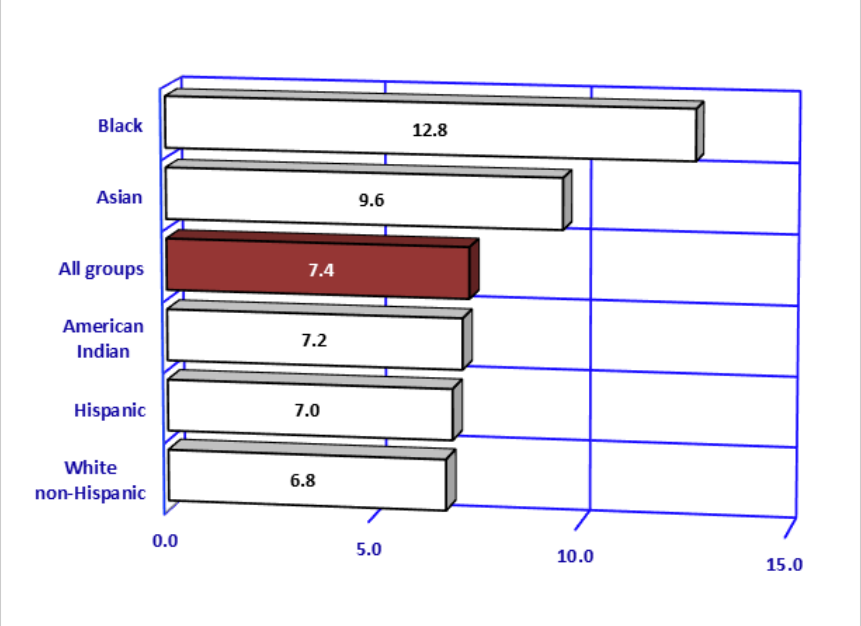
Hispanics or Latinos accounted for 53.2 percent of the 36,620 deliveries paid for by AHCCCS. About 28.8 percent of all AHCCCS births were to White non-Hispanic women (based on data in **Table 1B-27**).

Notes: The Arizona Health Care Cost Containment System (AHCCCS) is the State's Medicaid program; Other includes Indian Health Service, self-pay, or unknown.

In 2020, 7.4 percent of all Arizona infants were born at a low birthweight (LBW), or at less than 2,500 grams (5 pounds 8 ounces).

In Arizona, LBW rates differed by mother's racial/ethnic group. LBW rates were highest for newborns of Black or African American mothers (12.8 percent), Asian or Pacific Islander mothers (9.6 percent), and American Indian mothers (7.2 percent). Newborns of Hispanic or Latino and White non-Hispanic had the lowest LBW rates among all racial/ethnic groups (Figure 1B-19, based on data in **Table 1B-25**).

Figure 1B-19
Percent of Low Birthweight[a] by Mother's Race/Ethnicity, Arizona Residents, 2020



Note: [a] Low birthweight is less than 2,500 grams (less than 5 pounds 8 ounces).

The percent of Arizona mothers giving birth who received early prenatal care (i.e., in the first trimester) has decreased from 2010 (81.9 percent) to 2020 (68.8 percent; **Table 1B-2**). It should be noted that with the adoption of the 2003 revised U.S. birth certificate in 2014, trend analysis of the timing of prenatal care is compromised by significant changes in reporting of prenatal care initiation. Hence, the low proportion of women with timely entry to prenatal care from 2014-2020 may be attributable for the most part to differences in reporting. Starting in 2014, prenatal care beginning in the first trimester has largely been unchanged varying only from a low of 66.0 percent in 2014 to a high of 68.9 percent in 2016.

In Arizona, American Indian, Black or African American, and Hispanic or Latino mothers were least likely to begin prenatal care in the first trimester (**Figure 1B-20**). White non-Hispanic and Asian or Pacific Islander mothers were more likely to report timely entry to prenatal care than any other racial/ethnic groups (**Table 1B-25**).

Figure 1B-20
First Trimester Prenatal Care by Mother's Race/Ethnicity, Arizona Residents, 2020

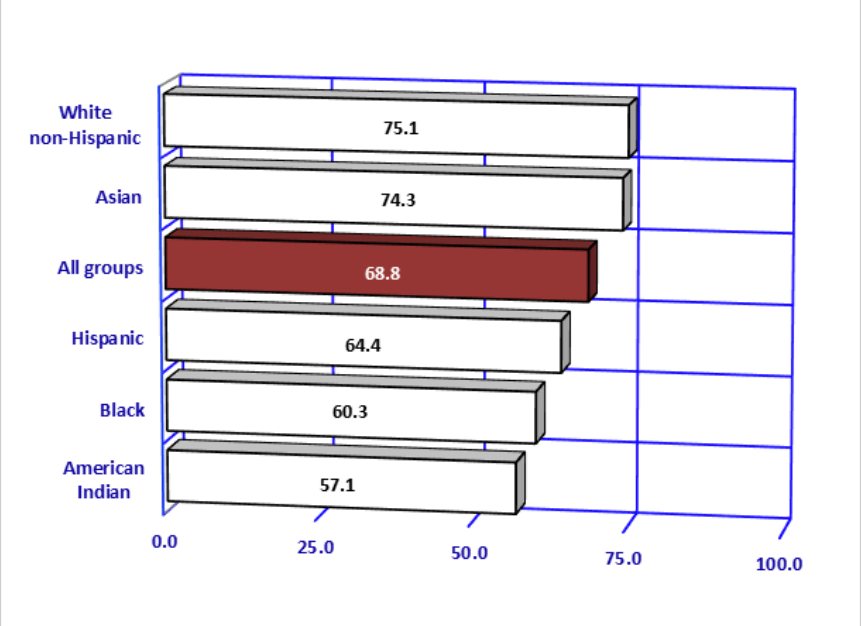
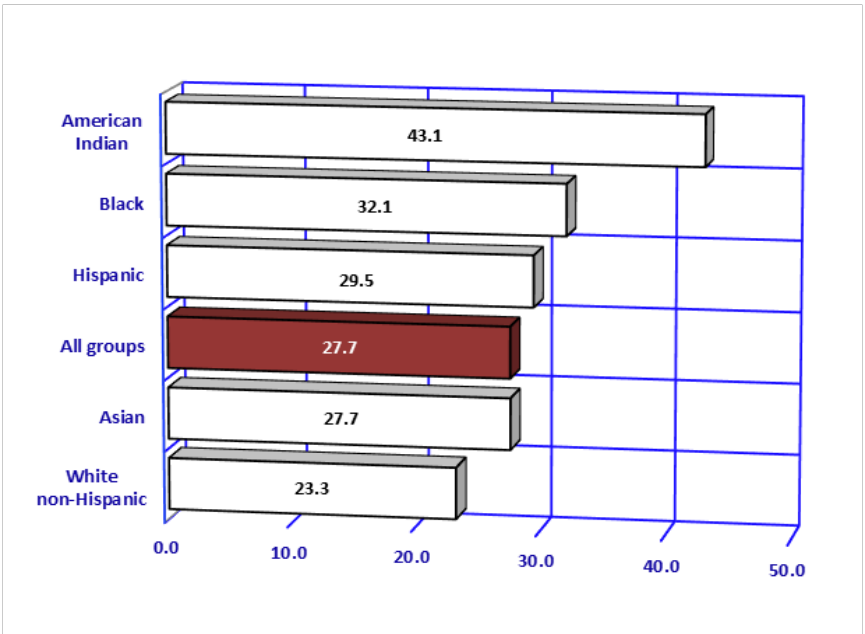


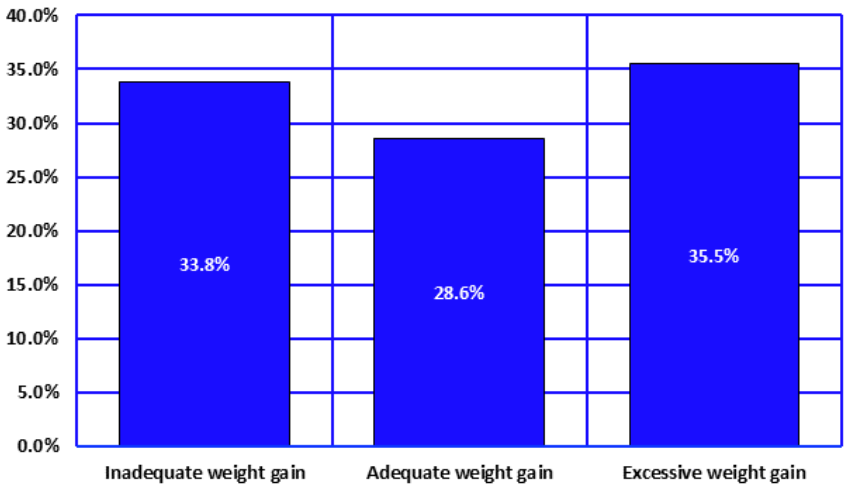
Figure 1B-21
Maternal Medical Risk Factors[a] by Mother's Race/Ethnicity, Arizona, 2020



Note: [a] Births with medical risk factors reported per 100 births in specified group.

Maternal medical risk factors (such as, diabetes, hypertension, eclampsia, or sexually transmissible diseases) can contribute to serious pregnancy complications and infant deaths, if not treated properly. In 2020, with exception to White non-Hispanic and Asian mothers, all the mothers from the remaining race/ethnic groups recorded higher proportions of medical risk factors compared to all groups (**Figure 1B-21**).

Figure 1B-22
Low-Birthweight by Maternal Weight Gain during Pregnancy, Arizona, 2020



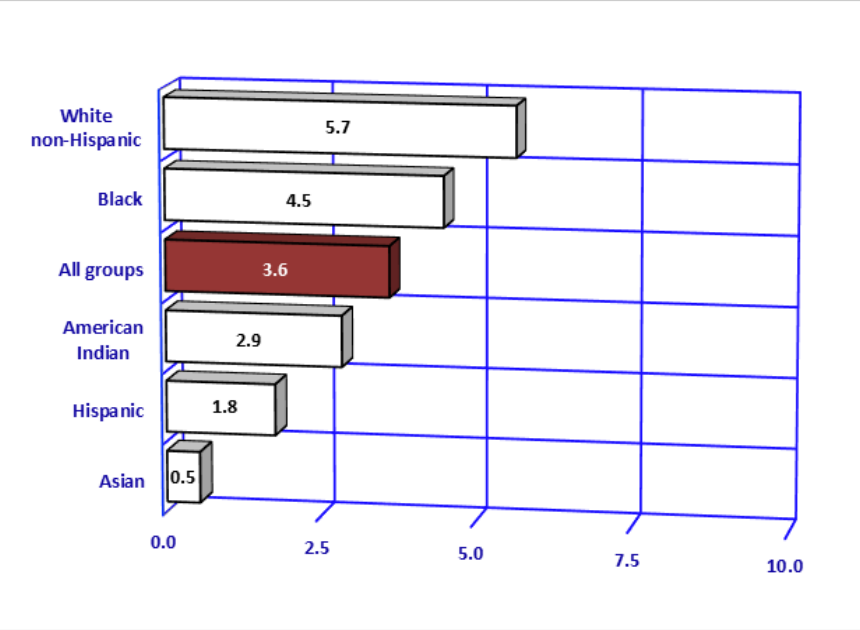
Maternal weight gain during pregnancy is a determinant of both fetal growth and birthweight. Insufficient or excessive weight gain during pregnancy can negatively influence outcomes of both mother and infant. Based on the Institute of Medicine guidelines, women who are of normal weight (body mass index or BMI 18.5-24.9) should gain 25-35 pounds during pregnancy. Underweight women (BMI <18.5) should aim to gain 28-40 pounds, while overweight women (BMI 25.0-29.9), and obese women (BMI≥30.0) should gain 15-25 pounds and 11-20 pounds, respectively.

Prior to the adoption of the 2003 revised birth certificate in 2014, it was not possible to analyze gestational weight gain in relation to mother's pre-pregnancy BMI. The revised birth certificate includes new fields (mother's height, pre-pregnancy weight, and weight at delivery) providing the opportunity to assess whether pregnancy weight gain is within the recommended range for the mother's BMI.

In 2020, the proportion of newborns with low birthweight was the lowest among mothers who gained the recommended amount of weight during pregnancy (**Figure 1B-22**).

Figure 1B-23
Self-reported Tobacco Use during Pregnancy[a] by Race/Ethnicity, Arizona, 2020

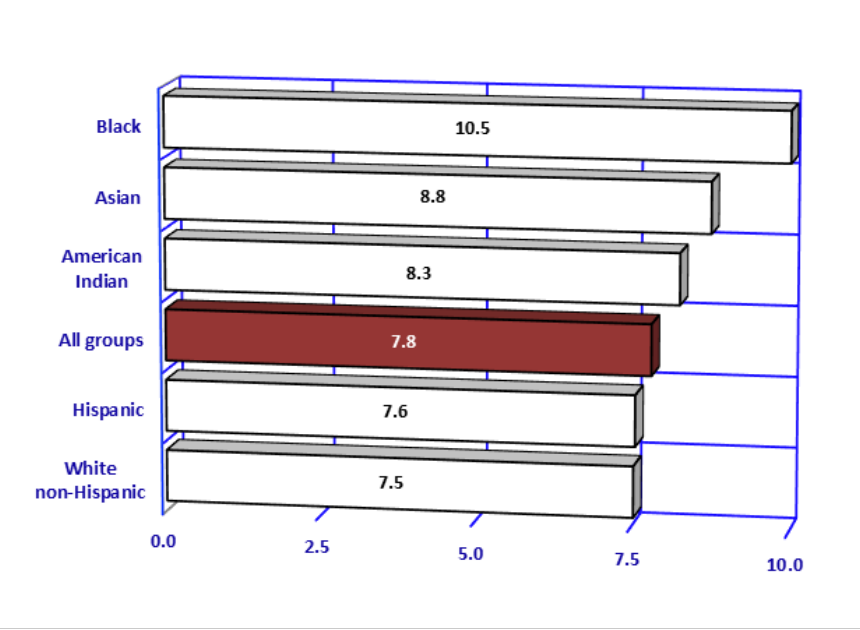
Cigarette smoking during pregnancy has been associated with reduced infant weight at birth, intrauterine growth retardation, and preterm births. Smoking during pregnancy was reported by 3.6 percent of women giving birth in 2020 (**Table 1B-25**, **Table 5B-30**), compared to 10.5 percent in 1989, when this information was first reported on Arizona birth certificates. It is unclear whether this decline means that women giving birth in Arizona are less likely to use tobacco during pregnancy or, perhaps, less likely to report it if they use. White non-Hispanic and Black mothers continued to be more likely to report smoking than American Indian, Hispanic, and Asian mothers (**Figure 1B-23**).



Note: [a] Mothers giving birth who reported tobacco use per 100 births in specified group.

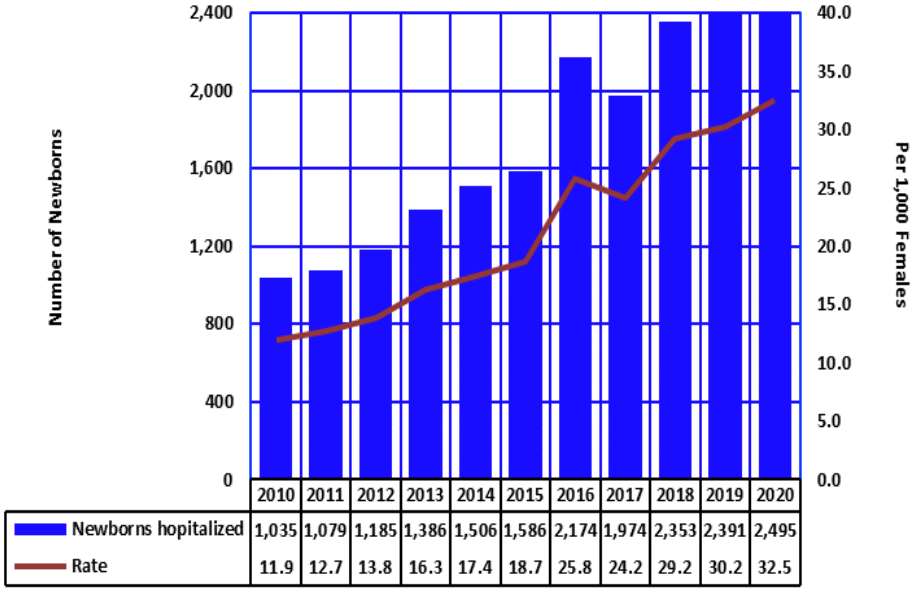
Figure 1B-24
Rates of Admission to Newborn Intensive Care Units[a] by Mother's Race/Ethnicity, Arizona, 2020

In 2020, 6,006 or 7.8 percent of newborns were admitted to newborn intensive care units (NICUs). The proportion of NICU admissions differed among racial/ethnic groups. Black or African American, Asian or Pacific Islander, and American Indian newborns had the highest rates of NICU admissions compared the other racial/ethnic groups (**Table 1B-25**). Prematurity, i.e., gestational age before 37 weeks lead to more NICU admissions (54.2 percent) than did LBW (45.0 percent) **Table 1B-32**).



Note: [a] The number of newborns admitted to Intensive Care Units per 100 births in specified group.

Figure 1B-25
Newborns Who Were Hospitalized after Birth because They Were Affected by Maternal Use of Drugs during Pregnancy, Arizona, 2010-2020

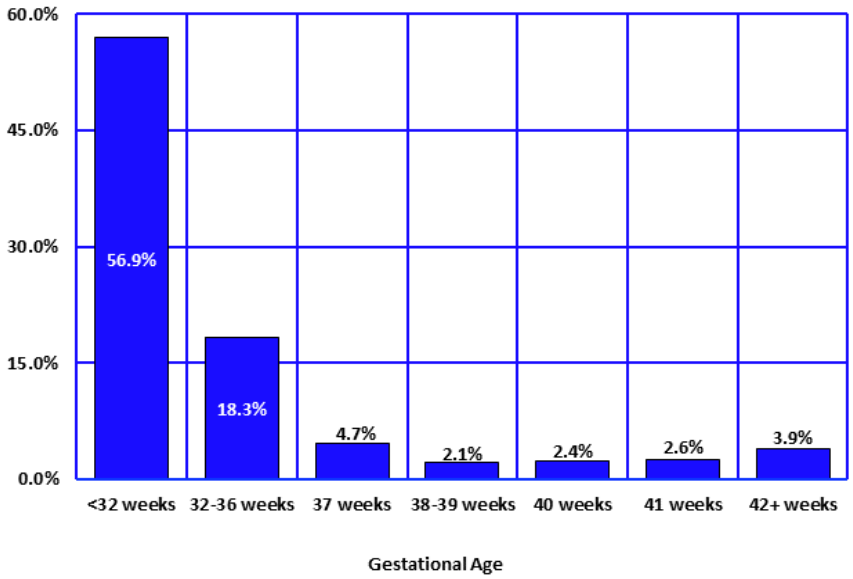


	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Newborns hopitalized	1,035	1,079	1,185	1,386	1,506	1,586	2,174	1,974	2,353	2,391	2,495
Rate	11.9	12.7	13.8	16.3	17.4	18.7	25.8	24.2	29.2	30.2	32.5

Note: Rate is the number of newborns admitted to Intensive Care Units per 1000 births in specified group.

Information about maternal drug use during pregnancy is not reported on Arizona birth certificates. However, it can be obtained from the hospital discharge database. There are several diagnostic codes which identify exposure of fetus or newborn to specific noxious substances (such as narcotics, hallucinogenic agents, or cocaine) transmitted via placenta or breast milk. During the 11-year period under consideration, the newborn hospitalization rate due to maternal use of drugs during pregnancy increased from 11.9/1,000 in 2010 to 32.5/1,000 in 2020.

Figure 1B-26
Abnormal Conditions of the Newborn by Gestational Age, Arizona, 2020



With the implementation of the revised birth certificate, three of the six specific abnormal conditions listed on the birth certificate have been reported most frequently: *assisted ventilation immediately after delivery, assisted ventilation for more than six hours, and suspected neonatal sepsis* **(Table 1B-32)**. The rates of abnormal conditions are the highest among the very preterm (less than 32 weeks of gestation) and moderately preterm babies (32-36 weeks of gestation; **Figure 1B-26**).

Figure 1B-27
The Incidence of Down Syndrome by Mother's Age Group, Arizona, 2020

Congenital anomalies (birth defects) are among the leading causes of infant death in Arizona and nationally. They are also the cause of physical defects and metabolic diseases.

For various anomalies, rates vary widely with maternal age. For example, in 2020 as in prior years, the rate of Down's Syndrome, the most frequently recognized cause of intellectual disability, was substantially higher for births to mothers aged 35 years and older (**Figure 1B-27, Table 1B-33**). The incidence rate of 188.3 cases of Down's Syndrome per 100,000 births to women 35 years or older was 6.3 times greater than the incidence rate of 30.1 for women aged 24 years or younger.

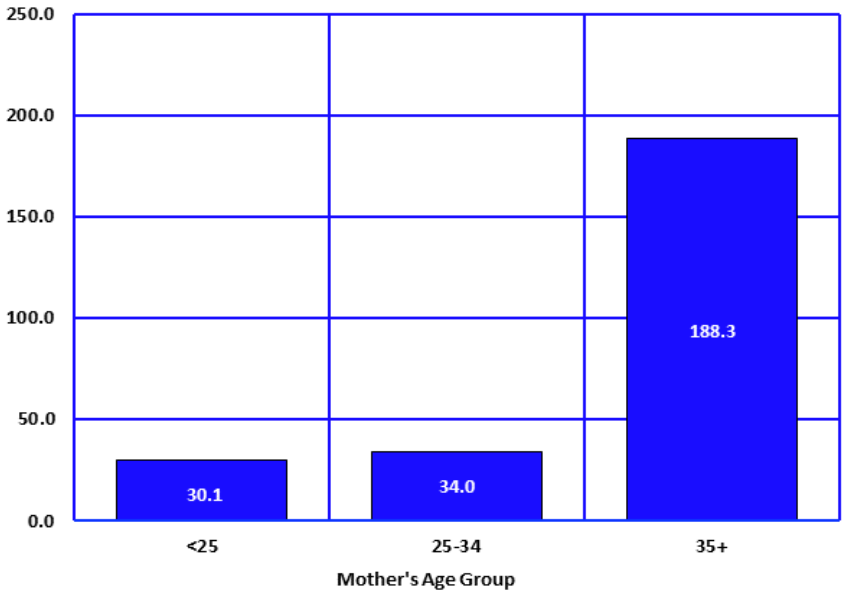


TABLE 1B-1
BIRTH RATE[a], GENERAL FERTILITY RATE[b], TOTAL FERTILITY RATE[c], GROSS REPRODUCTION RATE[d], AND AGE-SPECIFIC BIRTH RATES[e] BY YEAR, ARIZONA AND UNITED STATES[f], 2010-2020

Year	Area	Birth rate	General fertility rate	Total fertility rate	Gross reproduction rate	Age specific birth rates:							
						Under 15 years	15-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years
2010	AZ	13.6	68.9	2,058	1,011	0.5	41.6	104.3	116.1	94.4	44.4	9.7	0.7
	U.S.	13.0	64.1	1,931	NA	0.4	34.2	90.0	108.3	96.5	45.9	10.2	0.7
2011	AZ	13.2	67.0	2,001	976	0.5	36.9	101.4	112.3	94.0	44.2	10.3	0.2
	U.S.	12.7	63.2	1,894	NA	0.4	31.3	85.3	107.2	96.5	47.2	10.3	0.7
2012	AZ	13.2	67.2	2,018	984	0.3	35.4	100.1	116.4	94.6	459.0	10.3	0.6
	U.S.	12.6	63.0	1,881	NA	0.4	29.4	83.1	106.5	97.3	48.3	10.4	0.7
2013	AZ	12.9	66.0	1,981	963	0.3	31.3	96.7	118.4	93.0	46.4	9.8	0.1
	U.S.	12.5	62.5	1,870	NA	0.3	26.6	81.2	106.2	98.7	49.6	10.5	0.8
2014	AZ	13.0	66.7	1,986	968	0.2	29.9	90.7	117.6	98.1	49.7	10.1	0.9
	U.S.	12.5	62.9	1,863	NA	0.3	24.2	79.0	105.8	100.8	51.0	10.6	0.8
2015	AZ	12.6	64.8	1,924	938	0.2	26.3	86.6	115.4	95.9	48.9	10.5	0.9
	U.S.	12.5	62.5	1,843	NA	0.2	22.3	76.9	104.3	101.4	51.7	11.0	0.8
2016	AZ	12.3	63.9	1,895	930	0.2	23.7	84.2	112.9	98.2	48.7	10.2	0.8
	U.S.	12.4	62.0	1,818	NA	0.2	20.3	73.7	101.9	102.6	52.6	11.4	0.9
2017	AZ	11.7	61.1	1,805	888	0.2	21.9	78.9	105.6	94.9	47.8	10.6	1.1
	U.S.	12.2	60.3	1,764	NA	0.2	18.8	71.0	97.9	100.3	52.2	11.6	0.9
2018	AZ	11.4	59.4	1,750	854	0.1	20.1	76.0	100.3	93.6	48.0	11.1	0.9
	U.S.	11.6	59.1	1,728	NA	0.2	17.4	68.0	95.3	99.7	52.6	11.8	0.9
2019	AZ	11.0	57.4	1,688	823	0.2	18.5	71.2	97.5	92.3	46.4	10.7	0.7
	U.S.	11.6	58.2	1,705	NA	0.2	16.6	66.6	93.7	98.3	52.7	12.0	0.9
2020	AZ	10.7	55.6	1,634	802	0.1	17.0	67.9	92.9	91.6	45.9	10.7	0.6
	U.S.	11.0	56.0	1,641	NA	0.2	15.3	62.8	90.0	94.8	51.7	11.8	0.9

Notes: [a] The number of births per 1,000 population.

[b] The number of births per 1,000 women of childbearing age (15-44 years old).

[c] The total fertility rate (TFR) is the sum of age group specific birth rates multiplied by the number of years in the age group (five years in this case). This rate estimates the number of children a hypothetical cohort of 1,000 women would bear if they all went through their childbearing years experiencing the same age-specific birth rates for a specified time period. For example, the Arizona 2020 TFR of 1,610 can be interpreted at the individual level as the average number of children a female resident would have by age 50 (1,610/1000 = 2 live births) if she were subjected throughout her life to the age-specific birth rates observed in 2020.

[d] The sums of birth rates by 5-year age groups multiplied by the proportion of births that were female. The gross reproduction rate represents the average number of daughters born to a hypothetical cohort of 1,000 women if they experienced the age-specific birth rates observed in a given year throughout their childbearing years, and if none of the cohort was to die during her childbearing years. See Table 1B-2 for the annual proportions of births that were female in 2010-2020.

[e] The number of births per 1,000 women in specified age group. For females under 15, the rate is calculated using the female population 10-14 years of age. For women over 44, the rate is calculated using the female population 45-49 years of age.

[f] The U.S. rates are from the National Center for Health Statistics:
https://www.cdc.gov/nchs/nvss/vsrr/natality-dashboard.htm#

TABLE 1B-2
LIVE BIRTHS ACCORDING TO SELECTED MATERNAL, PRENATAL CARE AND DELIVERY CHARACTERISTICS, BIRTHWEIGHT, PLURALITY, CHILD'S SEX, BIRTH ORDER, AND BIRTH COMPLICATIONS[a], ARIZONA, 2010-2020
(ALL RACE/ETHNIC GROUPS)

Characteristic	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Number of births	87,053	85,190	85,725	84,963	86,648	85,024	84,404	81,664	80,539	79,183	76,781
Age of mother											
≤19 years	10.8	9.9	9.5	8.5	7.6	6.9	6.4	6.2	5.8	5.5	5.1
≥30 years	35.0	36.1	36.7	37.2	38.8	39.3	40.2	40.9	42.0	42.6	43.9
Marital status											
Unmarried	44.7	44.3	45.2	45.1	44.7	45.3	44.8	44.4	44.6	45.0	45.0
Mother's education											
<9 years	5.3	4.6	4.3	3.8	3.7	3.5	3.2	3.1	3.0	2.8	2.5
Mother's race/ethnicity											
White[b]	44.5	45.0	45.1	45.0	46.3	44.9	44.7	43.7	43.3	43.1	43.1
Hispanic	39.4	38.0	38.7	38.9	38.9	40.3	40.1	40.6	41.0	41.1	41.5
Black	5.0	5.1	5.5	5.6	5.2	5.1	5.2	5.6	5.8	6.1	6.2
American Indian	6.7	6.8	6.5	6.4	5.9	5.9	6.0	6.0	5.8	5.6	5.3
Asian	4.4	5.0	4.2	4.1	3.7	3.8	4.0	4.1	4.1	4.0	3.9
Prenatal care begin											
1st Trimester	81.9	81.7	82.6	81.3	66.0	67.9	68.9	68.3	68.8	68.9	68.8
3rd Trimester	3.2	3.1	3.2	3.6	5.3	5.5	5.8	5.7	6.2	6.8	6.7
No Care	1.6	1.6	1.2	1.4	2.1	2.2	2.4	2.9	2.8	2.6	2.5
Prenatal visits											
1-4	3.3	3.4	3.6	3.8	4.4	4.4	4.6	4.6	5.0	5.6	5.4
≥5	94.9	94.5	94.9	94.7	92.1	92.2	91.5	90.8	90.9	89.9	90.2
≥9	80.5	80.6	81.3	81.2	77.6	77.0	76.0	75.6	74.5	72.4	72.0
≥13	31.6	33.7	34.6	34.8	30.7	30.4	29.9	31.2	31.0	29.2	29.2
Medical risk/ Complications[c]	49.7	46.3	52.4	55.5	**34.5**	**39.0**	40.7	42.7	44.2	46.9	49.1
Gestational age[d]											
Preterm (<37 weeks)	9.6	9.3	9.2	9.0	9.0	9.0	9.0	9.3	9.5	9.3	9.5
Birth weight											
<2,500 grams	7.1	7.0	6.9	6.9	7.0	7.2	7.3	7.5	7.6	7.4	7.4
<1,500 grams	1.1	1.2	1.2	1.1	1.2	1.1	1.2	1.2	1.2	1.1	1.1
Child's sex											
Male	50.9	51.2	51.2	51.4	51.3	51.3	50.9	50.8	51.2	51.2	50.9
Female	49.1	48.8	48.8	48.6	48.7	48.7	49.1	49.2	48.8	48.8	49.1
Plurality											
Multiple births	2.9	2.8	2.8	3.0	3.0	3.0	3.1	3.3	3.3	3.0	3.0
Caesarean delivery	27.6	27.9	27.6	27.8	27.7	27.5	27.5	26.8	27.5	27.8	28.4
Place of delivery											
Hospital[e]	98.8	98.5	98.6	98.7	98.5	98.5	98.3	98.3	98.2	98.3	97.9
Attendant at birth											
Midwife[f]	6.6	6.4	7.2	7.4	10.2	11.8	12.8	13.5	13.1	13.9	13.6
Previous live births											
1 or more	63.0	62.6	62.7	63.6	64.0	64.3	64.8	64.4	64.2	63.9	63.1

Notes: [a] Rates per 100 births.

[b] Non-Hispanic.

[c] Reported medical risks for this pregnancy and/or complications of labor and delivery; data for years 2014 and 2015 in bold were updated due to correction.

[d] Physician's estimate.

[e] Hospital, clinic, medical center or maternity home.

[f] Licensed Midwife or Certified Nurse Midwife.

TABLE 1B-3
LOW-BIRTHWEIGHT (LBW) BIRTHS ACCORDING TO SELECTED MATERNAL, PRENATAL CARE AND DELIVERY CHARACTERISTICS, BIRTHWEIGHT, PLURALITY, CHILD'S SEX, BIRTH ORDER, AND BIRTH COMPLICATIONS[a], ARIZONA, 2010-2020
(ALL RACE/ETHNIC GROUPS)

Characteristic	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Number of births	6,155	5,949	5,946	5,849	6,069	6,093	6,186	6,109	6,106	5,829	5,650
Age of mother											
≤19 years	12.3	11.6	10.7	8.9	7.8	7.8	7.0	7.1	6.5	5.7	5.6
≥30 years	37.8	37.9	39.4	37.9	40.9	42.0	42.4	43.0	46.3	45.6	46.7
Marital status											
Unmarried	49.4	50.0	51.4	51.3	49.1	47.5	48.2	49.6	49.8	50.0	50.2
Mother's education											
<9 years	4.7	4.5	4.5	4.2	3.8	3.5	3.7	3.0	3.0	2.9	2.8
Mother's race/ethnicity											
White[b]	41.9	43.5	42.1	42.0	44.7	41.7	41.8	41.0	40.3	40.0	39.8
Hispanic	38.1	34.9	37.9	37.6	37.0	38.8	38.8	38.3	38.9	39.0	39.2
Black	8.0	9.2	9.3	8.9	8.8	8.8	8.5	9.4	9.4	10.2	10.8
American Indian	6.6	6.8	6.3	6.7	5.2	6.0	5.9	6.2	6.1	6.1	5.2
Asian	5.4	5.7	4.4	4.7	4.2	4.8	5.1	5.2	5.2	4.7	5.0
Prenatal care began											
1st Trimester	81.0	81.2	80.0	78.9	63.6	65.0	66.0	65.9	64.2	64.5	65.4
3rd Trimester	2.7	2.3	2.7	3.4	4.1	3.9	4.5	4.0	4.8	4.9	5.3
No Care	3.2	3.2	2.9	2.9	4.8	5.2	5.0	5.6	6.9	6.7	5.6
Prenatal visits											
1-4	7.5	7.3	8.6	8.2	8.6	9.4	9.5	9.4	10.2	11.4	11.5
≥5	88.8	88.5	87.9	88.5	84.8	83.1	82.6	82.3	79.6	78.9	80.0
≥9	65.2	65.0	65.5	66.4	60.4	58.1	57.4	56.1	52.1	51.9	51.7
≥13	27.1	28.5	26.7	27.7	22.1	20.2	20.1	21.3	20.1	19.1	18.4
Medical risks/ Complications[c]	73.3	69.2	73.2	72.5	**58.9**	**60.0**	62.0	65.1	68.7	68.5	70.5
Gestational age[d]											
Preterm (<37 weeks)	70.2	70.1	71.2	70.2	69.4	68.8	68.7	67.8	69.2	68.5	69.3
Birth weight											
<1,500 grams	15.3	16.8	16.6	15.8	16.8	16.0	16.3	15.8	16.1	15.5	15.6
<1,000 grams	7.1	8.3	8.1	7.4	8.4	7.4	8.0	7.7	7.8	7.2	7.8
Child's sex											
Male	46.5	46.8	48.7	49.3	47.7	47.4	48.0	46.9	47.2	48.0	47.9
Female	53.5	53.2	51.3	50.7	52.3	52.6	52.0	53.1	52.8	52.0	52.1
Plurality											
Multiple births	23.1	22.8	23.0	24.4	23.7	22.5	23.9	22.8	24.6	22.7	22.4
Caesarean delivery	46.5	46.8	47.7	47.6	47.4	48.6	48.4	47.0	49.1	50.1	50.1
Place of delivery											
Hospital[e]	99.6	99.4	99.7	99.7	99.7	99.5	99.4	99.3	99.6	99.4	99.3
Attendant at birth											
Midwife[f]	2.6	2.3	2.5	2.7	9.5	10.5	11.0	12.3	11.8	12.9	12.6
Previous live births											
1 or more	60.3	59.6	61.4	60.5	61.4	60.9	61.0	60.7	61.8	61.2	59.8

Notes: [a] Rates per 100 births.

[b] Non-Hispanic.

[c] Reported medical risks for this pregnancy and/or complications of labor and delivery; data for years 2014 and 2015 in bold were updated due to cor

[d] Physician's estimate.

[e] Hospital, clinic, medical center or maternity home.

[f] Licensed Midwife or Certified Nurse Midwife.

TABLE 1B-4
ALL LIVE BIRTHS AND LOW-BIRTHWEIGHT (LBW) BIRTHS ACCORDING TO SELECTED MATERNAL, PRENATAL CARE, DELIVERY CHARACTERISTICS, BIRTHWEIGHT, PLURALITY, CHILD'S SEX, BIRTH ORDER, AND BIRTH COMPLICATIONS[a], ARIZONA, 2010-2020 (URBAN REGIONS)[b]

Characteristic		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Number of births		74,624	73,040	74,128	73,493	74,677	73,547	72,899	70,780	69,890	68,797	66,845
Age of mother	≤19 years	10.3	9.4	9.0	8.2	7.3	6.6	6.1	5.8	5.5	5.2	4.9
	≥30 years	36.2	37.4	37.9	38.4	40.0	40.6	41.2	42.0	43.1	43.5	44.8
Marital status	Unmarried	43.6	43.2	44.1	44.1	43.6	44.1	43.7	43.2	43.4	43.9	44.0
Mother's education	<9 years	5.6	4.9	4.7	4.0	3.9	3.7	3.5	3.2	3.1	3.0	2.6
Mother's race/ethnicity	White[c]	44.1	45.0	44.6	44.3	45.7	44.5	44.0	43.1	42.6	42.2	42.2
	Hispanic	42.0	40.5	40.9	41.3	41.3	42.5	42.5	43.0	43.2	43.4	43.7
	Black	5.6	5.7	6.1	6.2	5.9	5.8	5.9	6.3	6.5	6.9	6.9
	American Indian	3.6	3.7	3.7	3.7	3.1	3.1	3.2	3.1	3.2	3.1	3.0
	Asian	4.7	5.0	4.7	4.5	4.0	4.2	4.4	4.5	4.4	4.4	4.2
Prenatal care began	1st Trimester	83.1	82.5	83.4	82.1	66.6	68.3	69.4	68.7	69.5	69.9	69.4
	3rd Trimester	2.9	2.9	3.1	3.5	5.2	5.3	5.6	5.4	6.1	6.6	6.5
	No care	1.6	1.6	1.2	1.3	2.1	2.1	2.3	2.8	2.6	2.3	2.3
Prenatal visits	1-4	2.9	3.0	3.2	3.5	4.0	4.1	4.3	4.2	4.7	5.3	5.2
	≥5	95.4	94.8	95.3	95.1	92.4	92.6	91.9	91.2	91.5	90.5	90.7
	≥9	81.9	81.8	82.4	82.3	78.7	78.2	77.1	76.7	75.6	73.2	72.8
	≥13	32.1	34.1	35.1	35.3	31.1	31.0	30.1	31.7	31.7	29.8	29.8
Medical risks/complications[d]		50.1	47.2	52.5	56.1	**34.5**	**39.4**	41.4	43.1	44.7	47.5	49.7
Gestational age[e]	Preterm (<37 weeks)	9.7	9.4	9.2	9.1	9.1	9.0	9.0	9.2	9.5	9.3	9.4
Birth weight	<2,500 grams	7.0	6.9	6.9	6.8	7.0	7.1	7.2	7.4	7.6	7.3	7.3
	<1,500 grams	1.1	1.2	1.2	1.1	1.2	1.1	1.2	1.2	1.2	1.1	1.1
Child's sex	Male	50.8	51.2	51.2	51.4	51.3	51.3	51.0	50.7	51.1	51.3	50.8
	Female	49.2	48.8	48.8	48.6	48.7	48.7	49.0	49.3	48.9	48.7	49.2
Plurality	Multiple births	3.0	2.9	2.9	3.1	3.1	3.0	3.2	3.3	3.3	3.0	3.0
Caesarean delivery		28.0	28.3	27.9	28.1	28.1	27.9	27.7	27.2	27.7	28.0	28.8
Place of delivery	Hospital[f]	99.0	98.8	98.7	98.7	98.7	98.6	98.4	98.4	98.3	98.4	98.0
Attendant at birth	Midwife[g]	5.4	5.2	6.3	6.3	10.1	12.1	13.0	13.8	13.1	14.1	13.6
Previous live births	1 or more	62.8	62.4	62.6	63.4	63.7	64.0	64.6	64.0	63.9	63.6	62.7
Number of LBW births		5,238	5,065	5,096	5,013	5,232	5,199	5,270	5,224	5,277	5,030	4,886
Age of mother	≤19 years	12.1	10.9	10.2	8.8	7.3	7.4	6.3	6.9	6.1	5.8	5.4
	≥30 years	38.8	39.3	40.4	39.3	42.0	43.6	44.2	44.1	47.5	46.3	47.6
Marital status	Unmarried	48.4	49.0	50.1	50.8	48.3	49.5	47.1	48.4	48.1	49.0	49.1
Mother's education	<9 years	5.2	4.9	4.7	4.3	4.0	3.6	3.9	3.2	3.2	3.0	2.8
Mother's race/ethnicity	White[c]	41.1	42.8	41.1	40.9	43.3	40.4	41.1	40.2	39.9	38.9	38.5
	Hispanic	40.5	37.2	40.2	39.8	39.4	41.3	40.8	40.6	40.7	41.2	41.0
	Black	9.1	10.3	10.4	10.2	9.9	10.0	9.7	10.8	10.5	11.6	12.1
	American Indian	3.5	3.4	3.3	4.0	2.7	3.0	2.8	2.7	3.2	3.0	2.8
	Asian	5.7	6.3	4.9	5.1	4.6	5.3	5.7	5.6	5.7	5.2	5.6
Prenatal care began	1st Trimester	82.1	81.9	80.5	79.8	63.8	66.0	66.8	66.7	65.2	66.0	66.4
	3rd Trimester	2.4	2.0	2.6	3.3	4.1	3.8	4.3	3.8	4.7	4.8	5.1
	No care	3.0	3.0	2.8	2.7	4.9	4.8	4.3	5.3	6.2	5.7	5.3
Prenatal visits	1-4	7.1	7.0	7.8	7.8	8.4	8.9	8.6	8.7	9.7	11.0	11.6
	≥5	89.5	88.8	88.9	89.1	84.8	84.1	84.0	83.3	81.0	80.1	80.6
	≥9	66.6	65.8	66.5	67.7	60.8	59.6	58.6	57.7	53.7	52.7	52.4
	≥13	28.1	29.1	27.3	28.4	22.6	20.6	20.6	21.8	21.0	19.3	18.5
Medical risks/complications[d]		74.6	70.8	74.2	73.7	**59.0**	**60.0**	61.7	65.3	68.3	68.6	70.2
Gestational age[e]	Preterm (<37 weeks)	70.6	71.2	71.3	70.8	70.7	69.5	69.5	67.7	69.6	68.4	70.0
Birth weight	<1,500 grams	15.3	17.4	16.9	15.9	17.0	16.0	16.6	15.7	16.0	15.3	15.4
	<1,000 grams	7.3	8.7	8.4	7.6	8.6	7.7	8.2	7.9	7.7	7.3	7.7
Child's sex	Male	45.9	47.0	48.6	49.2	48.1	47.8	48.3	46.8	46.9	48.2	48.3
	Female	54.1	53.0	51.4	50.8	51.9	52.2	51.7	53.2	53.1	51.8	51.7
Plurality	Multiple births	24.0	23.3	23.9	25.2	24.3	23.4	24.6	23.9	25.4	23.0	22.7
Caesarean delivery		47.0	47.7	48.7	48.0	48.3	49.2	48.8	47.5	49.4	50.5	50.7
Place of delivery	Hospital[f]	99.7	99.5	99.8	99.8	99.8	99.7	99.6	99.5	99.8	99.4	99.4
Attendant at birth	Midwife[g]	2.1	1.6	2.0	2.2	9.5	10.6	11.0	12.3	11.9	13.2	12.4
Previous live births	1 or more	59.3	59.2	61.2	60.0	61.4	60.6	61.0	60.2	61.4	60.3	59.8

Notes: [a] Rates per 100 births.

[b] Urban = Maricopa, Pima, Pinal, and Yuma counties. The remaining counties comprise Arizona's rural areas; see Technical Notes for more

[c] Non-Hispanic.

[d] Reported medical risks for this pregnancy and/or complications of labor and delivery; data for years 2014 and 2015 in bold were updated due to cor

[e] Physician's estimate.

[f] Hospital, clinic, medical center or maternity home.

[g] Licensed Midwife or Certified Nurse Midwife.

TABLE 1B-5
ALL LIVE BIRTHS AND LOW-BIRTHWEIGHT (LBW) BIRTHS ACCORDING TO SELECTED MATERNAL, PRENATAL CARE AND DELIVERY CHARACTERISTICS, BIRTHWEIGHT, PLURALITY, CHILD'S SEX, BIRTH ORDER, AND BIRTH COMPLICATIONS[a], ARIZONA, 2010-2020 (RURAL REGIONS)[b]

Characteristic		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Number of births		12,429	12,150	11,597	11,470	11,955	11,467	11,502	10,873	10,640	10,368	9,881
Age of mother	≤19 years	13.9	12.7	12.2	10.6	9.8	9.0	8.5	8.3	7.5	6.9	6.7
	≥30 years	27.9	28.2	29.3	29.4	31.3	30.9	33.4	33.9	34.7	36.2	37.6
Marital status	Unmarried	51.2	51.0	52.4	52.0	51.7	53.0	51.8	52.8	52.3	52.2	51.6
Mother's education	<9 years	3.1	2.5	2.2	2.4	2.3	1.9	1.8	1.9	1.9	1.7	1.8
Mother's race/ethnicity	White[c]	47.2	47.9	48.7	49.1	49.8	47.7	49.3	47.5	47.9	48.7	49.3
	Hispanic	24.4	23.0	24.1	24.0	24.2	26.4	25.3	25.1	26.3	26.3	26.9
	Black	1.2	1.4	1.5	1.3	0.9	0.9	1.0	1.1	1.0	1.0	1.2
	American Indian	25.0	25.7	24.2	24.0	23.5	23.6	23.2	24.7	23.2	22.6	20.9
	Asian	2.2	2.0	1.5	1.7	1.5	1.4	1.2	1.6	1.6	1.4	1.7
Prenatal care began	1st Trimester	74.8	77.1	77.7	76.3	62.5	64.8	65.4	65.4	64.0	62.4	64.3
	3rd Trimester	5.3	4.1	4.3	4.1	6.3	6.7	7.3	7.3	7.1	8.0	7.6
	No care	1.8	1.5	1.5	2.2	1.9	3.0	3.0	3.1	4.1	4.1	3.3
Prenatal visits	1-4	5.9	5.7	5.7	5.6	6.6	6.2	7.0	7.4	7.0	7.3	6.9
	≥5	91.8	92.3	92.4	92.0	90.5	89.9	89.1	88.5	86.9	85.9	86.8
	≥9	71.9	73.3	73.9	73.8	71.1	69.5	69.1	68.4	67.3	66.6	66.4
	≥13	28.7	31.2	31.0	31.7	28.3	26.7	28.4	28.2	26.4	25.0	25.4
Medical risks/complications[d]		47.9	41.1	52.0	51.8	**34.1**	**36.7**	37.8	39.8	41.3	43.1	45.2
Gestational age[e]	Preterm (<37 weeks)	9.4	8.8	9.1	8.7	8.3	8.9	9.1	9.6	9.3	9.4	9.5
Birth weight	<2,500 grams	7.4	7.3	7.3	7.3	7.0	7.8	8.0	8.1	7.8	7.7	7.7
	<1,500 grams	1.1	1.0	1.1	1.1	1.1	1.2	1.2	1.3	1.3	1.3	1.3
Child's sex	Male	51.4	51.3	51.2	51.3	51.1	51.0	50.3	51.6	51.9	50.7	51.4
	Female	48.6	48.7	48.8	48.7	48.9	49.0	49.7	48.4	48.1	49.3	48.6
Plurality	Multiple births	2.3	2.6	2.2	2.4	2.5	2.6	2.9	2.9	2.7	2.7	2.8
Caesarean delivery		25.2	25.8	25.7	25.8	25.2	25.0	26.2	24.6	26.1	25.8	25.7
Place of delivery	Hospital[f]	97.2	97.0	98.0	98.2	97.7	97.6	97.3	97.1	97.4	97.6	97.1
Attendant at birth	Midwife[g]	13.4	14.0	13.4	14.2	10.7	10.2	11.3	11.2	13.1	12.8	13.9
Previous live births	1 or more	64.3	63.8	63.3	64.8	66.0	65.8	66.3	67.1	66.5	65.8	65.3
Number of LBW births		917	884	850	836	835	891	916	884	827	799	758
Age of mother	≤19 years	13.1	15.5	13.9	9.7	11.3	10.3	10.6	8.6	9.1	5.0	7.1
	≥30 years	31.7	30.1	32.8	29.9	34.5	32.8	32.3	36.5	38.8	40.7	40.6
Marital status	Unmarried	55.2	55.7	59.1	54.2	53.9	57.1	54.3	56.3	60.5	55.9	57.9
Mother's education	<9 years	2.3	2.3	3.1	3.0	2.3	2.5	2.3	1.9	1.6	2.3	3.0
Mother's race/ethnicity	White[c]	46.6	47.3	48.1	49.2	53.5	49.2	46.0	45.7	43.0	46.7	48.0
	Hispanic	24.1	21.6	24.2	24.4	22.0	24.2	27.4	24.5	27.7	25.3	27.7
	Black	1.4	2.6	2.2	1.4	2.2	1.5	1.6	0.9	2.2	1.6	2.0
	American Indian	24.1	26.2	24.0	22.8	20.7	23.2	23.5	26.6	24.8	25.2	21.0
	Asian	3.8	2.3	1.4	2.2	1.6	1.9	1.5	2.3	2.3	1.3	1.3
Prenatal care began	1st Trimester	74.3	77.3	76.5	74.0	62.5	59.5	61.6	61.4	58.2	55.3	59.4
	3rd Trimester	4.0	3.5	3.4	4.2	4.0	5.1	5.6	5.0	5.3	5.1	6.5
	No care	4.4	4.0	3.8	4.1	4.0	7.3	8.7	7.2	11.2	12.4	7.4
Prenatal visits	1-4	9.5	8.7	13.1	10.3	9.7	12.2	14.3	13.1	13.3	13.5	10.6
	≥5	85.1	86.2	82.0	84.7	84.9	77.6	74.7	77.0	70.9	71.1	76.8
	≥9	57.4	60.4	59.2	58.9	58.2	49.5	50.0	46.9	41.5	46.4	48.2
	≥13	21.3	25.2	22.9	23.3	19.2	17.8	17.6	18.8	14.1	17.8	17.4
Medical risks/complications[d]		66.1	60.2	67.4	65.4	**58.0**	**59.9**	63.9	63.6	70.9	68.0	72.2
Gestational age[e]	Preterm (<37 weeks)	67.8	64.0	70.5	66.6	61.0	65.2	63.6	67.9	66.5	68.8	64.2
Birth weight	<1,500 grams	15.3	13.5	14.5	15.7	15.3	10.0	14.7	16.4	17.0	16.3	16.5
	<1,000 grams	6.3	6.0	6.2	6.3	7.1	5.7	6.7	6.7	8.6	6.6	8.2
Child's sex	Male	50.2	45.9	49.2	50.0	45.0	44.6	46.4	47.9	49.0	47.1	45.6
	Female	49.8	54.1	50.8	50.0	55.0	55.4	53.6	52.1	51.0	52.9	54.4
Plurality	Multiple births	17.9	20.5	17.9	19.5	20.2	17.5	19.8	16.5	19.2	20.9	20.3
Caesarean delivery		43.2	41.4	41.8	45.5	42.3	45.2	46.0	44.3	47.2	47.6	46.0
Place of delivery	Hospital[f]	99.2	98.5	98.9	99.2	99.0	98.4	98.1	98.0	98.8	99.5	98.8
Attendant at birth	Midwife[g]	5.3	6.3	5.2	5.7	9.2	9.7	10.7	11.9	11.4	10.6	13.9
Previous live births	1 or more	65.6	62.2	62.4	63.3	61.1	62.3	61.0	63.7	64.1	66.8	59.9

Notes: [a] Rates per 100 births.

[b] Rural = Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Mohave, Navajo, Santa Cruz, and Yavapai counties; the remaining counties comprise Arizona's urban areas; see Technical Notes for more information.

[c] Non-Hispanic.

[d] Reported medical risks for this pregnancy and/or complications of labor and delivery; data for years 2014 and 2015 in bold were updated due to corr

[e] Physician's estimate.

[f] Hospital, clinic, medical center or maternity home.

[g] Licensed Midwife or Certified Nurse Midwife.

TABLE 1B-6
LIVE BIRTHS ACCORDING TO SELECTED MATERNAL, PRENATAL CARE AND DELIVERY CHARACTERISTICS, BIRTHWEIGHT, PLURALITY, CHILD'S SEX, BIRTH ORDER, AND BIRTH COMPLICATIONS[a], ARIZONA, 2010-2020
(WHITE NON-HISPANIC MOTHERS)

Characteristic	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Number of births	38,777	38,294	38,670	38,220	40,097	38,180	37,762	35,685	34,909	34,118	33,101
Age of mother											
≤19 Years	6.2	5.5	5.1	4.7	4.4	4.0	3.6	3.3	3.1	2.9	2.7
≥30 Years	40.4	41.5	42.9	43.2	45.1	45.6	47.0	48.0	49.2	49.3	51.1
Marital status											
Unmarried	29.9	29.5	30.4	30.3	31.1	31.5	31.3	30.7	31.1	31.3	31.1
Mother's education											
<9 years	1.1	1.2	1.0	0.8	0.7	0.8	0.6	0.8	0.7	0.7	0.7
Prenatal care began											
1st Trimester	88.2	88.0	88.4	87.4	71.7	73.2	74.7	74.6	75.7	75.8	75.1
3rd Trimester	2.1	1.8	1.8	2.0	3.5	3.7	3.9	4.2	4.3	4.8	4.7
No Care	0.6	0.6	0.6	0.7	1.1	1.3	1.4	1.6	1.6	1.5	1.5
Prenatal visits											
1-4	1.7	1.7	2.0	2.1	2.6	2.7	2.8	3.1	3.2	3.7	3.6
≥5	97.5	97.1	97.1	97.1	94.8	94.5	94.0	93.8	94.0	92.6	92.6
≥9	87.6	86.9	87.3	87.2	83.7	83.2	82.2	82.0	81.5	78.8	77.8
≥13	37.4	39.7	41.2	41.9	36.6	36.2	35.5	37.3	36.8	33.1	32.5
Medical risks / Complications[b]	49.5	46.1	50.6	55.1	**32.8**	**35.4**	37.9	39.7	40.3	43.3	45.4
Gestational Age[c]											
Preterm (<37 weeks)	9.2	9.1	8.7	8.4	8.6	8.6	8.5	8.6	8.9	8.7	8.9
Birth weight											
<2,500 grams	6.7	6.7	6.5	6.4	6.8	6.6	6.8	7.0	7.1	6.8	6.8
<1,500 grams	0.9	1.1	1.0	1.0	1.1	1.0	1.1	1.0	1.1	1.0	1.0
Child's sex											
Male	51.4	51.1	51.3	51.3	51.3	51.6	50.9	50.7	51.5	51.7	50.6
Female	48.6	48.9	48.7	48.7	48.7	48.4	49.1	49.3	48.5	48.3	49.4
Plurality											
Multiple births	3.5	3.5	3.4	3.6	3.7	3.4	3.8	3.9	3.7	3.5	3.4
Caesarean delivery	29.1	29.4	28.7	28.4	28.8	28.1	28.0	27.2	27.4	27.8	28.3
Place of delivery											
Hospital[d]	97.7	97.4	97.4	97.6	97.4	97.2	96.9	96.9	96.8	97.0	96.4
Attendant at birth											
Midwife[e]	4.8	4.9	6.0	6.5	12.6	14.1	15.1	15.6	15.4	16.4	16.1
Previous live births											
1 or more	59.6	59.2	59.6	60.5	60.9	61.5	62.2	61.7	62.0	61.3	60.6

Notes: [a] Rates per 100 births.

[b] Reported medical risks for this pregnancy and/or complications of labor and delivery; data for years 2014 and 2015 in bold were updated due to correc

[c] Physician's estimate.

[d] Hospital, clinic, medical center or maternity home.

[e] Licensed Midwife or Certified Nurse Midwife.

TABLE 1B-7
LOW-BIRTHWEIGHT (LBW) BIRTHS ACCORDING TO SELECTED MATERNAL, PRENATAL CARE AND DELIVERY CHARACTERISTICS, BIRTHWEIGHT, PLURALITY, CHILD'S SEX, BIRTH ORDER, AND BIRTH COMPLICATIONS[a], ARIZONA, 2010-2020
(WHITE NON-HISPANIC MOTHERS)

Characteristic	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Number of LBW births	2,579	2,586	2,505	2,459	2,715	2,538	2,585	2,507	2,463	2,331	2,248
Age of mother											
≤19 years	7.1	6.8	6.5	5.2	4.8	5.5	4.3	4.4	3.7	3.3	2.9
≥30 years	43.6	44.8	45.5	42.5	47.5	47.8	49.5	49.9	54.1	50.6	52.7
Marital status											
Unmarried	34.7	36.2	37.2	36.9	37.9	39.9	35.8	37.5	37.0	39.3	37.6
Mother's education											
<9 years	1.1	1.5	1.4	1.6	1.1	0.9	0.8	0.7	1.0	0.9	1.0
Prenatal care began											
1st Trimester	86.1	86.4	84.2	83.9	69.4	71.1	70.9	71.5	70.8	69.5	71.6
3rd Trimester	2.1	1.4	2.0	2.2	3.2	3.0	3.8	3.7	3.8	3.9	4.3
No Care	2.2	1.7	2.2	1.6	3.4	3.9	3.6	3.8	5.0	4.4	4.4
Prenatal visits											
1-4	4.5	4.5	6.1	5.6	6.0	7.8	7.0	8.0	8.7	8.6	9.1
≥5	92.9	92.5	91.1	92.4	88.7	85.3	86.0	85.5	82.8	83.0	82.9
≥9	74.4	71.5	71.4	70.6	67.4	64.3	63.5	61.1	57.3	56.6	55.9
≥13	34.3	34.6	31.7	33.0	28.4	24.0	25.3	25.5	24.8	21.4	20.3
Medical risks / Complications[b]	73.2	72.2	74.2	75.2	**60.4**	**58.6**	62.3	64.5	67.5	64.8	69.1
Gestational age[c]											
Preterm (<37 weeks)	69.5	70.9	71.4	70.7	68.7	70.0	69.4	66.5	70.8	67.8	70.2
Birth weight											
<1,500 grams	13.3	16.7	16.1	15.3	16.4	8.8	15.6	13.6	15.1	14.2	14.9
<1,000 grams	5.7	7.6	7.6	6.9	7.3	6.3	7.0	6.1	7.2	5.8	7.1
Child's sex											
Male	45.4	47.1	46.7	49.3	47.0	46.7	45.9	45.8	46.7	48.8	45.4
Female	54.6	52.9	53.3	50.7	53.0	53.3	54.1	54.2	53.3	51.2	54.6
Plurality											
Multiple births	29.2	29.1	28.8	29.7	30.3	27.2	30.6	27.3	30.1	27.5	27.4
Caesarean delivery	51.1	50.9	52.5	49.5	52.2	52.2	52.3	49.3	51.1	51.6	53.5
Place of delivery											
Hospital[d]	99.5	99.2	99.4	99.6	99.5	99.3	99.2	99.0	99.4	99.3	99.0
Attendant at birth											
Midwife[e]	1.1	1.0	1.3	1.7	11.4	11.9	12.8	13.3	14.0	14.5	16.1
Previous live births											
1 or more	58.2	56.2	57.9	56.8	58.8	56.5	59.1	57.1	59.9	57.4	57.3

Notes: [a] Rates per 100 births.

[b] Reported medical risks for this pregnancy and/or complications of labor and delivery; data for years 2014 and 2015 in bold were updated due to correc

[c] Physician's estimate.

[d] Hospital, clinic, medical center or maternity home.

[e] Licensed Midwife or Certified Nurse Midwife.

TABLE 1B-8
LIVE BIRTHS ACCORDING TO SELECTED MATERNAL, PRENATAL CARE AND DELIVERY CHARACTERISTICS, BIRTHWEIGHT, PLURALITY, CHILD'S SEX, BIRTH ORDER, AND BIRTH COMPLICATIONS[a], ARIZONA, 2010-2020
(HISPANIC OR LATINO MOTHERS)

Characteristic	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Number of births	34,333	32,398	33,146	33,075	33,715	34,264	33,874	33,191	32,995	32,575	31,859
Age of mother											
≤19 years	15.6	14.3	14.0	12.3	11.3	9.9	9.3	9.0	8.5	8.0	7.6
≥30 years	29.4	29.8	30.2	30.6	31.9	32.3	32.5	33.3	33.6	34.5	35.7
Marital status											
Unmarried	56.2	56.6	57.2	57.1	56.1	56.2	55.8	55.1	54.7	55.0	55.0
Mother's education											
<9 years	10.7	9.3	8.7	7.6	7.5	6.7	6.2	5.5	5.3	5.0	4.5
Prenatal care began											
1st Trimester	76.6	76.5	78.2	76.2	60.5	63.6	63.9	63.4	63.8	64.2	64.4
3rd Trimester	4.1	4.1	4.3	5.0	6.9	6.9	7.4	6.8	7.7	8.4	8.1
No Care	2.6	2.5	1.9	2.1	3.2	3.0	3.4	4.1	3.7	3.4	3.2
Prenatal visits											
1-4	4.2	4.4	4.5	4.8	5.4	5.3	5.6	5.3	6.1	6.7	6.3
≥5	93.0	92.7	93.3	93.0	90.2	90.9	89.9	88.8	89.0	88.5	88.9
≥9	75.0	76.3	77.0	77.0	73.5	73.0	72.0	71.6	70.3	68.6	68.8
≥13	27.2	28.8	29.1	29.0	26.2	26.1	25.8	26.8	26.9	26.7	27.1
Medical risks / Complications[b]	48.0	44.2	52.6	54.6	**34.2**	**40.0**	41.6	43.0	45.2	47.6	50.4
Gestational age[c]											
Preterm (<37 weeks)	9.5	9.1	9.4	9.3	9.2	9.0	9.2	9.3	9.5	9.2	9.3
Birth weight											
<2,500 grams	6.8	6.4	6.8	6.6	6.7	6.9	7.1	7.0	7.2	7.0	7.0
<1,500 grams	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.3	1.3	1.1	1.1
Child's sex											
Male	50.5	51.4	51.2	51.3	51.3	50.9	50.9	50.6	51.1	50.7	51.0
Female	49.5	48.6	48.8	48.7	48.7	49.1	49.1	49.4	48.9	49.3	49.0
Plurality											
Multiple births	2.3	2.1	2.1	2.4	2.2	2.4	2.5	2.6	2.8	2.2	2.5
Caesarean delivery	25.9	26.1	26.0	26.7	26.1	26.3	26.3	25.6	26.7	26.9	27.3
Place of delivery											
Hospital[d]	99.7	99.6	99.6	99.6	99.5	99.5	99.4	99.3	99.3	99.3	99.2
Attendant at birth											
Midwife[e]	5.7	5.3	6.1	5.9	7.4	9.8	10.9	11.8	11.4	12.1	11.5
Previous live births											
1 or more	66.9	66.6	66.2	67.0	67.4	67.1	67.7	66.8	65.9	65.7	64.8

Notes: [a] Rates per 100 births.

[b] Reported medical risks for this pregnancy and/or complications of labor and delivery; data for years 2014 and 2015 in bold were updated due to correction.

[c] Physician's estimate.

[d] Hospital, clinic, medical center or maternity home.

[e] Licensed Midwife or Certified Nurse Midwife.

TABLE 1B-9
LOW-BIRTHWEIGHT (LBW) BIRTHS ACCORDING TO SELECTED MATERNAL, PRENATAL CARE AND DELIVERY CHARACTERISTICS, BIRTHWEIGHT, PLURALITY, CHILD'S SEX, BIRTH ORDER, AND BIRTH COMPLICATIONS[a], ARIZONA, 2010-2020
(HISPANIC OR LATINO MOTHERS)

Characteristic	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Number of LBW births	2,342	2,075	2,256	2,199	2,247	2,364	2,400	2,339	2,378	2,276	2,215
Age of mother											
≤19 years	17.1	16.6	15.0	12.9	11.7	10.9	9.9	10.0	9.3	8.1	8.2
≥30 years	32.6	29.3	32.3	31.7	33.0	35.4	35.0	34.7	37.2	39.9	39.9
Marital status											
Unmarried	60.6	61.7	61.9	61.5	58.1	58.5	58.4	58.4	58.8	56.0	58.1
Mother's education											
<9 years	9.5	9.3	8.5	7.2	7.4	6.4	7.0	5.6	5.1	5.1	5.1
Prenatal care began											
1st Trimester	76.7	77.2	76.5	74.8	59.3	60.3	62.2	61.9	60.6	62.6	61.8
3rd Trimester	3.2	2.7	3.2	3.8	4.9	4.4	5.0	4.9	5.6	6.1	5.6
No Care	3.9	4.3	3.7	4.2	5.8	5.6	6.1	7.1	7.4	7.3	7.1
Prenatal visits											
1-4	9.2	9.7	10.6	9.5	10.5	9.5	10.7	10.7	10.8	13.3	12.8
≥5	86.2	85.4	85.4	85.9	82.2	83.4	80.7	79.9	78.8	77.3	78.1
≥9	58.7	59.9	59.9	63.7	55.2	54.0	52.2	52.5	48.9	49.6	48.0
≥13	21.4	23.6	21.9	24.1	16.3	15.7	16.3	17.2	16.5	17.4	16.7
Medical risks											
Complications[b]	72.8	66.4	73.8	70.3	**57.1**	**61.1**	61.0	65.2	69.2	70.7	71.2
Gestational age[c]											
Preterm (<37 weeks)	70.9	71.4	72.0	71.5	72.0	69.4	68.6	69.9	70.0	69.7	69.4
Birth weight											
<1,500 grams	15.6	16.6	16.8	16.7	16.6	16.2	16.3	17.9	17.4	15.9	15.3
<1,000 grams	7.3	8.9	8.2	8.0	8.9	7.7	8.1	9.1	8.3	7.9	7.9
Child's sex											
Male	47.8	46.7	51.1	49.9	49.3	48.3	50.5	48.2	49.0	48.5	50.1
Female	52.2	53.3	48.9	50.1	50.7	51.7	49.5	51.8	51.0	51.5	49.9
Plurality											
Multiple births	18.8	18.1	18.5	21.3	18.0	18.4	19.5	20.9	21.6	19.1	19.4
Caesarean delivery	42.5	44.4	43.3	46.5	42.9	45.3	45.4	44.5	48.0	49.2	46.0
Place of delivery											
Hospital[d]	99.9	99.6	99.8	99.8	99.9	99.7	99.5	99.5	100.0	99.6	99.5
Attendant at birth											
Midwife[e]	3.0	2.4	3.0	2.5	7.0	9.1	9.6	11.3	10.3	11.6	10.1
Previous live births											
1 or more	63.0	62.8	63.9	63.4	63.7	64.0	63.1	63.1	62.8	63.4	60.3

Notes: [a] Rates per 100 births.

[b] Reported medical risks for this pregnancy and/or complications of labor and delivery; data for years 2014 and 2015 in bold were updated due to correction.

[c] Physician's estimate.

[d] Hospital, clinic, medical center or maternity home.

[e] Licensed Midwife or Certified Nurse Midwife.

TABLE 1B-10
LIVE BIRTHS ACCORDING TO SELECTED MATERNAL, PRENATAL CARE AND DELIVERY CHARACTERISTICS, BIRTHWEIGHT, PLURALITY, CHILD'S SEX, BIRTH ORDER, AND BIRTH COMPLICATIONS[a], ARIZONA, 2010-2020
(BLACK OR AFRICAN AMERICAN MOTHERS)

Characteristic	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Number of births	4,328	4,366	4,715	4,726	4,522	4,361	4,388	4,595	4,655	4,865	4,766
Age of mother											
≤19 years	13.0	12.8	11.5	10.7	8.7	7.2	7.2	7.2	5.8	5.8	5.4
≥30 years	28.3	30.3	30.2	30.6	34.1	36.0	35.0	37.1	39.0	41.4	41.8
Marital status											
Unmarried	63.1	63.6	64.8	63.7	62.5	63.2	61.3	60.6	60.6	62.7	62.9
Mother's education											
<9 years	5.2	4.3	4.3	3.7	3.3	4.1	4.3	4.7	3.7	4.4	3.6
Prenatal care began											
1st Trimester	81.6	80.4	79.9	78.2	61.4	62.2	62.8	61.4	62.4	59.8	60.3
3rd Trimester	3.3	3.0	3.4	4.5	7.7	6.9	7.9	6.5	7.6	8.3	8.1
No Care	1.7	1.6	1.1	1.3	2.8	2.5	2.2	3.3	3.0	3.0	2.7
Prenatal visits											
1-4	4.1	4.0	4.5	4.7	6.2	6.4	6.3	5.6	6.4	7.2	7.3
≥5	94.0	93.4	94.1	93.8	89.7	89.9	89.6	88.2	88.8	87.7	87.5
≥9	78.4	79.1	78.5	79.1	72.1	71.5	70.2	69.2	68.2	64.5	65.0
≥13	30.4	33.6	32.7	31.0	24.7	25.4	25.7	26.3	28.3	25.8	27.3
Medical risks											
Complications[b]	56.0	52.0	56.6	57.2	**36.0**	**44.3**	44.3	45.8	49.6	53.6	54.1
Gestational age[c]											
Preterm (<37 weeks)	12.3	12.7	11.9	11.8	12.1	12.2	12.4	12.4	12.4	13.2	13.1
Birth weight											
<2,500 grams	11.4	12.5	11.7	11.1	11.9	12.3	12.0	12.4	12.3	12.3	12.8
<1,500 grams	2.6	2.5	2.3	2.0	2.5	2.3	2.4	2.3	2.1	2.4	2.6
Child's sex											
Male	50.8	50.5	50.5	51.8	51.9	51.5	50.7	51.8	49.0	51.7	50.7
Female	49.2	49.5	49.5	48.2	48.1	48.5	49.3	48.2	51.0	48.3	49.3
Plurality											
Multiple births	3.3	3.6	4.1	3.7	4.7	3.9	3.3	4.0	4.7	4.4	4.2
Caesarean delivery	30.7	31.1	31.9	31.4	33.0	32.8	32.4	30.8	33.7	34.1	34.6
Place of delivery											
Hospital[d]	99.5	99.3	99.6	99.3	99.5	99.6	99.1	99.0	99.1	98.8	98.0
Attendant at birth											
Midwife[e]	3.4	2.7	3.5	3.9	8.8	11.7	12.0	13.2	12.0	12.1	12.0
Previous live births											
1 or more	62.8	63.0	63.8	64.6	66.9	66.2	66.2	67.1	67.4	68.4	67.4

Notes: [a] Rates per 100 births.

[b] Reported medical risks for this pregnancy and/or complications of labor and delivery; data for years 2014 and 2015 in bold were updated due to correction.

[c] Physician's estimate.

[d] Hospital, clinic, medical center or maternity home.

[e] Licensed Midwife or Certified Nurse Midwife.

TABLE 1B-11
LOW-BIRTHWEIGHT (LBW) BIRTHS ACCORDING TO SELECTED MATERNAL, PRENATAL CARE AND DELIVERY CHARACTERISTICS, BIRTHWEIGHT, PLURALITY, CHILD'S SEX, BIRTH ORDER, AND BIRTH COMPLICATIONS[a], ARIZONA, 2010-2020
(BLACK OR AFRICAN AMERICAN MOTHERS)

Characteristic	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Number of LBW births	492	546	551	523	536	535	525	572	573	596	608
Age of mother											
≤19 years	17.5	13.7	10.2	12.8	9.0	6.9	9.1	7.9	7.5	7.6	7.1
≥30 years	27.6	33.5	32.3	33.8	35.8	38.7	33.9	38.6	40.1	40.4	42.6
Marital status											
Unmarried	72.2	67.9	69.0	72.8	67.0	64.9	64.0	64.2	64.9	67.6	68.4
Mother's education											
<9 years	4.3	2.9	2.9	3.1	2.4	3.0	4.6	3.0	2.8	3.4	1.8
Prenatal care began											
1st Trimester	82.5	80.0	78.8	77.8	59.1	63.9	62.5	61.0	60.0	57.2	60.7
3rd Trimester	1.6	3.1	3.4	3.3	4.7	4.5	5.1	2.8	5.4	4.0	6.3
No Care	2.4	2.4	2.4	3.4	6.2	5.0	4.6	6.5	7.2	7.7	4.9
Prenatal visits											
1-4	9.3	9.5	10.3	8.6	11.2	12.9	10.9	9.3	10.8	13.1	12.8
≥5	87.8	86.3	86.0	87.2	81.2	80.4	81.0	80.6	79.1	75.3	79.9
≥9	60.4	64.1	64.4	66.7	55.2	55.7	55.6	51.6	53.9	46.8	50.8
≥13	26.6	29.3	27.6	25.2	20.1	22.2	16.0	20.1	20.9	17.1	17.9
Medical risks											
Complications[b]	74.0	68.7	68.4	70.0	**56.7**	**57.9**	59.4	61.0	68.1	67.8	69.9
Gestational age[c]											
Preterm (<37 weeks)	68.9	65.6	65.7	66.9	68.3	65.0	68.2	65.2	62.8	68.3	67.3
Birth weight											
<1,500 grams	23.0	20.0	20.0	18.0	21.5	18.5	20.0	18.4	16.9	19.8	20.4
<1,000 grams	12.6	10.8	10.3	10.3	12.9	10.5	11.4	11.4	9.2	10.6	11.3
Child's sex											
Male	42.3	46.0	45.7	47.2	45.9	46.9	46.1	44.9	41.7	43.5	47.2
Female	57.7	54.0	54.3	52.8	54.1	53.1	53.9	55.1	58.3	56.5	52.8
Plurality											
Multiple births	19.7	17.8	21.2	21.4	22.2	22.8	15.6	20.6	22.7	24.0	19.9
Caesarean delivery	43.9	43.4	45.6	42.8	45.9	47.9	47.6	44.8	49.7	50.8	50.3
Place of delivery											
Hospital[d]	99.4	99.8	100.0	99.0	99.8	100.0	99.6	99.5	99.7	99.2	99.3
Attendant at birth											
Midwife[e]	2.0	2.6	0.9	1.9	8.6	10.3	11.2	12.2	12.0	12.4	11.0
Previous live births											
1 or more	59.3	62.5	65.2	61.8	66.6	64.9	60.6	68.9	64.6	65.4	67.3

Notes: [a] Rates per 100 births.

[b] Reported medical risks for this pregnancy and/or complications of labor and delivery; data for years 2014 and 2015 in bold were updated due to correction.

[c] Physician's estimate.

[d] Hospital, clinic, medical center or maternity home.

[e] Licensed Midwife or Certified Nurse Midwife.

TABLE 1B-12
LIVE BIRTHS ACCORDING TO SELECTED MATERNAL, PRENATAL CARE AND DELIVERY CHARACTERISTICS, BIRTHWEIGHT, PLURALITY, CHILD'S SEX, BIRTH ORDER, AND BIRTH COMPLICATIONS[a], ARIZONA, 2010-2020
(AMERICAN INDIAN OR ALASKA NATIVE MOTHERS)

Characteristic	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Number of births	5,815	5,830	5,569	5,476	5,145	4,984	5,030	4,866	4,709	4,462	4,087
Age of mother											
≤19 years	17.0	16.9	16.0	14.2	11.7	11.4	10.7	10.7	9.8	9.2	8.4
≥30 years	24.1	25.0	25.2	26.6	26.7	28.9	31.3	31.0	34.4	34.6	36.7
Marital status											
Unmarried	77.7	77.1	78.5	79.2	78.9	79.6	78.1	77.9	78.9	78.4	78.7
Mother's education											
<9 years	2.8	2.5	2.5	2.4	2.2	2.1	1.9	1.7	1.9	1.6	1.4
Prenatal care began											
1st Trimester	69.4	68.6	68.2	68.7	58.4	58.5	60.7	59.4	56.5	57.4	57.1
3rd Trimester	6.2	6.1	7.0	6.1	7.5	8.4	8.2	8.4	9.4	9.0	10.8
No Care	2.3	2.5	2.0	2.4	2.9	4.3	4.0	4.1	5.1	5.3	4.3
Prenatal visits											
1-4	8.8	9.0	9.1	9.5	10.5	10.4	11.0	11.5	11.2	12.0	12.1
≥5	88.5	87.8	88.4	87.7	85.0	84.2	83.9	83.0	81.5	80.1	80.8
≥9	64.0	62.8	64.0	63.7	59.3	60.0	59.9	58.8	55.5	55.7	54.0
≥13	18.8	19.7	20.7	21.3	18.2	18.7	19.0	19.9	18.4	18.6	19.6
Medical risks / Complications[b]	55.3	53.8	60.4	61.7	**45.9**	**52.4**	53.5	56.1	59.2	60.4	60.6
Gestational age[c]											
Preterm (<37 weeks)	10.6	9.0	9.7	9.7	8.2	9.6	9.9	10.9	10.4	10.6	10.8
Birth weight											
<2,500 grams	7.0	6.9	6.7	7.2	6.1	7.3	7.2	7.7	7.9	7.9	7.2
<1,500 grams	1.2	1.3	1.1	1.0	0.9	1.3	1.3	1.3	1.4	1.3	1.2
Child's sex											
Male	50.4	50.7	50.5	51.6	49.7	50.8	50.4	51.6	52.0	51.3	51.8
Female	49.6	49.3	49.5	48.4	50.3	49.2	49.6	48.4	48.0	48.7	48.2
Plurality											
Multiple births	1.8	1.5	1.6	1.8	1.3	1.8	2.2	2.2	2.0	2.1	1.7
Caesarean delivery	22.9	23.1	23.8	24.0	22.7	22.6	23.5	24.4	25.2	24.6	26.8
Place of delivery											
Hospital[d]	99.6	99.6	99.7	99.7	99.7	99.4	99.5	99.5	99.2	99.5	99.4
Attendant at birth											
Midwife[e]	28.6	27.9	27.8	27.6	10.6	9.1	9.8	10.0	10.0	10.0	11.9
Previous live births											
1 or more	67.3	66.5	67.6	68.5	70.0	71.0	71.4	70.5	71.2	70.5	69.9

Notes: [a] Rates per 100 births.

[b] Reported medical risks for this pregnancy and/or complications of labor and delivery; data for years 2014 and 2015 in bold were updated due to correction.

[c] Physician's estimate.

[d] Hospital, clinic, medical center or maternity home.

[e] Licensed Midwife or Certified Nurse Midwife.

TABLE 1B-13
LOW-BIRTHWEIGHT (LBW) BIRTHS ACCORDING TO SELECTED MATERNAL, PRENATAL CARE AND DELIVERY CHARACTERISTICS, BIRTHWEIGHT, PLURALITY, CHILD'S SEX, BIRTH ORDER, AND BIRTH COMPLICATIONS[a], ARIZONA, 2010-2020
(AMERICAN INDIAN OR ALASKA NATIVE MOTHERS)

Characteristic	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Number of LBW births	406	403	372	393	315	365	363	376	373	353	294
Age of mother											
≤19 years	15.3	18.9	18.0	10.2	10.8	10.1	8.5	10.4	9.4	6.2	8.5
≤30 years	29.6	26.8	33.1	29.5	30.8	34.5	35.5	38.0	42.9	41.6	38.8
Marital status											
Unmarried	75.4	81.1	80.9	82.2	78.4	81.9	75.2	79.8	80.7	79.9	83.0
Mother's education											
<9 years	3.0	2.0	3.2	5.1	2.9	3.6	1.1	2.9	2.4	2.3	2.0
Prenatal care began											
1st Trimester	69.7	70.0	69.1	66.9	46.7	48.5	54.0	54.0	45.0	47.3	50.0
3rd Trimester	4.2	4.0	4.3	8.4	5.1	6.6	6.3	4.3	5.9	4.2	9.2
No Care	6.7	6.7	5.9	4.3	8.6	13.7	9.9	10.1	17.2	19.3	8.2
Prenatal visits											
1-4	13.5	11.4	15.1	17.6	15.6	15.3	18.5	15.2	17.7	18.7	22.8
≥5	78.8	79.7	78.2	76.8	72.7	66.6	69.4	70.5	59.5	58.4	63.9
≥9	47.8	47.4	51.6	50.6	40.6	40.5	41.3	40.2	28.7	34.0	39.8
≥13	15.5	13.9	16.4	15.3	10.2	11.2	12.9	14.9	8.8	10.2	14.3
Medical risks / Complications[b]	74.4	65.5	70.2	71.2	**65.7**	**68.5**	70.8	71.3	77.2	85.0	80.6
Gestational age[c]											
Preterm (<37 weeks)	74.9	69.0	79.0	70.7	65.1	69.9	71.1	72.1	68.1	70.3	69.4
Birth weight											
<1,500 grams	16.7	18.4	16.7	13.7	14.6	18.1	17.6	16.8	17.4	16.1	17.3
<1,000 grams	7.4	9.2	8.9	4.6	7.9	8.5	7.7	6.4	8.3	6.5	8.2
Child's sex											
Male	54.9	46.4	49.2	51.4	44.4	45.8	52.1	50.3	49.9	43.6	51.0
Female	45.1	53.6	50.8	48.6	55.6	54.2	47.9	49.7	50.1	56.4	49.0
Plurality											
Multiple births	15.5	11.7	15.6	12.7	9.8	13.4	17.4	10.6	13.1	13.9	12.9
Caesarean delivery	44.6	34.5	47.3	44.3	41.9	43.8	43.3	47.3	42.9	49.0	53.1
Place of delivery											
Hospital[d]	99.8	99.5	99.7	100.0	100.0	98.6	99.2	99.2	98.4	99.7	100.0
Attendant at birth											
Midwife[e]	11.1	10.7	8.9	11.5	10.2	7.9	8.5	11.4	8.6	8.8	7.5
Previous live births											
1 or more	67.2	64.3	69.6	68.7	69.8	70.4	69.7	68.4	71.3	72.5	66.7

Notes: [a] Rates per 100 births.

[b] Reported medical risks for this pregnancy and/or complications of labor and delivery; data for years 2014 and 2015 in bold were updated due to correction.

[c] Physician's estimate.

[d] Hospital, clinic, medical center or maternity home.

[e] Licensed Midwife or Certified Nurse Midwife.

TABLE 1B-14
LIVE BIRTHS ACCORDING TO SELECTED MATERNAL, PRENATAL CARE AND DELIVERY CHARACTERISTICS, BIRTHWEIGHT, PLURALITY, CHILD'S SEX, BIRTH ORDER, AND BIRTH COMPLICATIONS[a], ARIZONA, 2010-2020
(ASIAN OR PACIFIC ISLANDER MOTHERS)

Characteristic	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Number of births	3,293	3,505	3,625	3,466	3,169	3,235	3,350	3,327	3,271	3,163	2,968
Age of mother											
≤19 years	3.1	3.2	2.2	2.3	1.8	1.9	1.5	1.7	1.3	1.3	1.0
≥30 years	55.9	57.4	57.3	59.2	60.4	60.5	60.8	61.9	65.1	65.6	64.9
Marital status											
Unmarried	17.4	17.3	17.3	16.0	15.2	14.3	15.4	14.6	14.8	14.8	16.4
Mother's education											
<9 years	3.3	3.1	3.1	2.7	3.0	3.1	3.0	2.9	3.0	2.3	2.3
Prenatal care began											
1st Trimester	88.1	86.5	87.1	86.4	70.5	71.8	73.2	72.2	72.5	73.2	74.3
3rd Trimester	2.3	2.3	2.0	2.9	4.5	5.0	4.3	4.7	5.0	6.5	5.2
No Care	1.2	1.0	0.7	0.7	1.4	1.2	1.3	1.9	1.9	1.3	1.7
Prenatal visits											
1-4	1.9	2.3	2.4	2.6	2.6	3.6	3.1	2.8	3.3	3.9	3.3
≥5	96.7	96.2	96.8	96.6	94.5	93.9	93.7	93.9	93.6	93.2	93.6
≥9	86.7	84.2	86.2	85.6	82.3	80.6	79.8	81.2	79.0	77.3	77.0
≥13	36.0	37.9	37.2	39.2	33.7	31.6	29.9	34.7	33.5	32.2	31.7
Medical risks / Complications[b]	51.5	47.4	52.9	57.4	**37.9**	**42.2**	44.4	47.0	47.1	49.4	51.2
Gestational age[c]											
Preterm (<37 weeks)	9.9	9.0	8.4	8.9	8.0	9.4	8.7	9.6	10.0	9.5	9.3
Birth weight											
<2,500 grams	8.5	8.3	7.2	7.9	8.1	9.0	9.3	9.5	9.8	8.6	9.6
<1,500 grams	1.4	1.1	0.8	1.1	1.2	1.2	1.4	1.1	1.2	1.0	1.1
Child's sex											
Male	50.7	52.4	52.1	51.4	51.5	51.5	51.7	51.3	51.2	51.9	51.2
Female	49.3	47.6	47.9	48.6	48.5	48.5	48.3	48.7	48.8	48.1	48.8
Plurality											
Multiple births	2.5	3.3	2.5	3.2	3.2	3.3	3.7	3.4	3.0	3.2	2.6
Caesarean delivery	32.8	33.0	32.1	33.2	32.4	34.0	32.5	32.3	30.9	31.0	33.6
Place of delivery											
Hospital[d]	99.6	99.3	99.2	99.1	99.3	99.4	99.3	99.3	99.1	98.8	98.9
Attendant at birth											
Midwife[e]	2.8	3.1	4.0	3.3	10.0	10.4	11.1	11.8	11.4	13.5	14.5
Previous live births											
1 or more	55.5	54.6	55.5	56.2	53.4	54.0	54.1	56.6	56.3	56.7	56.2

Notes: [a] Rates per 100 births.

[b] Reported medical risks for this pregnancy and/or complications of labor and delivery; data for years 2014 and 2015 in bold were updated due to correction.

[c] Physician's estimate.

[d] Hospital, clinic, medical center or maternity home.

[e] Licensed Midwife or Certified Nurse Midwife.

TABLE 1B-15
LOW-BIRTHWEIGHT (LBW) BIRTHS ACCORDING TO SELECTED MATERNAL, PRENATAL CARE AND DELIVERY CHARACTERISTICS, BIRTHWEIGHT, PLURALITY, CHILD'S SEX, BIRTH ORDER, AND BIRTH COMPLICATIONS[a], ARIZONA, 2010-2020
(ASIAN OR PACIFIC ISLANDER MOTHERS)

Characteristic	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Number of LBW births	280	292	262	275	256	291	313	315	319	273	285
Age of mother											
≤19 years	5.4	5.1	5.0	1.5	1.2	1.7	1.0	1.9	2.2	1.8	0.7
≤30 years	52.1	58.6	64.9	66.2	64.1	61.5	63.3	63.5	69.3	66.7	69.5
Marital status											
Unmarried	18.9	18.2	18.3	12.4	14.1	15.1	13.7	17.1	17.9	13.2	16.5
Mother's education											
<9 years	3.2	4.1	3.8	3.6	4.3	2.7	3.2	2.9	3.1	1.5	3.5
Prenatal care began											
1st Trimester	84.3	83.9	87.8	86.9	70.3	72.9	74.4	74.0	70.2	76.2	70.2
3rd Trimester	2.9	2.1	0.4	3.6	4.7	3.8	2.9	2.5	4.1	5.1	3.5
No Care	1.4	2.7	0.8	0.7	3.5	2.7	2.9	2.5	4.7	1.8	2.5
Prenatal visits											
1-4	6.8	4.8	2.3	6.2	4.7	8.6	7.0	4.4	7.2	5.9	6.0
≥5	91.4	92.5	96.9	93.1	88.7	86.9	87.2	92.1	85.9	91.2	89.5
≥9	70.7	72.9	78.6	73.5	66.8	64.6	67.7	70.5	58.9	64.8	61.8
≥13	27.1	30.8	32.8	31.6	25.4	29.6	22.0	28.3	22.3	29.7	21.1
Medical risks / Complications[b]	74.3	68.8	72.5	73.8	**54.7**	**56.0**	61.0	67.9	64.9	63.0	66.0
Gestational age[c]											
Preterm (<37 weeks)	65.4	64.7	63.0	61.1	60.2	60.1	60.7	61.9	63.9	63.0	65.6
Birth weight											
<1,500 grams	16.4	12.7	11.5	13.5	15.2	13.1	15.3	11.7	11.9	11.7	11.2
<1,000 grams	7.9	6.2	5.3	6.2	6.6	6.5	8.6	6.0	5.3	6.2	4.9
Child's sex											
Male	45.0	46.9	52.7	46.5	49.2	48.8	45.4	46.0	44.2	53.5	49.5
Female	55.0	53.1	47.3	53.5	50.8	51.2	54.6	54.0	55.8	46.5	50.5
Plurality											
Multiple births	18.9	25.7	20.2	23.6	24.2	25.1	24.0	20.3	20.4	20.9	21.1
Caesarean delivery	45.4	51.4	44.3	53.1	47.7	51.5	47.0	50.8	48.3	44.7	51.2
Place of delivery											
Hospital[d]	100.0	99.7	100.0	100.0	100.0	100.0	99.7	99.7	99.7	98.5	99.6
Attendant at birth											
Midwife[e]	1.1	0.3	2.7	2.2	12.1	12.0	8.6	12.4	9.4	15.4	13.3
Previous live births											
1 or more	49.6	55.5	53.1	56.4	46.9	54.6	50.8	47.6	52.7	52.0	53.0

Notes: [a] Rates per 100 births.

[b] Reported medical risks for this pregnancy and/or complications of labor and delivery; data for years 2014 and 2015 in bold were updated due to correction.

[c] Physician's estimate.

[d] Hospital, clinic, medical center or maternity home.

[e] Licensed Midwife or Certified Nurse Midwife.

TABLE 1B-16
SINGLE AND PLURAL LIVE BIRTHS BY BIRTHWEIGHT, ARIZONA RESIDENTS, 2010-2020

Weight in grams	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Under 1,000, total	439	496	480	433	509	448	492	472	476	419	441
Single	346	379	383	332	384	358	380	375	383	319	341
Plural	93	117	97	101	125	90	112	97	93	100	100
1,000-1,499, total	505	505	506	494	509	523	519	492	509	483	438
Single	386	374	387	341	379	386	395	369	358	361	327
Plural	119	131	119	153	130	137	124	123	151	122	111
1,500-1,999, total	1,194	1,131	1,197	1,152	1,156	1,133	1,166	1,105	1,257	1,134	1,073
Single	823	794	814	830	803	793	808	784	837	795	758
Plural	371	337	383	322	353	340	358	321	420	339	315
2,000-2,499, total	4,017	3,817	3,763	3,770	3,895	3,988	4,009	4,040	3,864	3,793	3,698
Single	3,178	3,043	2,994	2,920	3,063	3,186	3,124	3,186	3,028	3,030	2,960
Plural	839	774	769	850	832	802	885	854	836	763	738
2,500-3,999, total	74,680	72,777	73,096	72,494	73,627	72,240	71,613	69,200	68,157	67,354	65,280
Single	73,596	71,741	72,085	71,377	72,449	71,109	70,450	67,940	67,032	66,337	64,270
Plural	1,084	1,036	1,011	1,117	1,178	1,131	1,163	1,260	1,125	1,017	1,010
4,000 and over, total	6,200†	6,450†	6,680†	6,540†	6,900†	6,630†	6,570†	6,310†	6,240†	5,950†	5,790†
Single	6,194	6,450	6,674	6,537	6,900	6,633	6,569	6,310	6,234	5,951	5,787
Plural	*	*	*	*	*	*	*	*	*	*	*
All weights, total[a]	87,053	85,190	85,725	84,963	86,648	85,024	84,404	81,664	80,539	79,183	76,781
Single	84,535	82,793	83,342	82,415	84,014	82,501	81,752	79,005	77,909	76,837	74,501
Plural	2,510†	2,400†	2,380†	2,550†	2,630†	2,518	2,647	2,657	2,630	2,343	2,280

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Includes records with unknown weight and/or plurality.

TABLE 1B-17
RESIDENT BIRTHS BY MONTH OF OCCURRENCE, ARIZONA, 2010-2020

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
2010	7,342	6,812	7,521	6,886	6,989	6,982	7,153	7,637	7,977	7,331	7,038	7,378	87,053[a]
Percent	8.4	7.8	8.6	7.9	8.0	8.0	8.2	8.8	9.2	8.4	8.1	8.5	100.0
2011	7,127	6,500	7,254	6,498	6,678	7,086	7,222	7,688	7,750	7,361	6,987	7,039	85,190
Percent	8.4	7.6	8.5	7.6	7.8	8.3	8.5	9.0	9.1	8.6	8.2	8.3	100.0
2012	7,006	6,732	7,100	6,603	6,777	6,725	7,368	7,772	7,689	7,629	7,101	7,223	85,725
Percent	8.2	7.9	8.3	7.7	7.9	7.8	8.6	9.1	9.0	8.9	8.3	8.4	100.0
2013	7,090	6,414	7,083	6,694	6,681	6,685	7,337	7,436	7,538	7,515	7,130	7,360	84,963
Percent	8.3	7.5	8.3	7.9	7.9	7.9	8.6	8.8	8.9	8.8	8.4	8.7	100.0
2014	7,313	6,593	7,068	6,672	6,893	6,856	7,731	7,718	7,651	7,554	6,994	7,605	86,648
Percent	8.4	7.6	8.2	7.7	8.0	7.9	8.9	8.9	8.8	8.7	8.1	8.8	100.0
2015	7,169	6,660	7,175	6,613	6,814	6,770	7,030	7,372	7,685	7,487	6,940	7,309	85,024
Percent	8.4	7.8	8.4	7.8	8.0	8.0	8.3	8.7	9.0	8.8	8.2	8.6	100.0
2016	7,053	6,729	6,830	6,558	6,724	6,754	7,045	7,711	7,687	7,192	6,898	7,223	84,404
Percent	8.4	8.0	8.1	7.8	8.0	8.0	8.3	9.1	9.1	8.5	8.2	8.6	100.0
2017	6,931	6,147	6,774	6,285	6,507	6,613	6,964	7,402	7,200	7,299	6,791	6,751	81,664
Percent	8.5	7.5	8.3	7.7	8.0	8.1	8.5	9.1	8.8	8.9	8.3	8.3	100.0
2018	6,706	6,177	6,614	6,129	6,409	6,473	6,835	7,294	7,108	7,144	6,815	6,835	80,539
Percent	8.3	7.7	8.2	7.6	8.0	8.0	8.5	9.1	8.8	8.9	8.5	8.5	100.0
2019	6,811	6,070	6,651	6,078	6,267	6,154	6,940	7,192	6,858	6,872	6,577	6,713	79,183
Percent	8.6	7.7	8.4	7.7	7.9	7.8	8.8	9.1	8.7	8.7	8.3	8.5	100.0
2020	6,671	6,247	6,347	5,954	6,030	6,068	6,763	6,690	6,732	6,637	6,197	6,445	76,781
Percent	8.7	8.1	8.3	7.8	7.9	7.9	8.8	8.7	8.8	8.6	8.1	8.4	100.0

Note: [a] Includes 7 records where month of birth is missing.

TABLE 1B-18
BIRTHS BY DAY AND MONTH OF OCCURRENCE, ARIZONA RESIDENTS, 2020

		TOTAL	Month of birth											
			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
TOTAL		76,781	6,671	6,247	6,347	5,954	6,030	6,068	6,763	6,690	6,732	6,637	6,197	6,445
Day of birth	1	2,530	174	208	169	225	216	208	220	216	242	265	167	220
	2	2,553	220	178	209	229	161	196	226	172	235	252	244	231
	3	2,686	222	229	265	229	143	222	219	214	256	200	250	237
	4	2,516	194	234	236	156	184	238	189	234	217	187	204	243
	5	2,428	161	231	219	161	226	201	181	218	208	220	226	176
	6	2,492	218	205	244	209	181	186	204	236	178	231	222	178
	7	2,553	236	234	189	231	208	127	217	268	177	238	213	215
	8	2,536	236	200	164	220	242	196	236	199	232	239	181	191
	9	2,455	226	154	211	204	175	230	229	143	252	207	204	220
	10	2,591	243	214	222	224	132	219	233	209	259	183	221	232
	11	2,495	200	240	234	168	186	195	195	210	243	160	237	227
	12	2,462	158	251	197	154	211	236	166	236	214	219	235	185
	13	2,476	236	236	210	203	197	173	224	232	183	218	203	161
	14	2,641	234	243	175	227	217	159	245	236	244	237	190	234
	15	2,545	270	173	156	197	222	211	256	218	235	234	172	201
	16	2,551	226	166	222	213	151	202	246	164	275	205	241	240
	17	2,588	254	227	208	200	170	209	243	198	255	174	206	244
	18	2,457	196	240	214	175	203	190	189	228	232	158	218	214
	19	2,368	153	226	232	144	204	191	159	216	214	231	231	167
	20	2,640	231	251	219	203	232	203	227	256	163	237	231	187
	21	2,536	227	243	176	184	217	159	219	238	224	230	188	231
	22	2,556	234	199	161	217	230	178	234	192	252	213	192	254
	23	2,486	216	164	194	211	194	238	227	180	237	217	213	195
	24	2,596	228	218	235	188	153	230	221	258	266	210	231	158
	25	2,350	185	237	241	161	157	226	200	225	216	166	202	134
	26	2,346	163	217	208	147	211	220	170	242	191	218	176	183
	27	2,492	221	225	228	210	214	184	244	229	166	234	172	165
	28	2,533	217	227	149	213	232	160	226	236	222	235	186	230
	29	2,522	239	177	144	238	217	243	209	202	210	228	145	270
	30	2,364	211		222	213	177	238	254	165	234	222	196	232
	31	1,437	242		194		167		255	220		169		190

TABLE 1B-19
LIVE BIRTHS BY MOTHER'S AGE AND FATHER'S AGE, ARIZONA, 2020

Father's age group	Mother's age group										
	<15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45+	Un-known	TOTAL
<15	*	*	0	0	0	0	0	0	0	0	10†
15-17	*	186	69	12	0	0	0	0	0	0	270†
18-19	0	203	686	309	25	6	0	0	0	0	1,229
20-24	0	86	1,049	6,675	1,251	198	51	*	0	0	9,310†
25-29	0	12	157	4,409	10,323	2,022	300	44	*	*	17,270†
30-34	0	0	54	1,066	6,365	9,593	1,581	152	8	0	18,819
35-39	0	0	21	333	1,631	5,301	4,491	450	8	0	12,235
40-44	0	0	9	118	454	1,379	2,066	823	37	0	4,886
45-49	0	0	*	51	141	348	617	374	41	*	1,580†
50-54	0	0	*	19	47	136	168	109	20	0	500†
55+	0	0	0	14	30	64	86	66	19	0	279
Unknown	21	506	862	3,014	2,868	1,900	987	222	17	0	10,397
TOTAL	30†	1,000†	2,910†	16,020	23,135	20,947	10,347	2,240†	150†	0†	76,781

TABLE 1B-20
LIVE BIRTHS BY MOTHER'S RACE/ETHNICITY AND FATHER'S RACE/ETHNICITY, ARIZONA, 2020

Father's race/ethnicity	Mother's race/ethnicity					
	White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander	TOTAL
White non-Hispanic	26,676	9,860	1,811	1,252	801	40,400
Hispanic or Latino	4,642	20,471	257	568	241	26,179
Black or African American	1,158	991	2,661	88	74	4,972
American Indian or Alaska Native	223	298	14	2,145	12	2,692
Asian or Pacific Islander	402	239	23	34	1,840	2,538
TOTAL	33,101	31,859	4,766	4,087	2,968	76,781

TABLE 1B-21
LIVE BIRTHS BY MOTHER'S AND FATHER'S EDUCATION, ARIZONA, 2020

Father's education	Mother's education								TOTAL
	8th Grade or Less	Some High School	High School/GED	Some College	Associate Degree	Bachelor's Degree	Post graduate Education	Un-known	
8th Grade or Less	719	464	522	203	127	56	26	7	2,124
Some High School	309	2,898	2,623	1,275	357	250	54	15	7,781
High School/GED	252	2,286	9,030	4,387	1,547	1,512	407	32	19,453
Some College	86	655	2,795	5,971	1,604	2,387	833	23	14,354
Associate Degree	47	165	860	1,333	1,135	1,259	421	*	5,221
Bachelor's Degree	34	99	857	1,610	1,013	5,153	2,268	15	11,049
Postgraduate Education	12	30	207	477	349	2,270	2,521	6	5,872
Unknown	493	2,873	3,877	2,267	561	376	132	348	10,927
TOTAL	1,952	9,470	20,771	17,523	6,693	13,263	6,662	447	76,781

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; 447 cases were missing mother's education and 10,927 cases were missing father's education.

TABLE 1B-22
TOTAL BIRTHS AND RATIOS OF BIRTH BY MOTHER'S MARITAL STATUS[a], AGE GROUP, AND RACE/ETHNICITY, ARIZONA, 2020

			TOTAL	Mother's age group									
				<15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45+	Un-known
All racial/ ethnic groups	**Married**	Count	41,375	0	19	284	4,904	12,911	14,352	7,302	1,502	101	0
		Percent	53.9%	0.0%	1.9%	9.8%	30.6%	55.8%	68.5%	70.6%	66.9%	66.4%	0.0%
	Unmarried	Count	34,527	28	974	2,621	11,002	9,985	6,328	2,876	683	30	0
		Percent	45.0%	100.0%	97.9%	90.0%	68.7%	43.2%	30.2%	27.8%	30.4%	19.7%	0.0%
	Unknown	Count	880†	0	*	6	114	239	267	169	59	21	*
		Percent	1.1%	0.0%	**	0.2%	0.7%	1.0%	1.3%	1.6%	2.6%	13.8%	**
	TOTAL	Count	76,780†	28	995	2,911	16,020	23,135	20,947	10,347	2,244	152	*
		Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	**
White non-Hispanic	**Married**	Count	22,434	0	7	92	2,270	6,809	8,256	4,162	786	52	0
		Percent	67.8%	0.0%	4.2%	12.7%	42.1%	68..7%	79.1%	78.8%	72.3%	58.4%	0.0%
	Unmarried	Count	10,290†	*	159	630	3,090	3,023	2,064	1044	266	16	0
		Percent	31.1%	**	95.8%	87.0%	57.3%	30.5%	19.8%	19.8%	24.5%	18.0%	0.0%
	Unknown	Count	370†	0	0	*	37	79	119	79	35	21	*
		Percent	1.1%	0.0%	0.0%	**	0.7%	0.8%	1.1%	1.5%	3.2%	23.6%	**
	TOTAL	Count	33,100†	*	166	724	5,397	9,911	10,439	5,285	1,087	89	*
		Percent	100.0%	**	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	**
Hispanic or Latino	**Married**	Count	13,937	0	11	173	2,214	4,790	4,176	2,088	458	27	0
		Percent	43.7%	0.0%	1.7%	9.9%	27.0%	48.5%	58.0%	62.1%	59.5%	71.1%	0.0%
	Unmarried	Count	17,533	22	639	1,564	5,919	4,954	2,915	1,209	300	11	0
		Percent	55.0%	100.0%	98.3%	89.8%	72.2%	50.2%	40.5%	35.9%	39.0%	28.9%	0.0%
	Unknown	Count	390†	0	0	*	66	130	110	67	12	0	0
		Percent	1.2%	0.0%	0.0%	**	0.8%	1.3%	1.5%	2.0%	1.6%	0.0%	0.0%
	TOTAL	Count	31,859	22	650	1,741	8,199	9,874	7,201	3,364	770	38	0
		Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%
Black or African American	**Married**	Count	1,713	0	0	13	182	471	607	340	86	14	0
		Percent	35.9%	0.0%	0.0%	6.5%	16.8%	33.0%	50.3%	54.3%	59.3%	82.4%	0.0%
	Unmarried	Count	3,000†	*	54	187	896	947	581	276	52	*	0
		Percent	62.9%	**	96.4%	93.5%	82.5%	66.3%	48.2%	44.1%	35.9%	**	0.0%
	Unknown	Count	60†	0	*	0	8	11	18	10	7	0	0
		Percent	1.2%	0.0%	**	0.0%	0.7%	0.8%	1.5%	1.6%	4.8%	0.0%	0.0%
	TOTAL	Count	4,770†	*	56	200	1,086	1,429	1206	626	145	17	0
		Percent	100.0%	**	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%
American Indian or Alaska Native	**Married**	Count	830†	0	0	*	110	235	285	150	38	*	0
		Percent	20.2%	0.0%	0.0%	**	10.1%	20.3%	29.1%	35.1%	41.8%	**	0.0%
	Unmarried	Count	3,220†	*	112	221	981	904	678	268	49	0	0
		Percent	78.7%	**	100.0%	97.8%	89.8%	78.3%	69.3%	62.8%	53.8%	0.0%	0.0%
	Unknown	Count	50†	0	0	0	*	16	15	9	*	0	0
		Percent	1.1%	0.0%	0.0%	0.0%	**	1.4%	1.5%	2.1%	**	0.0%	0.0%
	TOTAL	Count	4,090†	*	112	226	1,092	1,155	978	427	91	*	0
		Percent	100.0%	**	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	**	0.0%
Asian or Pacific Islander	**Married**	Count	2,470†	0	*	*	128	606	1,028	562	134	6	0
		Percent	83.1%	0.0%	**	**	52.0%	79.1%	91.5%	87.1%	88.7%	100.0%	0.0%
	Unmarried	Count	487	0	10	19	116	157	90	79	16	0	0
		Percent	16.4%	0.0%	90.9%	95.0%	47.2%	20.5%	8.0%	12.2%	10.6%	0.0%	0.0%
	Unknown	Count	20†	0	0	0	*	*	*	*	*	0	0
		Percent	0.5%	0.0%	0.0%	0.0%	**	**	**	**	**	0.0%	0.0%
	TOTAL	Count	2,968	0	11	20	246	766	1,123	645	151	6	0
		Percent	100.0%	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%

Notes: * Cell suppressed due to non-zero count less than 6; ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Beginning with data year 2015, the coding of marital status has changed as such unmarried category includes divorced.

TABLE 1B-23
BIRTHS BY MOTHER'S AGE GROUP, RACE/ETHNICITY, AND NUMBER OF PREVIOUS LIVE BIRTHS, ARIZONA, 2020

		TOTAL	Mother's age group									
			<15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45+	Un-known
All racial/ ethnic groups	TOTAL	76,781	28	1,000†	2,910†	16,020	23,135	20,947	10,347	2,244	152	0†
	None	28,348	28	939	2,449	8,704	8,164	5,582	2,063	391	28	0
	1	23,087	0	55	416	5,050	7,628	6,421	2,962	527	28	0
	2	13,400†	0	*	41	1,700	4,439	4,475	2,253	456	38	0
	3	6,650†	0	0	*	442	1,902	2,535	1,431	316	17	*
	4 or more	5,290†	0	0	*	123	1,000	1,931	1,637	553	40	*
	Unknown	10†	0	0	*	*	*	*	*	*	*	0
White non-Hispanic	TOTAL	33,100†	0†	166	720†	5,397	9,911	10,439	5,285	1,087	89	0†
	None	13,050†	*	158	641	3,139	4,243	3,321	1,287	243	17	0
	1	10,470	0	8	76	1,638	3,231	3,494	1,709	299	15	0
	2	5,430†	0	0	*	480	1,619	1,965	1,111	215	30	0
	3	2,421	0	0	0	115	566	1,031	571	130	7	*
	4 or more	1,730†	0	0	*	24	250	628	606	199	19	*
	Unknown	10†	0	0	*	*	*	0	*	*	*	0
Hispanic or Latino	TOTAL	31,859	22	650	1,740†	8,199	9,874	7,201	3,364	770	40†	0
	None	11,217	22	619	1,442	4,336	2,842	1,411	468	71	6	0
	1	9,205	0	31	272	2,654	3,378	1,957	766	140	7	0
	2	6,010†	0	0	26	907	2,181	1,905	820	169	*	0
	3	3,070†	0	0	*	233	981	1,099	617	134	7	0
	4 or more	2,351	0	0	0	69	492	828	693	256	13	0
	Unknown	0†	0	0	0	0	0	*	0	0	0	0
Black or African American	TOTAL	4,770†	0†	60†	200†	1,086	1,429	1,206	626	145	20†	0
	None	1,550†	*	50	165	557	410	245	99	21	*	0
	1	1,310†	0	*	28	337	451	318	139	24	*	0
	2	840†	0	*	6	135	274	272	127	26	*	0
	3	520†	0	0	0	45	171	174	104	26	*	0
	4 or more	540†	0	0	*	12	123	196	157	48	6	0
	Unknown	0†	0	0	0	0	0	*	0	0	0	0
American Indian or Alaska Native	TOTAL	4,090†	0†	112	230†	1,092	1,155	978	427	91	0†	0
	None	1,230†	*	101	188	524	243	126	36	7	0	0
	1	999	0	11	33	351	337	196	59	12	0	0
	2	770†	0	0	*	157	285	222	83	19	0	0
	3	510†	0	0	*	45	163	183	95	17	*	0
	4 or more	580†	0	0	0	15	127	250	154	36	*	0
	Unknown	0†	0	0	0	0	0	*	0	0	0	0
Asian or Pacific Islander	TOTAL	2,968	0	11	20	250†	766	1,123	645	151	10†	0
	None	1,299	0	11	13	148	426	479	173	49	0	0
	1	1,110†	0	0	7	70	231	456	289	52	*	0
	2	350†	0	0	0	21	80	111	112	27	*	0
	3	130†	0	0	0	*	21	48	44	9	*	0
	4 or more	80†	0	0	0	*	8	29	27	14	*	0
	Unknown	0	0	0	0	0	0	0	0	0	0	0

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; totals include records with unknown number of previous live births.

TABLE 1B-24
CHANGES FROM 2010 TO 2020 IN SELECTED CHARACTERISTICS OF NEWBORNS AND ARIZONA WOMEN GIVING BIRTH BY AREA AND RACE/ETHNICITY

Characteristics	Urban[a]			Rural			White non-Hispanic			Hispanic or Latino			Black or African American			American Indian or Alaska Native			Asian or Pacific Islander		
	2010	2020	% Change	2010	2020	% Change	2010	2020	% Change	2010	2020	% Change	2010	2020	% Change	2010	2020	% Change	2010	2020	% Change
Number of births[b]	74,624	66,845	**-10.4**	12,429	9,881	**-20.5**	38,777	33,101	**-14.6**	34,333	31,859	**-7.2**	4,328	4,766	**10.1**	5,815	4,087	**-29.7**	3,293	2,968	**-9.9**
Per 100 births:																					
Teenage mother[c]	10.3	4.9	**-52.4**	13.9	6.7	**-51.8**	6.2	2.7	**-56.5**	15.6	7.6	**-51.3**	13.0	5.4	**-58.5**	17.0	8.4	**-50.6**	3.1	1.0	**-67.7**
Unwed mother[d]	43.6	44.0	**0.9**	51.2	51.6	**0.8**	29.9	31.1	**4.0**	56.2	55.0	**-2.1**	63.1	62.9	**-0.3**	77.7	78.7	**1.3**	17.4	16.4	**-5.7**
Early prenatal care[e]	83.1	69.4	**-16.5**	74.8	64.3	**-14.0**	88.2	75.1	**-14.9**	76.6	64.4	**-15.9**	81.6	60.3	**-26.1**	69.4	57.1	**-17.7**	88.1	74.3	**-15.7**
0-4 prenatal visits	4.5	7.5	**66.7**	7.7	10.2	**32.5**	2.3	5.1	**121.7**	6.8	9.5	**39.7**	5.8	10.0	**72.4**	11.0	16.3	**48.2**	3.1	5.0	**61.3**
C-Section	28.0	28.8	**2.9**	25.2	25.7	**2.0**	29.1	28.3	**-2.7**	25.9	27.3	**5.4**	39.7	34.6	**-12.8**	22.9	26.8	**17.0**	32.8	33.6	**2.4**
LBW rate	7.0	7.3	**4.3**	7.4	7.7	**4.1**	6.7	6.8	**1.5**	6.8	7.0	**2.9**	11.4	12.8	**12.3**	7.0	7.2	**2.9**	8.5	9.6	**12.9**
Newborn intensive care	6.5	7.9	**21.5**	4.3	7.4	**72.1**	6.3	7.5	**19.0**	5.8	7.6	**31.0**	8.1	10.5	**29.6**	5.6	8.3	**48.2**	6.0	8.8	**46.7**
Preterm births (< 37 weeks)	9.7	9.4	**-3.1**	9.4	9.5	**1.1**	9.2	8.9	**-3.3**	9.5	9.3	**-2.1**	12.3	13.1	**6.5**	10.6	10.8	**1.9**	9.9	9.3	**-6.1**
Births paid for by the AHCCCS[f]	53.1	46.2	**-13.0**	54.4	57.8	**6.3**	26.0	31.8	**22.3**	72.6	61.1	**-15.8**	67.1	64.8	**-3.4**	57.0	69.5	**21.9**	29.9	22.9	**-23.5**

Notes: [a] Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; see ***Technical Notes*** for more information; [b] Per 100 live births; [c] Less than 20 years old; [d] Beginning with data year 2015, the coding of marital status has changed as such unmarried category includes divorced; [e] Entered care in first trimester of pregnancy; [f] The Arizona Health Care Cost Containment System (AHCCCS) is the State's Medicaid program.

TABLE 1B-25
SELECTED CHARACTERISTICS OF NEWBORNS AND WOMEN GIVING BIRTH BY REGION AND RACE/ETHNICITY, ARIZONA, 2020

		TOTAL	Urban[a]	Rural	Un-known	Mother's race/ethnicity				
						White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander
TOTAL		76,781	66,845	9,880†	60†	33,100†	31,859	4,770†	4,090†	2,968
Mother's age group	**<15**	30†	24	*	0	*	22	*	*	0
	15-17	995	823	172	0	166	650	56	112	11
	18-19	2,911	2,426	485	0	724	1,741	200	226	20
	20-24	16,020	13,494	2,521	*	5,397	8,199	1,086	1,092	246
	25-29	23,135	20,140	2,987	8	9,911	9,874	1,429	1,155	766
	30-34	20,947	18,573	2,363	11	10,439	7,201	1,206	978	1,123
	35-39	10,347	9,262	1,074	11	5,285	3,364	626	427	645
	40-44	2,244	1,980	252	12	1,087	770	145	91	151
	45+	150†	123	23	6	89	38	17	*	6
	Unknown	0†	0	0	*	*	0	0	0	0
Payer for birth	**AHCCCS**	36,620	30,872	5,709	39	10,532	19,481	3,089	2,839	679
	IHS	620†	380	240	0	50	49	0	520	*
	Private insurance	32,652	29,682	2,964	6	19,346	9,296	1,375	603	2,032
	Self-pay	4,091	3,486	597	8	2,001	1,713	139	75	163
	Unknown	2,798	2,425	371	*	1,172	1,320	163	50	93
Mother's education	**8th Grade or Less**	1,952	1,770	182	0	226	1,431	172	56	67
	Some High School	9,470	7,973	1,496	*	2,062	5,753	574	961	120
	High School / GED	20,771	17,606	3,163	*	6,688	10,686	1,526	1,484	387
	Some College	17,523	15,014	2,505	*	7,723	7,198	1,217	1,037	348
	Associate Degree	6,693	5,739	952	*	3,232	2,574	391	309	187
	Bachelor's Degree	13,263	12,221	1,039	*	8,521	3,073	522	172	975
	Postgraduate Education	6,662	6,160	502	0	4,357	1,046	328	58	873
	Unknown	447	362	42	43	292	98	36	10	11
Marital status	**Married**	41,375	36,711	4,664	0	22,434	13,937	1,713	825	2,466
	Unmarried[b]	34,527	29,428	5,098	*	10,293	17,533	2,997	3,217	487
	Unknown	879	706	119	54	374	389	56	45	15
Weight gain	**Inadequate**	16,352	14,212	2,120	20	6,064	7,371	1,143	927	847
	Adequate	22,989	20,030	2,946	13	9,947	9,623	1,255	1,113	1,051
	Excessive	36,441	31,721	4,701	19	16,677	14,469	2,277	1,973	1,045
	Unknown	999	882	114	*	413	396	91	74	25
Smoking during pregnancy	**Non-smoker**	73,299	64,558	8,718	23	30,901	31,166	4,517	3,779	2,936
	Light smoker (less than 10 cigarettes per day)	1,641	1,217	414	10	975	402	153	99	12
	Heavy smoker (10 or more cigarettes per day)	1,150†	811	332	7	902	164	62	18	*
	Unknown	691	259	417	15	323	127	34	191	16
Length of gestation	**<37 weeks**	7,256	6,308	937	11	2,938	2,975	626	442	275
	37-41 weeks	69,234	60,316	8,875	43	29,994	28,809	4,125	3,619	2,687
	42+ weeks	160†	127	28	0	90	44	9	7	*
	Unknown	140†	94	41	*	79	31	6	19	*
Weight at birth	**<1,000 grams**	441	378	62	*	160	174	69	24	14
	1,000-1,499	438	375	63	0	174	164	55	27	18
	1,500-2,499	4,771	4,133	633	*	1,914	1,877	484	243	253
	2,500-3,999	65,280	56,734	8,498	48	27,940	27,433	3,913	3,441	2,553
	4,000+ grams	5,788	5,179	608	*	2,874	2,199	236	350	129
	Unknown	60†	46	17	0	39	12	9	*	*

TABLE 1B-25 (continued)

SELECTED CHARACTERISTICS OF NEWBORNS AND WOMEN GIVING BIRTH BY REGION AND RACE/ETHNICITY, ARIZONA, 2020

		TOTAL	Urban[a]	Rural	Un-known	Mother's race/ethnicity				
						White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander
Prenatal care	No care	1,882	1,546	322	14	505	1,023	130	174	50
	1st trimester	52,793	46,419	6,358	16	24,856	20,522	2,876	2,335	2,204
	2nd trimester	13,943	11,990	1,938	15	4,855	6,539	1,137	923	489
	3rd trimester	5,115	4,360	751	*	1,555	2,576	388	443	153
	Unknown	3,048	2,530	512	6	1,330	1,199	235	212	72
Prenatal visits	No visits	1,882	1,546	322	14	505	1,023	130	174	50
	1-4 visits	4,130	3,443	682	*	1,191	2,001	348	493	97
	5-8 visits	13,989	11,967	2,008	14	4,900	6,432	1,070	1,093	494
	9-12 visits	32,839	28,774	4,054	11	15,001	13,288	1,797	1,409	1,344
	13+ visits	22,421	19,906	2,510	*	10,761	8,618	1,301	800	941
	Unknown	1,520	1,209	305	6	743	497	120	118	42
Newborn intensive care	Yes	6,006	5,261	730	15	2,496	2,411	501	338	260
	No	70,775	61,584	9,151	40	30,605	29,448	4,265	3,749	2,708
Method of delivery	Vaginal	52,858	45,929	6,897	32	22,751	22,364	2,983	2,922	1,838
	C-Section	21,801	19,241	2,541	19	9,377	8,684	1,647	1,095	998
	Forceps	292	254	38	0	145	98	20	8	21
	Vacuum	1,830	1,421	405	*	828	713	116	62	111
	Unknown	0	0	0	0	0	0	0	0	0
Obstetric procedures[c]	Total	40,055	34,990	5,050	15	16,879	17,194	2,361	2,179	1,442
	Induction of labor	24,362	21,090	3,263	9	10,716	9,919	1,513	1,394	820
	Augmentation of labor	22,538	20,353	2,177	8	8,694	10,554	1,325	1,115	850
	Cervical cerclage	170†	154	20	0	58	72	28	*	14
	Tocolysis	419	329	89	*	158	179	43	27	12
	External cephalic version successful	80†	67	12	0	35	32	*	6	*
	External cephalic version failed	130†	98	28	0	56	42	*	19	7
Births with medical risk factors[c]	Total	21,243	18,531	2,698	14	7,718	9,410	1,532	1,761	822
	Pre-existing diabetes	938	782	156	0	252	427	71	151	37
	Gestational diabetes	7,327	6,403	922	*	2,422	3,285	379	769	472
	Pre-existing hypertension	1,234	1,068	164	*	454	506	153	96	25
	Gestational hypertension	6,814	5,969	844	*	2,783	2,775	520	549	187
	Eclampsia	100†	87	11	0	30	49	10	*	*
	Previous preterm birth	3,292	2,826	465	*	1,267	1,494	254	198	79
	Other previous poor pregnancy outcome	3,824	3,505	314	*	1,327	1,893	309	198	97
	Gonorrhea	280†	229	49	*	69	116	46	46	*
	Syphilis	210†	171	43	0	49	89	23	50	*
	Chlamydia	1,984	1,658	322	*	425	1,088	176	271	24
	Hepatitis B	100†	93	9	0	28	19	19	*	33
	Hepatitis C	200†	165	36	0	131	51	7	10	*

TABLE 1B-25 (continued)

SELECTED CHARACTERISTICS OF NEWBORNS AND WOMEN GIVING BIRTH BY REGION AND RACE/ETHNICITY, ARIZONA, 2020

		TOTAL	Urban[a]	Rural	Un-known	Mother's race/ethnicity				
						White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander
Births with complications of labor and delivery[c]	**Total**	23,556	20,941	2,599	16	9,841	9,843	1,570	1,316	986
	Premature rupture of the membranes	4,015	3,554	461	0	1,520	1,828	249	276	142
	Precipitous labor	4,910	4,319	586	*	2,410	1,701	265	327	207
	Prolonged labor	2,144	1,867	277	0	848	936	148	134	78
	Breech presentation	3,033	2,667	364	*	1,441	1,147	177	141	127
	Chorioamnionitis	1,442	1,324	118	0	427	787	75	54	99
	Meconium staining of the amniotic fluid	5,548	5,042	502	*	2,021	2,611	405	301	210
	Fetal intolerance	6,695	6,047	645	*	2,650	2,872	597	271	305
	Maternal transfusion	507	422	83	*	193	181	38	74	21
	Third or fourth degree perineal laceration	396	334	62	0	165	135	14	17	65
	Ruptured uterus	40†	33	*	0	8	15	7	*	*
	Unplanned Hysterectomy	30†	29	*	0	18	11	*	0	*
	Admission to intensive care unit	127	107	18	*	46	42	16	12	11
	Unplanned surgery following delivery	172	141	31	0	73	57	13	18	11
Abnormal conditions of the newborn[c]	**Total**	3,469	2,805	655	9	1,542	1,280	282	218	147
	Assisted ventilation immediately after delivery	2,532	2,036	488	8	1,184	898	204	147	99
	Assisted ventilation for more than 6 hours	1,603	1,354	245	*	727	593	135	85	63
	Surfactant replacement therapy	316	273	42	*	134	125	32	13	12
	Suspected neonatal sepsis	1,555	1,308	244	*	619	637	130	100	69
	Seizure or serious neurologic dysfunction	30†	24	9	0	16	14	*	*	0
	Significant birth injury	60†	44	18	*	24	25	6	*	*
Congenital anomalies of the newborn[c]	**Total**	303	244	59	0	125	134	10	26	8
	Anencephalus	10†	*	*	0	*	*	0	*	0
	Spina bifida / Meningocele	10†	10	*	0	7	*	0	0	0
	Cyanotic congenital heart disease	40†	42	*	0	22	16	*	*	0
	Congential diaphragmatic hernia	0†	*	*	0	0	*	0	0	0
	Omphalocele / Gastroschisis	30†	25	*	0	8	11	*	*	*
	Limb reduction defect	20†	13	*	0	*	10	0	*	0
	Cleft lip / palate	70†	51	14	0	23	30	*	7	*
	Down syndrome	50†	40	*	0	21	19	*	*	0
	Suspected chromosomal disorder	50†	45	6	0	18	24	*	*	*
	Hypospadias	20†	14	*	0	*	11	0	0	*
	Unknown congenital anomalies	40†	25	18	0	23	15	*	*	*

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; a Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; see Technical Notes for more information; [b] Beginning with data year 2015, the coding of marital status has changed as such unmarried category includes divorced; [c] Total birth where an obstetric procedure; medical risk factor; complication of labor and delivery; abnormal condition of the newborn; or a congenital anomaly of the newborn was identified.

TABLE 1B-26
CHANGES FROM 2010 TO 2020 IN SELECTED CHARACTERISTICS OF NEWBORNS AND ARIZONA WOMEN GIVING BIRTH WHICH DIFFER BY PAYER FOR THE DELIVERY

Characteristics	AHCCCS[a]			Indian Health Service			Private Health Insurance			Self-pay		
	2010	2020	% Change	2010	2020	% Change	2010	2020	% Change	2010	2020	% Change
Number of births[b]	46,393	36,620	**-21.1**	1,740	620	**-64.4**	35,681	32,652	**-8.5**	2,588	4,091	**58.1**
Per 100 births:												
Teenage mother[c]	17.0	8.7	**-48.8**	18.0	11.9	**-33.9**	2.6	1.3	**-50.0**	9.0	3.2	**-64.4**
Unwed mother[d]	65.4	68.4	**4.6**	80.4	78.5	**-2.4**	16.7	21.9	**31.1**	36.2	26.8	**-26.0**
Early prenatal care[e]	75.6	61.1	**-19.2**	61.4	51.8	**-15.6**	92.8	79.4	**-14.4**	67.2	59.3	**-11.8**
0-4 prenatal visits	6.6	10.9	**65.2**	12.9	23.2	**79.8**	1.2	3.5	**191.7**	18.6	13.4	**-28.0**
C-Section[f]	25.3	27.9	**10.3**	19.7	28.7	**45.7**	31.9	30.4	**-4.7**	17.7	19.3	**9.0**
LBW rate	7.5	8.1	**8.0**	5.8	7.6	**31.0**	6.7	6.9	**3.0**	6.0	5.1	**-15.0**
Newborn intensive care	6.3	8.7	**38.1**	3.4	9.0	**164.7**	6.3	6.9	**9.5**	4.3	5.7	**32.6**
Preterm birth < 37 weeks	9.9	10.4	**5.1**	7.8	11.8	**51.3**	9.4	8.8	**-6.4**	8.0	6.3	**-21.3**

Notes: [a] The Arizona Health Care Cost Containment System is the State's Medicaid program; [b] Per 100 live births; [c] Less than 20 years old; [d] Beginning with data year 2015, the coding of marital status has changed as such unmarried category includes divorced; [e] Entered care in first trimester of pregnancy; [f] C-section includes primary and repeat.

TABLE 1B-27
PAYER FOR DELIVERY AND SELECTED CHARACTERISTICS OF NEWBORNS AND WOMEN GIVING BIRTH, ARIZONA, 2020

		TOTAL	Payer for birth				
			AHCCCS[a]	IHS	Private Insurance	Self-pay	Unknown
TOTAL		76,781	36,620	620†	32,650†	4,090†	2,798
Mother's age group	<15	30†	23	*	*	*	0
	15-17	995	809	26	98	36	26
	18-19	2,911	2,368	47	339	93	64
	20-24	16,020	10,585	168	3,917	765	585
	25-29	23,135	11,063	153	9,770	1,284	865
	30-34	20,947	7,494	153	11,392	1,140	768
	35-39	10,347	3,412	64	5,866	615	390
	40-44	2,244	810	8	1,190	142	94
	45+	152	54	0	77	15	6
	Unknown	0†	*	0	0	0	0
Mother's race/ethnicity	White non-Hispanic	33,101	10,532	50	19,346	2,001	1,172
	Hispanic or Latino	31,859	19,481	49	9,296	1,713	1,320
	Black or African American	4,766	3,089	0	1,375	139	163
	American Indian or Alaska Native	4,087	2,839	520	603	75	50
	Asian or Pacific Islander	2,970†	679	*	2,032	163	93
Mother's education	8th Grade or Less	1,952	1,428	11	119	144	250
	Some High School	9,470	7,861	173	823	331	282
	High School / GED	20,771	13,808	215	5,195	969	584
	Some College	17,523	8,450	137	7,385	868	683
	Associate Degree	6,693	2,515	46	3,442	417	273
	Bachelor's Degree	13,263	1,841	29	9,919	993	481
	Postgraduate Education	6,662	424	6	5,676	334	222
	Unknown	450†	293	*	93	35	23
Marital status	Married	41,375	10,981	128	25,339	2,927	2,000
	Unmarried[b]	34,527	25,041	487	7,151	1,095	753
	Unknown	880†	598	*	162	69	45
Weight gain	Inadequate	16,352	8,421	150	6,202	944	635
	Adequate	22,989	10,370	154	10,263	1,325	877
	Excessive	36,441	17,301	300	15,860	1,750	1,230
	Unknown	999	528	16	327	72	56
Smoking during pregnancy	Non-smoker	73,299	34,086	571	32,054	3,862	2,726
	Light smoker (less than 10 cigarettes per day)	1,641	1,315	17	238	43	28
	Heavy smoker (10 or more cigarettes per day)	1,150†	930	*	164	28	26
	Unknown	691	289	30	196	158	18
Length of gestation	<37 weeks	7,256	3,804	73	2,864	259	256
	37-41 weeks	69,234	32,689	542	29,706	3,775	2,522
	42+ weeks	160†	60	*	58	27	9
	Unknown	140†	67	*	24	30	11
Weight at birth	<1,000 grams	440†	243	*	155	24	15
	1,000-1,499	440†	239	*	168	14	15
	1,500-2,499	4,771	2,493	41	1,915	170	152
	2,500-3,999	65,280	31,124	512	27,771	3,490	2,383
	4,000+ grams	5,788	2,507	61	2,631	363	226
	Unknown	63	14	0	12	30	7

TABLE 1B-27 (continued)

PAYER FOR DELIVERY AND SELECTED CHARACTERISTICS OF NEWBORNS AND WOMEN GIVING BIRTH, ARIZONA, 2020

		TOTAL	Payer for birth				
			AHCCCS[a]	IHS	Private Insurance	Self-pay	Unknown
Prenatal care	No care	1,882	1,237	38	274	277	56
	1st trimester	52,793	22,382	321	25,926	2,426	1,738
	2nd trimester	13,943	8,192	136	4,119	833	663
	3rd trimester	5,115	3,193	91	1,215	363	253
	Unknown	3,048	1,616	34	1,118	192	88
Prenatal visits	No visits	1,882	1,237	38	274	277	56
	1-4 visits	4,130	2,765	106	854	272	133
	5-8 visits	13,989	8,141	181	4,444	714	509
	9-12 visits	32,839	14,538	172	15,297	1,655	1,177
	13+ visits	22,421	9,248	102	11,164	1,046	861
	Unknown	1,520	691	21	619	127	62
Newborn intensive care	Yes	6,006	3,198	56	2,262	234	256
	No	70,775	33,422	564	30,390	3,857	2,542
Method of delivery	Vaginal	52,858	25,404	428	21,787	3,186	2,053
	C-Section	21,801	10,226	178	9,934	788	675
	Forceps	290†	113	*	151	12	12
	Vacuum	1,830	877	10	780	105	58
	Unknown	0	0	0	0	0	0
Obstetric procedures[c]	Total	40,055	19,320	337	17,042	1,662	1,694
	Induction of labor	24,362	11,723	212	10,528	946	953
	Augmentation of labor	22,538	10,898	177	9,331	1,014	1,118
	Cervical cerclage	170†	84	0	79	*	6
	Tocolysis	419	217	11	131	19	41
	External cephalic version successful	80†	31	*	35	*	7
	External cephalic version failed	130†	46	*	58	7	13
Births with medical risk factors[c]	Total	21,243	11,128	280	8,146	765	924
	Pre-existing diabetes	938	505	27	326	30	50
	Gestational diabetes	7,327	3,549	105	3,139	240	294
	Pre-existing hypertension	1,234	623	18	483	32	78
	Gestational hypertension	6,814	3,300	104	2,830	249	331
	Eclampsia	100†	63	*	28	6	0
	Previous preterm birth	3,292	1,918	25	1,043	126	180
	Other previous poor pregnancy outcome	3,824	2,085	29	1,392	132	186
	Gonorrhea	280†	232	6	33	*	7
	Syphilis	214	177	8	16	8	*
	Chlamydia	1,984	1,484	51	308	66	75
	Hepatitis B	100†	53	*	37	*	8
	Hepatitis C	200†	164	*	25	*	*

TABLE 1B-27 (continued)

PAYER FOR DELIVERY AND SELECTED CHARACTERISTICS OF NEWBORNS AND WOMEN GIVING BIRTH, ARIZONA, 2020

		TOTAL	Payer for birth				
			AHCCCS[a]	IHS	Private Insurance	Self-pay	Unknown
Births with complications of labor and delivery[c]	Total	23,556	10,889	206	10,238	1,174	1,049
	Premature rupture of the membranes	4,015	1,830	50	1,692	200	243
	Precipitous labor	4,910	2,141	27	2,255	290	197
	Prolonged labor	2,144	944	26	960	116	98
	Breech presentation	3,033	1,325	22	1,453	130	103
	Chorioamnionitis	1,442	667	10	615	80	70
	Meconium staining of the amniotic fluid	5,548	2,885	53	2,113	279	218
	Fetal intolerance	6,695	3,122	63	2,889	270	351
	Maternal transfusion	507	264	16	172	28	27
	Third or fourth degree perineal laceration	400†	121	*	223	22	28
	Ruptured uterus	38	24	0	10	0	*
	Unplanned Hysterectomy	34	13	0	19	0	*
	Admission to intensive care unit	130†	71	*	43	8	*
	Unplanned surgery following delivery	170†	73	*	69	12	14
Abnormal conditions of the newborn[c]	Total	3,469	1,779	37	1,372	144	137
	Assisted ventilation immediately after delivery	2,532	1,281	26	1,032	93	100
	Assisted ventilation for more than 6 hours	1,603	832	13	636	56	66
	Surfactant replacement therapy	320†	155	*	132	14	14
	Suspected neonatal sepsis	1,555	825	20	572	76	62
	Seizure or serious neurologic dysfunction	30†	18	0	8	*	6
	Significant birth injury	60†	24	*	32	*	*
Congenital anomalies of the newborn[c]	Total	300†	157	3	111	14	18
	Anencephalus	10†	*	0	*	0	*
	Spina bifida / Meningocele	10†	7	0	*	0	0
	Cyanotic congenital heart disease	40†	24	0	17	*	*
	Congential diaphragmatic hernia	0†	*	0	*	0	0
	Omphalocele / Gastroschisis	30†	21	*	*	0	0
	Limb reduction defect	20†	7	0	7	*	*
	Cleft lip / palate	70†	41	0	17	*	*
	Down syndrome	50†	16	0	22	*	*
	Suspected chromosomal disorder	50†	18	*	24	*	*
	Hypospadias	20†	6	0	8	*	*
	Unknown congenital anomalies	40†	22	*	14	*	*

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] The Arizona Health Care Cost Containment System (AHCCCS) is the State's Medicaid program; [b] Beginning with data year 2015, the coding of marital status has changed as such unmarried category includes divorced; [c] Total birth where an obstetric procedure; medical risk factor; complication of labor and delivery; abnormal condition of the newborn; or a congenital anomaly of the newborn was identified.

TABLE 1B-28
BIRTHS BY MOTHER'S AGE GROUP, RACE/ETHNICITY, AND PARTY PAYING FOR THE DELIVERY, ARIZONA, 2020

		TOTAL	Mother's age group									
			<15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45+	Un-known
All racial/ ethnic groups	AHCCCS	36,620	23	809	2,368	10,585	11,063	7,494	3,412	810	54	*
	IHS	620†	*	26	47	168	153	153	64	8	0	0
	Private insurance	32,650†	*	98	339	3,917	9,770	11,392	5,866	1,190	77	0
	Self-pay	4,090†	*	36	93	765	1,284	1,140	615	142	15	0
	Unknown	2,798	0	26	64	585	865	768	390	94	6	0
	TOTAL	76,781	30†	995	2,911	16,020	23,135	20,947	10,347	2,244	152	0†
White non-Hispanic	AHCCCS	10,532	0	124	522	2,904	3,259	2,340	1,080	275	26	*
	IHS	50†	0	0	*	*	14	23	6	0	0	0
	Private insurance	19,350†	*	31	156	1,975	5,613	7,105	3,692	721	52	0
	Self-pay	2,001	0	7	27	291	640	611	353	64	8	0
	Unknown	1,170†	0	*	17	222	385	360	154	27	*	0
	TOTAL	33,100†	0†	166	720†	5,400†	9,911	10,439	5,285	1,087	89	0†
Hispanic or Latino	AHCCCS	19,481	20	552	1,505	5,902	5,794	3,651	1,642	396	19	0
	IHS	50†	0	*	*	13	16	10	*	*	0	0
	Private insurance	9,300†	*	53	132	1,578	3,136	2,799	1,325	257	15	0
	Self-pay	1,710†	*	22	58	402	541	425	201	61	*	0
	Unknown	1,320†	0	20	42	304	387	316	194	55	*	0
	TOTAL	31,859	20†	650†	1,740†	8,199	9,874	7,201	3,360†	770†	40†	0
Black or African American	AHCCCS	3,089	0	47	165	837	968	663	335	65	9	0
	IHS	0	0	0	0	0	0	0	0	0	0	0
	Private insurance	1,380†	*	*	31	181	370	465	251	68	*	0
	Self-pay	140†	0	*	*	32	36	36	19	7	*	0
	Unknown	160†	0	*	*	36	55	42	21	*	0	0
	TOTAL	4,770†	0†	60†	200†	1,086	1,429	1,206	626	145	20†	0
American Indian or Alaska Native	AHCCCS	2,840†	*	77	162	812	826	656	251	52	0	0
	IHS	520†	*	23	41	150	123	120	56	6	0	0
	Private insurance	600†	0	10	17	94	172	170	110	29	*	0
	Self-pay	80†	0	*	*	22	22	18	*	*	*	0
	Unknown	50†	0	0	*	14	12	14	6	*	0	0
	TOTAL	4,090†	0†	110†	230†	1,092	1,155	978	430†	90†	0†	0
Asian or Pacific Islander	AHCCCS	679	0	9	14	130	216	184	104	22	0	0
	IHS	0†	0	0	0	0	0	0	0	*	0	0
	Private insurance	2,030†	0	*	*	89	479	853	488	115	*	0
	Self-pay	160†	0	*	*	18	45	50	38	8	*	0
	Unknown	90†	0	0	*	9	26	36	15	*	*	0
	TOTAL	2,970†	0	10†	20†	246	766	1,123	645	150†	10†	0

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 1B-29
BIRTHS BY MOTHER'S AGE GROUP, RACE/ETHNICITY, AND TRIMESTER OF PREGNANCY PRENATAL CARE BEGAN, ARIZONA, 2020

		TOTAL	Mother's age group									
			<15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45+	Un-known
All racial/ ethnic groups	No care	1,880†	*	57	129	467	530	439	188	56	13	0
	1st trimester	52,793	12	458	1,618	10,065	16,142	15,252	7,605	1,540	101	0
	2nd trimester	13,943	8	284	729	3,462	4,074	3,273	1,639	450	23	*
	3rd trimester	5,120†	*	144	320	1,306	1,512	1,142	561	115	9	*
	Unknown	3,048	0	52	115	720	877	841	354	83	6	0
	TOTAL	76,781	30†	995	2,911	16,020	23,135	20,947	10,347	2,244	152	0†
White non-Hispanic	No care	510†	0	*	14	90	146	139	77	23	12	0
	1st trimester	24,856	0	94	442	3,677	7,512	8,180	4,104	788	59	0
	2nd trimester	4,860†	*	41	170	1,029	1,383	1,315	715	190	10	*
	3rd trimester	1,560†	0	24	65	341	471	396	213	40	*	*
	Unknown	1,330†	0	*	33	260	399	409	176	46	*	0
	TOTAL	33,100†	0†	170†	724	5,397	9,911	10,439	5,285	1,087	90†	0†
Hispanic or Latino	No care	1,020†	*	40	92	285	269	234	76	24	*	0
	1st trimester	20,522	10	288	935	5,001	6,576	4,867	2,327	492	26	0
	2nd trimester	6,540†	*	188	450	1,852	1,931	1,320	610	176	7	0
	3rd trimester	2,580†	*	95	201	734	752	500	231	55	*	0
	Unknown	1,200†	0	39	63	327	346	280	120	23	*	0
	TOTAL	31,859	20†	650	1,741	8,199	9,874	7,201	3,364	770	40†	0
Black or African American	No care	130†	*	*	7	28	52	24	16	*	0	0
	1st trimester	2,876	0	23	107	623	835	775	414	90	9	0
	2nd trimester	1,140†	0	19	51	285	353	257	129	38	*	0
	3rd trimester	390†	0	7	21	89	129	79	50	11	*	0
	Unknown	240†	0	6	14	61	60	71	17	*	*	0
	TOTAL	4,770†	0†	60†	200	1,086	1,429	1,206	626	150†	20†	0
American Indian or Alaska Native	No care	174	0	9	14	50	48	34	13	6	0	0
	1st trimester	2,340†	*	51	126	613	667	562	255	58	*	0
	2nd trimester	920†	*	33	51	244	271	214	93	14	*	0
	3rd trimester	443	0	17	30	118	113	114	45	6	0	0
	Unknown	210†	0	*	*	67	56	54	21	7	0	0
	TOTAL	4,090†	0†	112	226	1,092	1,155	978	427	91	0†	0
Asian or Pacific Islander	No care	50†	0	*	*	14	15	8	6	*	0	0
	1st trimester	2,200†	0	*	8	151	552	868	505	112	6	0
	2nd trimester	490†	0	*	7	52	136	167	92	32	0	0
	3rd trimester	150†	0	*	*	24	47	53	22	*	0	0
	Unknown	70†	0	*	0	*	16	27	20	*	0	0
	TOTAL	2,968	0	10†	20†	246	766	1,123	645	150†	6	0

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 1B-30
BIRTHS BY MOTHER'S AGE GROUP, RACE/ETHNICITY, AND NUMBER OF PRENATAL VISITS, ARIZONA, 2020

		TOTAL	Mother's age group									
			<15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45+	Un-known
All racial/ ethnic groups	No visits	1,880†	*	57	129	467	530	439	188	56	13	0
	1-4 visits	4,130†	*	111	264	1,028	1,221	887	490	115	9	*
	5-8 visits	13,989	6	295	681	3,384	4,185	3,434	1,621	359	24	0
	9-12 visits	32,839	14	337	1,139	6,574	9,996	9,365	4,438	923	53	0
	13+ visits	22,420†	*	167	656	4,213	6,749	6,395	3,439	751	49	0
	Unknown	1,520†	0	28	42	354	454	427	171	40	*	0
	TOTAL	76,781	30†	995	2,911	16,020	23,135	20,947	10,347	2,244	152	0†
White non-Hispanic	No visits	510†	0	*	14	90	146	139	77	23	12	0
	1-4 visits	1,190†	0	14	55	234	347	295	197	43	*	*
	5-8 visits	4,900	0	43	153	964	1,433	1,469	676	149	13	0
	9-12 visits	15,000†	*	71	286	2,333	4,505	4,908	2,391	482	24	0
	13+ visits	10,761	0	31	200	1,626	3,263	3,399	1,845	365	32	0
	Unknown	740†	0	*	16	150	217	229	99	25	*	0
	TOTAL	33,100†	0†	170†	724	5,397	9,911	10,439	5,285	1,087	90†	0†
Hispanic or Latino	No visits	1,020†	*	40	92	285	269	234	76	24	*	0
	1-4 visits	2,000†	*	75	151	565	595	377	189	43	*	0
	5-8 visits	6,430†	*	192	421	1,805	1,925	1,306	628	146	*	0
	9-12 visits	13,288	10	211	690	3,378	4,255	3,080	1,346	298	20	0
	13+ visits	8,620†	*	115	367	2,038	2,669	2,090	1,077	250	10	0
	Unknown	497	0	17	20	128	161	114	48	9	0	0
	TOTAL	31,859	20†	650	1,741	8,199	9,874	7,201	3,364	770	40†	0
Black or African American	No visits	130†	*	*	7	28	52	24	16	*	0	0
	1-4 visits	350†	0	*	19	81	113	70	44	15	*	0
	5-8 visits	1,070†	0	24	41	257	360	232	124	30	*	0
	9-12 visits	1,797	0	15	79	402	507	490	245	50	9	0
	13+ visits	1,300†	0	8	49	289	361	351	190	49	*	0
	Unknown	120†	0	*	*	29	36	39	7	0	0	0
	TOTAL	4,770†	0†	60†	200	1,086	1,429	1,206	626	150†	20†	0
American Indian or Alaska Native	No visits	174	0	9	14	50	48	34	13	6	0	0
	1-4 visits	493	0	17	35	132	138	115	49	7	0	0
	5-8 visits	1,090†	*	36	59	301	321	255	102	17	*	0
	9-12 visits	1,410†	*	36	79	360	408	327	165	31	0	0
	13+ visits	800†	0	12	38	207	211	218	89	24	*	0
	Unknown	120†	0	*	*	42	29	29	9	6	0	0
	TOTAL	4,090†	0†	112	226	1,092	1,155	978	427	91	0†	0
Asian or Pacific Islander	No visits	50†	0	*	*	14	15	8	6	*	0	0
	1-4 visits	100†	0	*	*	16	28	30	11	7	0	0
	5-8 visits	490†	0	0	7	57	146	172	91	17	*	0
	9-12 visits	1,340†	0	*	*	101	321	560	291	62	0	0
	13+ visits	940†	0	*	*	53	245	337	238	63	*	0
	Unknown	40†	0	*	0	*	11	16	8	0	0	0
	TOTAL	2,968	0	10†	20†	246	766	1,123	645	150†	10†	0

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 1B-31
SELECTED CHARACTERISTICS OF NEWBORNS AND WOMEN GIVING BIRTH BY LEVEL OF PRENATAL CARE, ARIZONA, 2020

		TOTAL	Prenatal care					Visits		
			No care	1st trimester	2nd trimester	3rd trimester	Unknown	Less than 5	5 or more	Unknown
TOTAL		76,781	1,880†	52,793	13,943	5,120†	3,050†	6,012	69,249	1,520†
Mother's age group	**<15**	30†	*	12	8	*	0	6	22	0
	15-17	995	57	458	284	144	52	168	799	28
	18-19	2,911	129	1,618	729	320	115	393	2,476	42
	20-24	16,020	467	10,065	3,462	1,306	720	1,495	14,171	354
	25-29	23,135	530	16,142	4,074	1,512	877	1,751	20,930	454
	30-34	20,947	439	15,252	3,273	1,142	841	1,326	19,194	427
	35-39	10,347	188	7,605	1,639	561	354	678	9,498	171
	40-44	2,244	56	1,540	450	115	83	171	2,033	40
	45+	152	13	101	23	9	6	22	126	*
	Unknown	0†	0	0	*	*	0	*	0	0
Payer for birth	**AHCCCS**	36,620	1,237	22,382	8,192	3,193	1,616	4,002	31,927	691
	IHS	620	38	321	136	91	34	144	455	21
	Private insurance	32,652	274	25,926	4,119	1,215	1,118	1,128	30,905	619
	Self-pay	4,091	277	2,426	833	363	192	549	3,415	127
	Unknown	2,798	56	1,738	663	253	88	189	2,547	62
Mother's education	**8th Grade or Less**	1,952	148	922	536	246	100	364	1,548	40
	Some High School	9,470	486	5,261	2,290	999	434	1,421	7,878	171
	High School / GED	20,771	584	13,395	4,419	1,528	845	1,881	18,483	407
	Some College	17,523	282	12,293	3,175	1,066	707	1,108	16,057	358
	Associate Degree	6,693	112	4,968	1,001	368	244	363	6,196	134
	Bachelor's Degree	13,263	122	10,354	1,719	621	447	521	12,489	253
	Postgraduate Education	6,662	56	5,433	715	242	216	205	6,349	108
	Unknown	447	92	167	88	45	55	149	249	49
Marital status	**Married**	41,375	544	31,017	6,194	2,096	1,524	2,011	38,573	791
	Unmarried[a]	34,527	1,245	21,348	7,548	2,919	1,467	3,811	30,021	695
	Unknown	879	93	428	201	100	57	190	655	34
Weight gain	**Inadequate**	16,352	594	10,349	3,127	1,624	658	1,930	14,110	312
	Adequate	22,989	479	16,078	4,231	1,393	808	1,570	21,027	392
	Excessive	36,441	637	26,016	6,431	2,017	1,340	2,264	33,568	609
	Unknown	999	172	350	154	81	242	248	544	207
Smoking during pregnancy	**Non-smoker**	73,299	1,576	51,010	13,123	4,751	2,839	5,282	66,632	1,385
	Light smoker (less than 10 cigarettes per day)	1,641	137	814	419	183	88	344	1,245	52
	Heavy smoker (10 or more cigarettes per day)	1,150	114	617	243	114	62	249	864	37
	Unknown	691	55	352	158	67	59	137	508	46

TABLE 1B-31 (continued)
SELECTED CHARACTERISTICS OF NEWBORNS AND WOMEN GIVING BIRTH BY LEVEL OF PRENATAL CARE, ARIZONA, 2020

		TOTAL	Prenatal care					Visits		
			No care	1st trimester	2nd trimester	3rd trimester	Unknown	Less than 5	5 or more	Unknown
Length of gestation	<37 weeks	7,256	457	4,810	1,154	338	497	1,240	5,772	244
	37-41 weeks	69,234	1,381	47,927	12,706	4,749	2,471	4,702	63,323	1,209
	42+ weeks	155	17	55	45	26	12	30	119	6
	Unknown	140†	27	*	38	*	68	40	35	61
Weight at birth	<1,000 grams	440†	45	275	70	*	47	195	227	19
	1,000-1,499	438	27	296	73	15	27	92	333	13
	1,500-2,499	4,771	247	3,122	872	278	252	682	3,962	127
	2,500-3,999	65,280	1,455	44,957	11,931	4,475	2,462	4,703	59,357	1,220
	4,000+ grams	5,788	102	4,129	993	340	224	325	5,353	110
	Unknown	60†	6	14	*	*	36	15	17	31
Newborn intensive care	Yes	6,006	437	3,741	1,126	454	248	1,126	4,735	145
	No	70,775	1,445	49,052	12,817	4,661	2,800	4,886	64,514	1,375
Method of delivery	Vaginal	52,858	1,345	36,053	9,722	3,511	2,227	4,088	47,616	1,154
	C-Section	21,801	481	15,332	3,818	1,426	744	1,744	19,727	330
	Forceps	290†	*	185	64	32	8	24	263	*
	Vacuum	1,830	53	1,223	339	146	69	156	1,643	31
	Unknown	0	0	0	0	0	0	0	0	0
Obstetric procedures[b]	Total	40,055	679	27,761	7,600	2,784	1,231	2,591	36,841	623
	Induction of labor	24,362	265	17,139	4,547	1,671	740	1,281	22,798	283
	Augmentation of labor	22,538	486	15,402	4,338	1,603	709	1,632	20,499	407
	Cervical cerclage	174	0	123	32	12	7	19	152	*
	Tocolysis	419	20	272	85	31	11	72	338	9
	External cephalic version successful	79	0	54	16	9	0	6	73	0
	External cephalic version failed	130†	*	86	26	10	*	7	117	*
Births with medical risk factors[b]	Total	21,243	545	14,444	3,995	1,535	724	1,912	18,998	333
	Pre-existing diabetes	938	18	651	162	76	31	84	845	9
	Gestational diabetes	7,327	84	5,226	1,283	488	246	448	6,775	104
	Pre-existing hypertension	1,234	27	851	212	96	48	109	1,102	23
	Gestational hypertension	6,814	197	4,703	1,250	435	229	621	6,076	117
	Eclampsia	98	9	61	13	9	6	19	77	*
	Previous preterm birth	3,292	113	2,197	636	215	131	372	2,858	62
	Other previous poor pregnancy outcome	3,824	104	2,603	771	295	51	374	3,428	22
	Gonorrhea	280	24	146	76	25	9	62	212	6
	Syphilis	214	19	112	45	32	6	50	161	*
	Chlamydia	1,984	81	1,111	493	215	84	286	1,659	39
	Hepatitis B	100†	*	59	25	9	*	12	89	*
	Hepatitis C	201	25	98	44	26	8	60	136	*

TABLE 1B-31 (continued)
SELECTED CHARACTERISTICS OF NEWBORNS AND WOMEN GIVING BIRTH BY LEVEL OF PRENATAL CARE, ARIZONA, 2020

		TOTAL	Prenatal care					Visits		
			No care	1st trimester	2nd trimester	3rd trimester	Unknown	Less than 5	5 or more	Unknown
Births with complications of labor and delivery[b]	Total	23,556	783	16,002	4,322	1,603	846	2,228	20,781	547
	Premature rupture of the membranes	4,015	155	2,668	760	241	191	449	3,450	116
	Precipitous labor	4,910	202	3,356	870	298	184	505	4,273	132
	Prolonged labor	2,144	56	1,484	394	149	61	180	1,927	37
	Breech presentation	3,033	104	2,104	519	186	120	343	2,623	67
	Chorioamnionitis	1,442	35	962	294	108	43	118	1,302	22
	Meconium staining of the amniotic fluid	5,548	242	3,604	1,044	441	217	591	4,797	160
	Fetal intolerance	6,695	161	4,607	1,254	482	191	513	6,063	119
	Maternal transfusion	507	43	297	111	39	17	97	396	14
	Third or fourth degree perineal laceration	400†	*	272	76	30	13	22	365	9
	Ruptured uterus	40†	*	24	9	*	*	*	33	0
	Unplanned Hysterectomy	30†	*	29	0	*	0	*	29	0
	Admission to intensive care unit	127	23	70	13	6	15	36	78	13
	Unplanned surgery following delivery	172	13	123	26	7	*	21	149	*
Abnormal conditions of the newborn[b]	Total	3,469	246	2,190	653	225	155	625	2,749	95
	Assisted ventilation immediately after delivery	2,532	153	1,647	478	146	108	422	2,035	75
	Assisted ventilation for more than 6 hours	1,603	117	1,035	302	80	69	308	1,251	44
	Surfactant replacement therapy	316	33	194	58	11	20	74	229	13
	Suspected neonatal sepsis	1,555	145	927	299	112	72	346	1,169	40
	Seizure or serious neurologic dysfunction	30†	*	16	7	*	0	6	27	0
	Significant birth injury	60†	*	39	11	*	*	11	50	*
Congenital anomalies of the newborn[b]	Total	303	15	178	68	33	9	51	246	6
	Anencephalus	10†	0	*	*	*	0	*	6	0
	Spina bifida / Meningocele	10†	*	6	*	*	0	*	10	0
	Cyanotic congenital heart disease	40†	*	27	14	*	0	*	40	0
	Congential diaphragmatic hernia	0†	0	*	*	*	0	0	*	0
	Omphalocele / Gastroschisis	30†	0	11	9	*	*	*	21	*
	Limb reduction defect	20†	0	10	*	*	*	*	11	*
	Cleft lip / palate	70†	*	33	18	9	*	13	52	0
	Down syndrome	50†	*	34	7	*	0	*	40	0
	Suspected chromosomal disorder	50†	*	38	8	*	*	7	44	0
	Hypospadias	20†	0	15	*	*	0	*	16	0
	Unknown congenital anomalies	43	7	18	7	7	*	15	25	*

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Beginning with data year 2015, the coding of marital status has changed as such unmarried category includes divorced; [b] Total birth where an obstetric procedure; medical risk factor; complication of labor and delivery; abnormal condition of the newborn; or a congenital anomaly of the newborn was identified.

TABLE 1B-32
SELECTED CHARACTERISTICS OF BIRTHS BY BIRTHWEIGHT AND GESTATIONAL AGE, ARIZONA, 2020

		TOTAL	Weight at birth			Length of gestation			
			<2,500 grams	2,500+ grams	Unknown	<37 weeks	37-41 weeks	42+ weeks	Unknown
TOTAL		76,781	5,650†	71,068	60†	7,260†	69,234	160†	140†
Mother's age group	**<15**	30†	*	24	0	*	25	0	0
	15-17	1,000†	87	906	*	91	900	*	*
	18-19	2,911	226	2,684	*	256	2,643	10	*
	20-24	16,020	1,112	14,902	6	1,364	14,608	24	24
	25-29	23,135	1,583	21,536	16	2,063	20,981	48	43
	30-34	20,947	1,489	19,440	18	1,977	18,892	44	34
	35-39	10,347	899	9,430	18	1,160	9,138	23	26
	40-44	2,240†	225	2,017	*	310	1,927	*	*
	45+	152	25	127	0	32	118	0	*
	Unknown	0†	0	*	0	0	*	0	0
Payer for birth	**AHCCCS**	36,620	2,975	33,631	14	3,804	32,689	60	67
	IHS	620†	47	573	0	73	542	*	*
	Private insurance	32,652	2,238	30,402	12	2,864	29,706	58	24
	Self-pay	4,091	208	3,853	30	259	3,775	27	30
	Unknown	2,798	182	2,609	7	256	2,522	9	11
Mother's education	**8th Grade or Less**	1,952	161	1,790	*	193	1,749	6	*
	Some High School	9,470	830	8,638	*	1,051	8,379	21	19
	High School / GED	20,771	1,529	19,225	17	1,998	18,705	33	35
	Some College	17,523	1,288	16,215	20	1,674	15,788	26	35
	Associate Degree	6,693	474	6,212	7	644	6,025	17	7
	Bachelor's Degree	13,263	833	12,422	8	1,047	12,164	36	16
	Postgraduate Education	6,662	467	6,192	*	564	6,080	14	*
	Unknown	450†	68	374	*	85	344	*	16
Marital status	**Married**	41,375	2,727	38,615	33	3,561	37,664	94	56
	Unmarried[a]	34,527	2,838	31,662	27	3,564	30,837	58	68
	Unknown	880†	85	791	*	131	733	*	12
Weight gain	**Inadequate**	16,352	1,911	14,416	25	2,074	14,208	26	44
	Adequate	22,989	1,614	21,366	9	1,986	20,918	55	30
	Excessive	36,441	2,007	34,410	24	3,031	33,297	70	43
	Unknown	1,000†	118	876	*	165	811	*	19
Smoking during pregnancy	**Non-smoker**	73,299	5,156	68,085	58	6,717	66,323	147	112
	Light smoker (less than 10 cigarettes per day)	1,640†	194	1,446	*	220	1,410	*	9
	Heavy smoker (10 or more cigarettes per day)	1,150†	193	953	*	192	945	*	10
	Unknown	690†	107	584	0	127	556	*	*

TABLE 1B-32 (continued)
SELECTED CHARACTERISTICS OF BIRTHS BY BIRTHWEIGHT AND GESTATIONAL AGE, ARIZONA, 2020

		TOTAL	Weight at birth			Length of gestation			
			<2,500 grams	2,500+ grams	Unknown	<37 weeks	37-41 weeks	42+ weeks	Unknown
Prenatal care	No care	1,882	319	1,557	6	457	1,381	17	27
	1st trimester	52,793	3,693	49,086	14	4,810	47,927	55	*
	2nd trimester	13,943	1,015	12,924	*	1,154	12,706	45	38
	3rd trimester	5,115	297	4,815	*	338	4,749	26	*
	Unknown	3,048	326	2,686	36	497	2,471	12	68
Prenatal visits	No visits	1,882	319	1,557	6	457	1,381	17	27
	1-4 visits	4,130	650	3,471	9	783	3,321	13	13
	5-8 visits	13,989	1,599	12,385	*	2,075	11,880	27	7
	9-12 visits	32,839	1,886	30,948	*	2,465	30,321	38	15
	13+ visits	22,421	1,037	21,377	7	1,232	21,122	54	13
	Unknown	1,520	159	1,330	31	244	1,209	6	61
Newborn intensive care	Yes	6,006	2,703	3,297	6	3,253	2,719	12	22
	No	70,775	2,947	67,771	57	4,003	66,515	143	114
Method of delivery	Vaginal	52,858	2,723	50,073	62	3,577	49,062	98	121
	C-Section	21,801	2,829	18,971	*	3,563	18,171	53	14
	Forceps	292	20	272	0	20	272	0	0
	Vacuum	1,830†	78	1,752	0	96	1,729	*	*
	Unknown	0	0	0	0	0	0	0	0
Obstetric procedures[b]	Total	40,055	2,158	37,894	3	2,590	37,349	90	26
	Induction of labor	24,362	1,454	22,907	*	1,454	22,829	64	15
	Augmentation of labor	22,538	973	21,562	*	1,411	21,068	45	14
	Cervical cerclage	174	51	123	0	74	100	0	0
	Tocolysis	420†	158	261	0	186	232	*	0
	External cephalic version successful	80†	*	76	0	*	77	0	0
	External cephalic version failed	126	9	117	0	13	113	0	0
Births with medical risk factors[b]	Total	21,243	2,606	18,629	8	3,523	17,671	23	26
	Pre-existing diabetes	940†	119	819	0	264	669	*	*
	Gestational diabetes	7,330†	596	6,731	0	939	6,382	*	*
	Pre-existing hypertension	1,230†	191	1,043	0	257	975	*	*
	Gestational hypertension	6,814	1,214	5,597	*	1,541	5,254	8	11
	Eclampsia	98	38	60	0	54	43	0	*
	Previous preterm birth	3,290†	642	2,647	*	1,018	2,269	*	*
	Other previous poor pregnancy outcome	3,824	465	3,358	*	560	3,255	9	0
	Gonorrhea	280	41	239	0	44	236	0	0
	Syphilis	214	33	181	0	37	177	0	0
	Chlamydia	1,980†	150	1,833	*	180	1,797	*	*
	Hepatitis B	102	10	92	0	11	90	0	*
	Hepatitis C	201	29	172	0	34	166	0	*

TABLE 1B-32 (continued)
SELECTED CHARACTERISTICS OF BIRTHS BY BIRTHWEIGHT AND GESTATIONAL AGE, ARIZONA, 2020

		TOTAL	Weight at birth			Length of gestation			
			<2,500 grams	2,500+ grams	Unknown	<37 weeks	37-41 weeks	42+ weeks	Unknown
Births with complications of labor and delivery[b]	Total	23,556	2,618	20,922	16	3,158	20,292	65	41
	Premature rupture of the membranes	4,015	721	3,292	*	1,066	2,931	14	*
	Precipitous labor	4,910	376	4,525	9	452	4,423	9	26
	Prolonged labor	2,144	168	1,974	*	246	1,881	16	*
	Breech presentation	3,030†	881	2,147	*	990	2,036	*	*
	Chorioamnionitis	1,440†	88	1,353	*	107	1,333	*	0
	Meconium staining of the amniotic fluid	5,548	263	5,284	*	293	5,226	25	*
	Fetal intolerance	6,695	733	5,961	*	735	5,936	19	*
	Maternal transfusion	510†	109	398	0	139	366	*	*
	Third or fourth degree perineal laceration	400†	*	391	0	13	383	0	0
	Ruptured uterus	38	11	27	0	11	27	0	0
	Unplanned Hysterectomy	34	9	25	0	15	19	0	0
	Admission to intensive care unit	127	54	73	0	66	60	0	*
	Unplanned surgery following delivery	172	25	147	0	37	135	0	0
Abnormal conditions of the newborn[b]	Total	3,469	1,466	1,999	4	1,714	1,739	6	10
	Assisted ventilation immediately after delivery	2,532	1,112	1,416	*	1,298	1,218	6	10
	Assisted ventilation for more than 6 hours	1,600†	910	691	*	1,056	540	*	*
	Surfactant replacement therapy	320†	249	67	0	264	49	*	*
	Suspected neonatal sepsis	1,560†	747	807	*	861	691	*	*
	Seizure or serious neurologic dysfunction	33	10	23	0	7	26	0	0
	Significant birth injury	63	8	55	0	12	51	0	0
Congenital anomalies of the newborn[b]	Total	300†	83	218	2	81	218	3	1
	Anencephalus	10†	*	*	0	*	*	*	0
	Spina bifida / Meningocele	10†	*	10	0	*	8	0	0
	Cyanotic congenital heart disease	44	14	29	*	13	31	0	0
	Congential diaphragmatic hernia	0†	*	*	0	0	*	0	0
	Omphalocele / Gastroschisis	27	10	17	0	10	17	0	0
	Limb reduction defect	17	8	8	*	6	11	0	0
	Cleft lip / palate	70†	*	60	*	8	56	*	0
	Down syndrome	45	17	28	0	21	24	0	0
	Suspected chromosomal disorder	50†	20	31	0	15	34	*	0
	Hypospadias	20†	*	15	0	*	16	0	0
	Unknown congenital anomalies	43	14	28	*	15	27	0	*

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Beginning with data year 2015, the coding of marital status has changed as such unmarried category includes divorced; [b] Total birth where an obstetric procedure; medical risk factor; complication of labor and delivery; abnormal condition of the newborn; or a congenital anomaly of the newborn was identified.

TABLE 1B-33
SELECTED CHARACTERISTICS OF NEWBORNS AND MOTHERS GIVING BIRTH BY AGE GROUP, ARIZONA, 2020

		TOTAL	Mother's age group									
			<15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45+	Un-known
TOTAL		76,781	28	995	2,911	16,020	23,135	20,947	10,347	2,244	152	2
Mother's race/ethnicity	White non-Hispanic	33,100†	*	166	724	5,397	9,911	10,439	5,285	1,087	89	*
	Hispanic or Latino	31,859	22	650	1,741	8,199	9,874	7,201	3,364	770	38	0
	Black or African American	4,770†	*	56	200	1,086	1,429	1,206	626	145	17	0
	American Indian or Alaska Native	4,090†	*	112	226	1,092	1,155	978	427	91	*	0
	Asian or Pacific Islander	2,970†	0	11	20	246	766	1,123	645	151	6	0
Payer for birth	AHCCCS	36,620	23	809	2,368	10,585	11,063	7,494	3,412	810	54	*
	IHS	620†	*	26	47	168	153	153	64	8	0	0
	Private insurance	32,650†	*	98	339	3,917	9,770	11,392	5,866	1,190	77	0
	Self-pay	4,090†	*	36	93	765	1,284	1,140	615	142	15	0
	Unknown	2,800†	0	26	64	585	865	768	390	94	6	0
Mother's education	8th Grade or Less	1,952	13	81	75	359	413	471	397	135	8	0
	Some High School	9,470	14	820	1,178	2,872	2,185	1,509	695	190	7	0
	High School / GED	20,770†	*	79	1,330	6,821	6,539	3,986	1,650	348	17	0
	Some College	17,520†	0	7	294	4,113	6,247	4,511	1,924	406	21	0
	Associate Degree	6,690†	0	*	26	955	2,331	2,118	1,033	216	13	0
	Bachelor's Degree	13,260†	0	0	*	768	4,129	5,162	2,670	499	33	0
	Postgraduate Education	6,660†	0	0	0	58	1,199	3,069	1,892	413	31	0
	Unknown	450†	0	7	6	74	92	121	86	37	22	*
Marital status	Married	41,380†	0	19	284	4,904	12,911	14,352	7,302	1,502	101	0
	Unmarried[a]	34,527	28	974	2,621	11,002	9,985	6,328	2,876	683	30	0
	Unknown	880†	0	*	6	114	239	267	169	59	21	*
Weight gain	Inadequate	16,352	9	301	625	3,405	4,860	4,388	2,204	516	43	*
	Adequate	22,990†	*	291	813	4,472	7,047	6,455	3,124	735	48	0
	Excessive	36,441	14	385	1,444	7,922	10,932	9,852	4,874	961	56	*
	Unknown	1,000†	*	18	29	221	296	252	145	32	*	0
Smoking during pregnancy	Non-smoker	73,299	28	975	2,791	15,270	22,077	20,010	9,878	2,129	140	*
	Light smoker (less than 10 cigarettes per day)	1,640†	0	12	71	379	489	415	221	52	*	*
	Heavy smoker (10 or more cigarettes per day)	1,150†	0	*	25	217	362	348	156	34	7	0
	Unknown	690†	0	7	24	154	207	174	92	29	*	0
Length of gestation	<37 weeks	7,260†	*	91	256	1,364	2,063	1,977	1,160	310	32	0
	37-41 weeks	69,234	25	900	2,643	14,608	20,981	18,892	9,138	1,927	118	*
	42+ weeks	160†	0	*	10	24	48	44	23	*	0	0
	Unknown	140†	0	*	*	24	43	34	26	*	*	0
Weight at birth	<1,000 grams	440†	0	*	20	85	139	115	66	10	*	0
	1,000-1,499	440†	0	*	11	72	124	120	85	21	*	0
	1,500-2,499	4,770†	*	78	195	955	1,320	1,254	748	194	23	0
	2,500-3,999	65,280	22	866	2,557	13,928	19,737	17,614	8,561	1,873	120	*
	4,000+ grams	5,790†	*	40	127	974	1,799	1,826	869	144	7	0
	Unknown	60†	0	*	*	6	16	18	18	*	0	0

TABLE 1B-33 (continued)
SELECTED CHARACTERISTICS OF NEWBORNS AND MOTHERS GIVING BIRTH BY AGE GROUP, ARIZONA, 2020

		TOTAL	Mother's age group									
			<15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45+	Un-known
Prenatal care	No care	1,880†	*	57	129	467	530	439	188	56	13	0
	1st trimester	52,793	12	458	1,618	10,065	16,142	15,252	7,605	1,540	101	0
	2nd trimester	13,943	8	284	729	3,462	4,074	3,273	1,639	450	23	*
	3rd trimester	5,120†	*	144	320	1,306	1,512	1,142	561	115	9	*
	Unknown	3,050†	0	52	115	720	877	841	354	83	6	0
Prenatal visits	No visits	1,880†	*	57	129	467	530	439	188	56	13	0
	1-4 visits	4,130†	*	111	264	1,028	1,221	887	490	115	9	*
	5-8 visits	13,989	6	295	681	3,384	4,185	3,434	1,621	359	24	0
	9-12 visits	32,839	14	337	1,139	6,574	9,996	9,365	4,438	923	53	0
	13+ visits	22,420†	*	167	656	4,213	6,749	6,395	3,439	751	49	0
	Unknown	1,520†	0	28	42	354	454	427	171	40	*	0
Newborn intensive care	Yes	6,010†	*	74	210	1,182	1,700	1,628	943	244	22	*
	No	70,775	26	921	2,701	14,838	21,435	19,319	9,404	2,000	130	*
Method of delivery	Vaginal	52,858	23	823	2,305	12,031	16,366	13,813	6,169	1,248	80	0
	C-Section	21,800†	*	124	473	3,483	6,164	6,615	3,919	952	67	*
	Forceps	290†	*	*	15	51	88	77	51	6	0	0
	Vacuum	1,830†	*	45	118	455	517	442	208	38	*	0
	Unknown	0†	0	0	0	0	0	0	0	0	0	0
Obstetric procedures[b]	Total	40,055	21	620	1,795	9,407	12,152	10,089	4,881	1,030	60	0
	Induction of labor	24,362	11	321	1,004	5,408	7,199	6,217	3,382	771	49	0
	Augmentation of labor	22,538	12	398	1,102	5,605	6,921	5,566	2,441	471	22	0
	Cervical cerclage	170†	0	0	*	25	51	59	28	*	*	0
	Tocolysis	420†	*	8	20	93	128	95	56	18	0	0
	External cephalic version successful	80†	0	0	*	13	18	30	16	*	0	0
	External cephalic version failed	130†	0	*	*	17	46	35	22	*	0	0
Births with medical risk factors[b]	Total	21,240†	5	196	672	3,836	5,940	6,130	3,512	882	69	1
	Pre-existing diabetes	940†	0	*	13	109	228	294	225	60	*	0
	Gestational diabetes	7,330†	*	24	104	877	1,957	2,385	1,534	410	34	*
	Pre-existing hypertension	1,230†	0	*	12	150	309	375	283	99	*	0
	Gestational hypertension	6,810†	*	88	275	1,416	1,909	1,803	1,027	268	26	0
	Eclampsia	100†	0	0	6	22	20	23	22	*	0	0
	Previous preterm birth	3,290†	0	8	27	427	941	1,057	652	169	11	0
	Other previous poor pregnancy outcome	3,820†	0	11	64	573	1,178	1,176	639	170	12	*
	Gonorrhea	280†	*	9	34	89	75	51	17	*	0	0
	Syphilis	210†	0	*	10	63	59	59	18	*	0	0
	Chlamydia	1,980†	*	79	253	844	454	248	84	21	0	0
	Hepatitis B	100†	0	*	*	11	26	30	24	6	0	0
	Hepatitis C	200†	0	0	*	25	69	68	32	*	0	0

TABLE 1B-33 (continued)
SELECTED CHARACTERISTICS OF NEWBORNS AND MOTHERS GIVING BIRTH BY AGE GROUP, ARIZONA, 2020

		TOTAL	Mother's age group									
			<15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45+	Un-known
Births with complications of labor and delivery[b]	**Total**	23,556	10	305	1,003	5,085	7,093	6,246	3,092	670	51	1
	Premature rupture of the membranes	4,020†	*	63	214	968	1,206	976	480	102	*	0
	Precipitous labor	4,910†	*	45	130	773	1,494	1,561	749	142	15	0
	Prolonged labor	2,140†	*	33	116	562	653	498	220	58	*	0
	Breech presentation	3,030†	0	19	77	456	838	899	594	140	10	0
	Chorioamnionitis	1,440†	*	20	105	443	422	306	123	20	*	0
	Meconium staining of the amniotic fluid	5,550†	*	91	265	1,333	1,728	1,436	571	113	7	0
	Fetal intolerance	6,700†	*	102	332	1,623	2,010	1,609	801	198	15	*
	Maternal transfusion	510†	0	11	22	99	161	117	77	17	*	0
	Third or fourth degree perineal laceration	400†	*	11	10	87	127	119	36	*	0	0
	Ruptured uterus	40†	0	0	*	6	9	13	7	*	0	0
	Unplanned Hysterectomy	30†	0	0	0	*	8	14	7	*	0	0
	Admission to intensive care unit	130†	0	*	*	29	34	32	21	6	*	0
	Unplanned surgery following delivery	170†	0	*	*	29	58	42	24	12	*	0
Abnormal conditions of the newborn[b]	**Total**	3,470†	2	47	132	661	991	946	539	138	13	0
	Assisted ventilation immediately after delivery	2,530†	*	36	93	460	715	688	421	106	11	0
	Assisted ventilation for more than 6 hours	1,600†	*	19	53	290	435	454	282	63	6	0
	Surfactant replacement therapy	320†	0	*	11	56	75	100	58	12	*	0
	Suspected neonatal sepsis	1,560†	0	25	66	331	450	401	225	50	7	0
	Seizure or serious neurologic dysfunction	30†	0	0	*	6	10	9	*	*	0	0
	Significant birth injury	60†	0	0	*	16	16	16	10	*	0	0
Congenital anomalies of the newborn[b]	**Total**	300†	0	3	14	55	72	84	54	20	1	0
	Anencephalus	10†	0	0	0	0	*	*	*	0	0	0
	Spina bifida / Meningocele	10†	0	0	0	*	*	*	*	0	0	0
	Cyanotic congenital heart disease	40†	0	0	0	7	13	15	7	*	0	0
	Congential diaphragmatic hernia	0†	0	0	0	*	*	0	*	0	0	0
	Omphalocele / Gastroschisis	30†	0	*	*	9	*	7	*	0	0	0
	Limb reduction defect	20†	0	*	*	6	*	*	*	0	0	0
	Cleft lip / palate	70†	0	0	*	9	21	17	10	*	0	0
	Down syndrome	50†	0	*	*	*	7	8	14	9	*	0
	Suspected chromosomal disorder	50†	0	0	*	7	11	15	7	8	0	0
	Hypospadias	20†	0	0	0	*	6	6	*	*	0	0
	Unknown congenital anomalies	40†	0	0	*	9	11	14	*	*	0	0

Notes: * Cell suppressed due to count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; [a] Beginning with data year 2015, the coding of marital status has changed as such unmarried category includes divorced; [b] Total birth where an obstetric procedure; medical risk factor; complication of labor and delivery; abnormal condition of the newborn; or a congenital anomaly of the newborn was identified.

TABLE 1B-34
BIRTHS WITH CONGENITAL ANOMALIES MENTIONED ON BIRTH CERTIFICATE BY MOTHER'S RACE/ETHNICITY AND CHILD'S GENDER, ARIZONA, 2020

	All groups			White non-Hispanic			Hispanic or Latino			Black or African American			American Indian or Alaska Native			Asian or Pacific Islander		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Total	303	150	153	125	62	63	134	70	64	10	4	6	26	9	17	8	5	3
Anencephalus	10†	*	*	0†	*	*	0†	*	*	0	0	0	0†	0	*	0	0	0
Spina bifida / Meningocele	12	6	6	10†	*	6	10†	*	0	0	0	0	0	0	0	0	0	0
Cyanotic congenital heart disease	44	19	25	22	9	13	16	7	9	0†	*	*	0†	*	*	0	0	0
Congenital diaphragmatic hernia	0†	*	*	0	0	0	0†	*	*	0	0	0	0	0	0	0	0	0
Omphalocele / Gastroschisis	27	8	19	10†	*	6	10†	*	9	0†	*	*	0†	*	*	0†	*	0
Limb reduction defect	17	8	9	10†	*	*	10†	*	*	0	0	0	0†	0	*	0	0	0
Cleft lip / palate	65	38	27	23	15	8	30	16	14	0†	*	0	10†	*	*	0†	*	*
Down syndrome	45	21	24	21	11	10	19	9	10	0†	0	*	0†	*	*	0	0	0
Suspected chromosomal disorder	51	17	34	18	6	12	24	8	16	0†	*	*	10†	*	*	0†	*	*
Hypospadias	17	17	0	10†	*	0	11	11	0	0	0	0	0	0	0	0†	*	0
Unknown congenital anomalies	43	23	20	23	15	8	15	7	8	0†	0	*	0†	*	*	0†	0	*
Ratio per 100 births[a]	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.4**	**0.2**	**0.2**	**0.3**	**0.6**	**0.4**	**0.9**	**0.3**	**0.3**	**0.2**

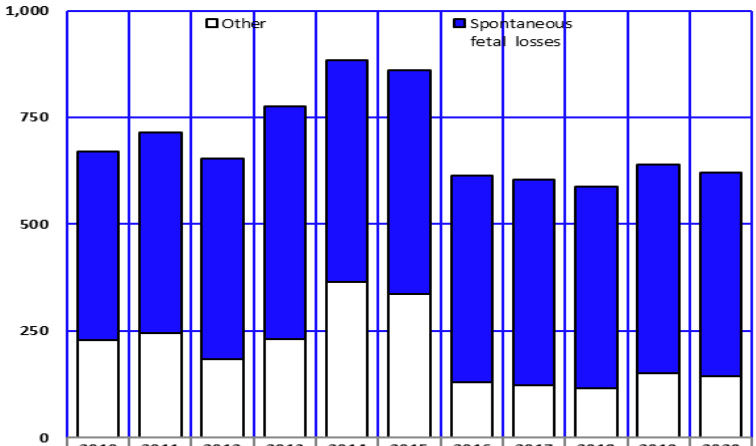
Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] For denominators see Table 5B-8.

1C.

FETAL, PERINATAL, AND MATERNAL DEATHS

In Arizona, reportable fetal deaths are those after 20 completed weeks of gestation or if the fetus weighs more than 350 grams (*ARS 36-329*; *Arizona Administrative Code, R9-19-302*). In addition to spontaneous stillbirths, any induced termination of pregnancy at 20 or more weeks of gestation (or, if the gestation period is unknown, when the weight of the product of human conception is more than 350 grams) also requires the filing of a fetal death certificate.

Figure 1C-1
Trends in Fetal Deaths, Arizona, 2010-2020

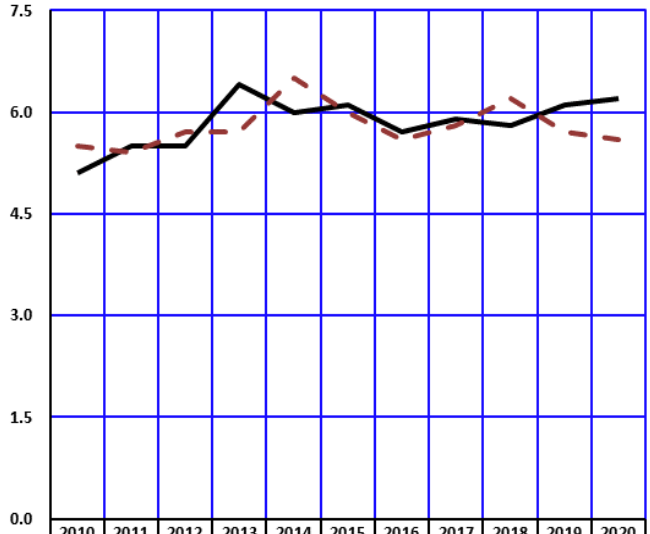


	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
All reported fetal deaths*	671	714	654	775	885	861	615	605	588	640	620
Spontaneous fetal losses	443	470	470	545	519	524	486	481	472	489	477
Other	228	244	184	230	366	337	129	124	116	151	143

Note: All reported includes spontaneous and induced termination of pregnancy at 20 or more weeks of gestation or 350 grams or more and some stillbirths prior to 20 weeks and of any weight.

The number of all reported fetal deaths in Arizona (including late term abortions) in 2020 was 620, a 3.1 percent decrease from 2019 (**Figure 1C-1**, **Table 1C-3**). The annual number of reportable spontaneous fetal losses decreased 2.5 percent from 489 in 2019 to 477 in 2020. (**Figure 1C-1**, **Table 1C-3**).

Figure 1C-2
Fetal[a] and Perinatal[b] Mortality Rates, Arizona, 2010–2020



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Fetal mortality rate	5.1	5.5	5.5	6.4	6.0	6.1	5.7	5.9	5.8	6.1	6.2
Perinatal mortality rate	5.5	5.4	5.7	5.7	6.5	6.0	5.6	5.8	6.2	5.7	5.6

Notes: [a] Rate is the number of events per 1,000 live births and fetal deaths. [b] Infant deaths of less than 7 days and fetal deaths with gestation of 28 weeks or more, per 1,000 live births and fetal deaths.

The fetal mortality rate increased slightly from a rate of 6.1 deaths at 20 or more weeks of gestation per 1,000 live births in 2019 to a rate of 6.2 deaths in 2020.

Perinatal mortality refers here to death of a fetus of at least 28 weeks gestational age, or of an infant less than 7 days old. The perinatal death rate per 1,000 live births has been below 6 deaths per 1,000 since 2009 then increased at 6.5 in 2014. The perinatal mortality rate of 5.6 in 2020 represented a decrease from the 2017, 2018, and 2019 rates (**Figure 1C-2, Table 1C-3**).

Early infant deaths accounted for 211 or 48.6 percent of the 434 perinatal deaths in 2020 (**Figure 1C-2**, **Table 1C-3**).

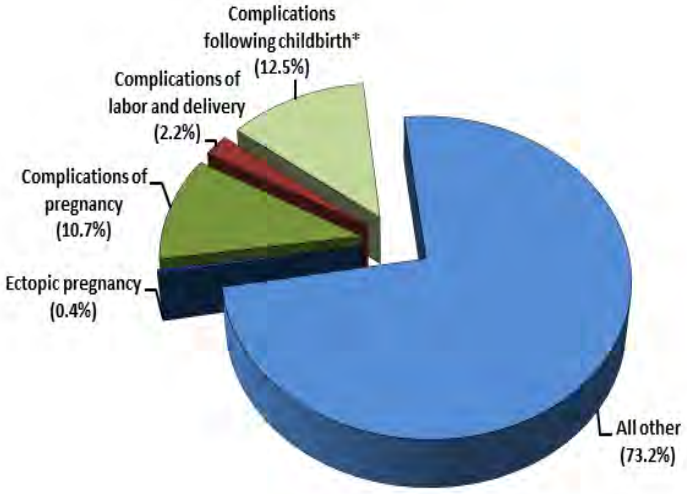
In 2020, 39 women giving birth were reported to have died from maternal causes (**Table 1C-1**). This represents a 7.1 percent decrease from the number of maternal deaths recorded in 2019. The number of maternal deaths does not include all deaths occurring to pregnant women, but only those deaths assigned to causes related to or aggravated by pregnancy or pregnancy management.

Based on the total number of 224 maternal deaths from 2010 to 2020, women age 35 and older had the highest proportional contribution to maternal mortality followed by women age 25 - 34, and women age 24 and younger (**Figure 1C-3**).

Figure 1C-3
Percent of Death from Maternal Causes by Mother's Age Group, Arizona, 2010-2020

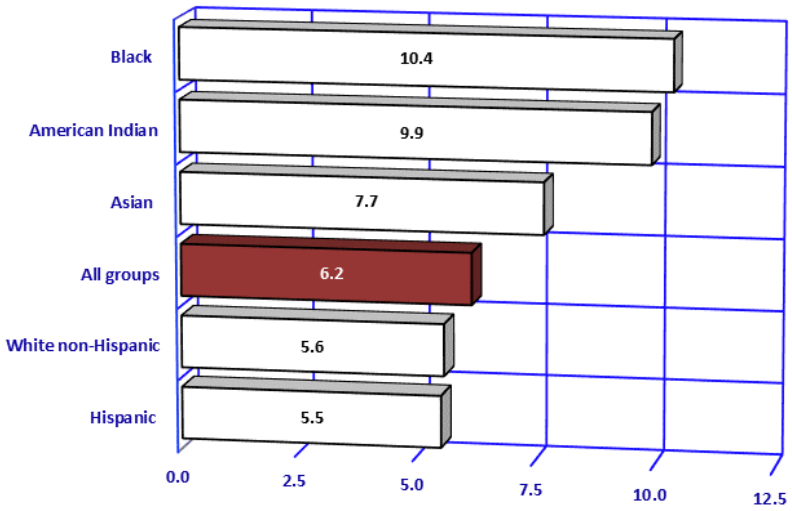
In the eleven-year period from 2010 to 2020, the major causes of maternal deaths in the state have included complications following childbirth (i.e. complications of the puerperium), complications mainly related to pregnancy, complications occurring in the course of labor and delivery, and ectopic pregnancy. All other possible causes of maternal death accounted for 73.2 percent of the maternal deaths from 2010 to 2020 (**Figure 1C-4**, **Table 1C-2**).

Figure 1C-4
Causes of Maternal Mortality[a], Arizona, 2010-2020



Notes: [a] Based on the total number of maternal deaths from 2010 to 2020; * Complications of the puerperium.

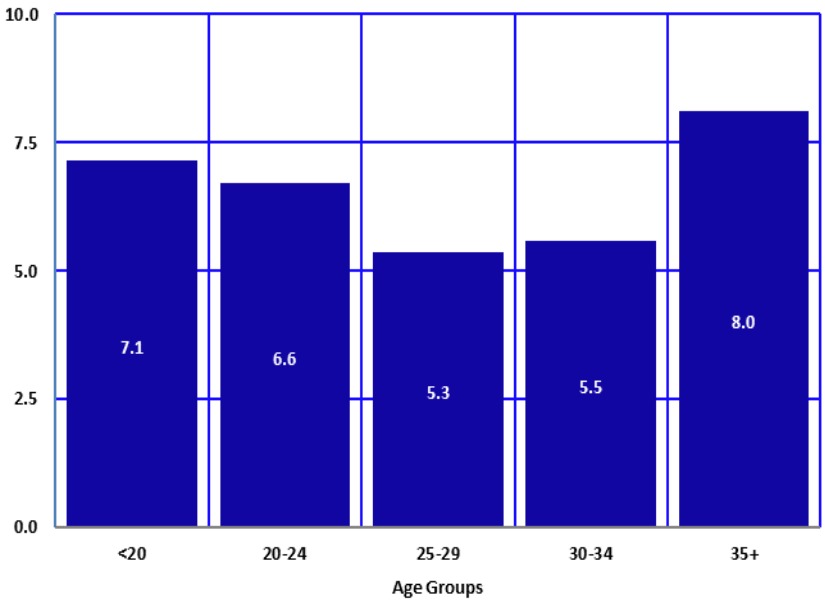
Figure 1C-5
Fetal Mortality Rates by Race/Ethnicity, Arizona, 2020



Fetal mortality rates vary by the race/ethnicity of the mother (**Figure 1C-5**). The fetal mortality rate for Black or African American women was 10.4 per 1,000 live births plus fetal deaths, the highest rate among the racial/ethnic groups. The fetal mortality rate was also higher than the state average for American Indian women (9.9) and Asian women (7.7) while the rates of White non-Hispanic (5.6) and Hispanic or Latino (5.5), were below the state average.

Note: [a] Rate is the number of fetal deaths per 1,000 live births and fetal deaths.

Figure 1C-6
Fetal Mortality Rates by Mother's Age Group, Arizona, 2020



Fetal mortality rates vary by maternal age (**Figure 1C-6**). In 2020 fetal mortality rates were lowest for women aged 25-29 years and highest for women aged 35 years and older. The fetal mortality rate for mothers aged 35 and older increased slightly from 7.7 in 2019 to 8.0 in 2020.

Note: [a] Rate is the number of fetal deaths per 1,000 live births and fetal deaths.

TABLE 1C-1
MATERNAL DEATHS[a] BY AGE GROUP AND YEAR, ARIZONA, 2010-2020

Year	Total maternal deaths[b]	Under <15	15-19	20-24	25-29	30-34	35-39	40-44	45+
2010	10†	0	*	*	*	*	*	*	*
2011	10†	0	0	*	*	0	*	*	0
2012	20†	0	0	0	*	*	*	*	*
2013	10†	0	0	*	*	*	*	0	*
2014	10†	0	*	0	*	0	*	*	*
2015	10†	0	0	0	*	0	*	*	0
2016	30†	0	*	*	*	7	*	*	0
2017	20†	0	*	*	*	*	9	*	0
2018	30†	0	0	*	*	9	6	*	9
2019	40†	0	0	*	6	10	11	*	9
2020	40†	0	*	*	9	12	8	*	0

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Maternal deaths are those assigned to complications of pregnancy, childbirth, and puerperium, category codes O00-O99 of the Tenth Revision of the *International Classification of Diseases;* [b] May include cases with unknown age.

TABLE 1C-2
MATERNAL DEATHS BY CAUSE AND YEAR, ARIZONA, 2010-2020

Cause of death (ICD-9 / ICD-10 codes)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
PREGNANCY WITH ABORTIVE OUTCOME (O00-O07)	0	0	0	*	*	0	*	0	0	0	0
Ectopic pregnancy (O00)	0	0	0	0	*	0	0	0	0	0	0
COMPLICATIONS MAINLY RELATED TO PREGNANCY (O10-016)	*	*	*	*	*	*	*	6	*	0	*
COMPLICATIONS OCCURRING IN THE COURSE OF LABOR AND DELIVERY (O60-O75)	0	0	0	*	0	*	0	0	*	0	*
COMPLICATIONS OF THE PUERPERIUM[a] (O85-O92)	*	*	7	0	0	*	*	6	*	*	*
ALL OTHER	*	*	8	*	7	*	20	11	30	40	35
TOTAL	10†	10†	20†	10†	10†	10†	30†	23	30†	40†	40†

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Complications following childbirth are category codes from Tenth Revision of the *International Classification of Diseases*.

TABLE 1C-3
FETAL AND PERINATAL DEATHS AND RATES BY YEAR, ARIZONA, 2010-2020

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
NUMBER OF ALL REPORTED FETAL DEATHS Includes spontaneous and induced terminations of pregnancy at 20 or more weeks of gestation (or if gestational age unknown, the deaths of fetuses of at least 350 grams or more) and some stillbirths prior to 20 weeks and of any weight. Excludes fetal deaths occurring in Arizona to out-of-State residents.	671	714	654	775	885	861	615	605	588	640	620
NUMBER OF REPORTABLE FETAL DEATHS Includes spontaneous and induced terminations of pregnancy at 20 or more weeks of gestation (or if gestational age is unknown, the deaths of fetuses of at least 350 grams in weight).	581	619	588	554	653	665	613	602	583	638	617
NUMBER OF REPORTABLE SPONTANEOUS FETAL LOSSES Includes spontaneous terminations of pregnancy at 20 or more weeks of gestation (or if gestational age is unknown, the deaths of fetuses of at least 350 grams in weight). Excludes induced terminations of pregnancy.	443	470	470	545	519	524	486	481	472	489	477
RATE OF REPORTABLE SPONTANEOUS FETAL LOSSES[a]	**5.1**	**5.5**	**5.5**	**6.4**	**6.0**	**6.1**	**5.7**	**5.9**	**5.8**	**6.1**	**6.2**
NUMBER OF PERINATAL DEATHS	483	465	487	483	551	510	475	472	501	453	434
Spontaneous fetal losses of 28 or more weeks of gestation	214	216	221	262	265	275	236	238	247	247	223
Infant deaths of less than 7 days	269	249	266	221	286	235	239	234	254	206	211
PERINATAL DEATH RATE[b]	**5.5**	**5.4**	**5.7**	**5.7**	**6.5**	**6.0**	**5.6**	**5.8**	**6.2**	**5.7**	**5.6**

Notes: [a] Per 1,000 live births + reportable spontaneous fetal losses of 20 or more weeks of gestation; [b] Per 1,000 live births + spontaneous fetal losses of 28 or more weeks of gestation.

TABLE 1C-4
SELECTED CHARACTERISTICS OF REPORTABLE SPONTANEOUS[a] FETAL LOSSES BY YEAR, ARIZONA, 2010-2020

Characteristic		Year										
		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total reportable spontaneous fetal losses		443	470	470	545	519	524	486	481	472	489	477
Gender	**Male**	229	218	239	260	293	296	248	226	222	271	236
	Female	208	245	222	256	222	225	227	234	246	215	219
	Unknown	6	7	9	29	*	*	11	21	*	*	22
Mother's race/ethnicity	**White non-Hispanic**	156	192	195	247	205	200	204	207	205	187	186
	Hispanic or Latino	198	181	181	205	182	227	195	171	174	196	177
	Black or African American	39	27	36	40	48	50	47	47	42	58	50
	American Indian or Alaska Native	30	43	43	40	47	40	36	40	36	37	41
	Asian or Pacific Islander	17	27	15	13	17	7	*	16	15	11	23
	Refused/Unknown	*	0	0	0	20	0	0	0	0	0	0
Mother's age group	**<15**	*	0	*	0	0	0	0	0	0	0	*
	15-17	18	14	16	18	25	18	10	7	8	7	10
	18-19	33	35	37	34	27	30	27	25	16	26	16
	20-24	104	117	130	115	120	101	94	104	85	89	107
	25-29	114	111	100	159	131	135	123	118	138	132	123
	30-34	74	114	98	123	117	122	121	125	125	133	116
	35-39	75	56	58	79	67	83	71	75	75	76	86
	40-44	20	22	27	13	30	27	36	18	22	24	14
	45+	*	*	*	*	0	*	*	*	*	0	*
	Unknown	*	0	*	*	*	*	*	6	0	*	0
Gestational age[b]	**20-27 weeks**	227	255	248	282	250	248	239	241	223	242	254
	28+ weeks	214	215	221	262	265	275	236	238	247	247	223
	Unknown	*	0	*	*	*	*	11	*	*	0	0
Weight in grams	**<350 grams**	105	96	119	108	99	117	97	99	93	120	103
	350-499	66	80	68	73	74	75	77	75	60	61	73
	500-2,499	173	193	179	229	236	216	217	199	216	202	210
	2,500-3,999	74	80	87	103	85	85	77	81	91	95	71
	4,000+	20	11	14	6	9	9	6	14	8	7	12
	Unknown	*	10	*	26	16	22	12	13	*	*	8

Notes: * Cell suppressed due to non-zero count less than 6; [a] Includes spontaneous terminations of pregnancy at 20 or more weeks of gestation (or if gestational age is unknown, the deaths of fetuses of at least 350 grams in weight), excludes abortions; [b] For statistical purposes, fetal deaths are classified according to gestational age; a death that occurs at 20 or more weeks of gestation constitutes a fetal death, and after 28 weeks it is considered a late fetal death.

1D.

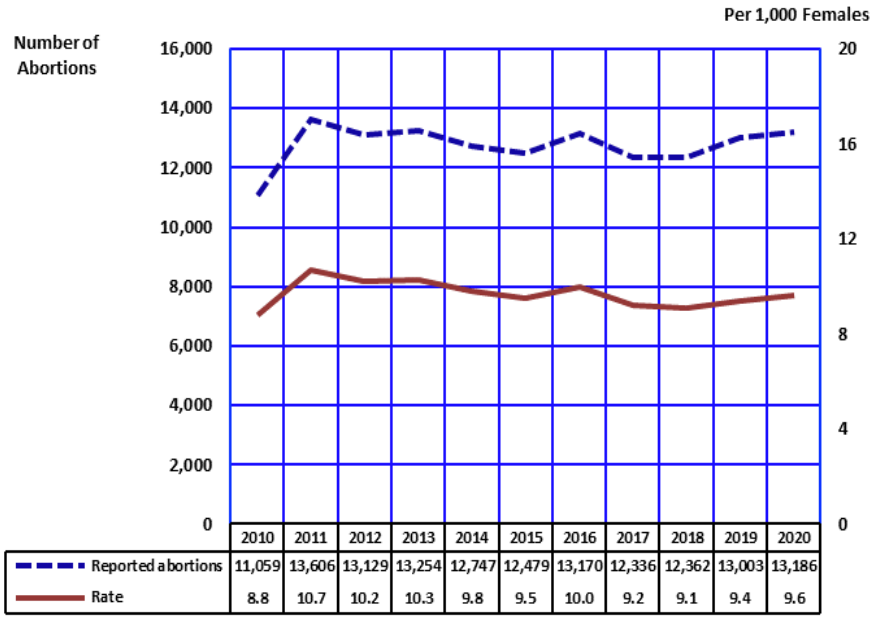
ABORTIONS

The Arizona Department of Health Services was authorized by Arizona Revised Statute §36-2161 to require healthcare facilities, providers, and physicians to submit abortion procedure reports to the department in order to develop statewide annual abortion statistics and demographic characteristics of women obtaining abortions in Arizona as required by the Arizona Revised Statute § 36-2163.

In 2010, SB1304 was passed by the legislature that statutorily required the reporting of abortions and treatment of complications associated with abortions. In addition, the Administrative Office of the Courts was required to report the number of petitions received by the court for authorization to perform abortions on unemancipated minors as prescribed in Arizona Revised Statutes §36-2152. The collection of this information began on July 29, 2010.

Based on the information collected on race/ethnicity in the abortion reporting system, the racial/ethnic groups described in this section differ from that of other sections. In 2020, 2.4 percent (314) of abortion records had race and ethnicity identified as unknown, and 2.5 percent (323) of abortion records had two or more racial/ethnic groups identified. Due to the proportion of information on race/ethnicity that could not be categorized by the five racial/ethnic groups used through this report, this section reports numbers for records with unknown or multiple race information as separate groups.

Figure 1D-1
Number of Reported Abortions and Abortion Rates[a] by Year, Arizona Residents, 2010-2020



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Reported abortions	11,059	13,606	13,129	13,254	12,747	12,479	13,170	12,336	12,362	13,003	13,186
Rate	8.8	10.7	10.2	10.3	9.8	9.5	10.0	9.2	9.1	9.4	9.6

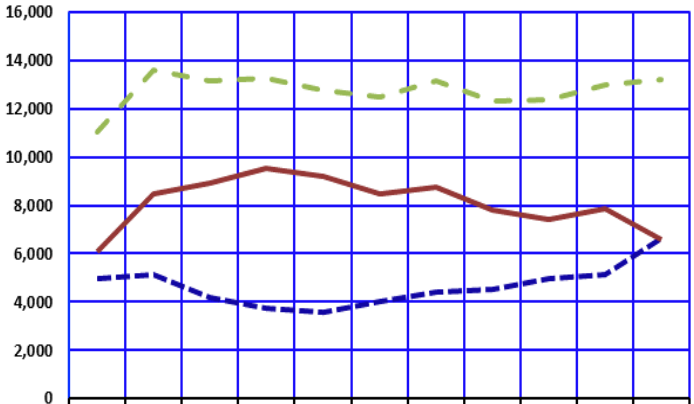
Notes: [a] Number of abortions per 1,000 females 15-44 years old. The sharp increase in number of reported abortions and rates was due to enhanced surveillance as noted in the abortion report.

During calendar year 2020, the Arizona Department of Health Services received a total of 13,186 reports of abortions obtained by Arizona residents, 183 more than the 13,003 reported in 2019 (**Figure 1-D1**, **Table 1D-1**).

There were 13,140 abortions in non-hospital clinics (**Table 1D-1**). Hospitals accounted for 41 abortion procedures, with less than 6 procedures being performed outside of clinics and hospitals.

Ninety-one percent of all reported abortions occurred at or before 13 weeks of pregnancy. Few reported abortions occurred after 14 or more weeks of gestation (T**able 1D-3**).

Figure 1D-2
Trends in the Number of Surgical and Non-Surgical Abortions by Year, Arizona Residents, 2010-2020



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Non-surgical	4,983	5,108	4,198	3,731	3,550	3,996	4,412	4,529	4,973	5,156	6,624
Surgical	6,076	8,485	8,931	9,523	9,197	8,479	8,752	7,807	7,389	7,847	6,562
Total	11,059	13,606	13,129	13,254	12,747	12,479	13,170	12,336	12,362	13,003	13,186

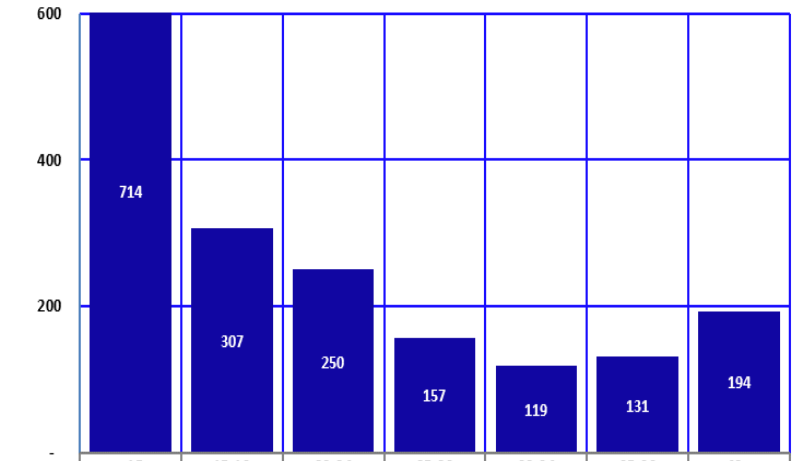
The rate of induced terminations of pregnancy per 1,000 female residents aged 15-44 increased from 9.4 in 2019 to 9.6 in 2020 (**Figure 1D-1**).

Trends in the percent of abortions conducted through surgical and non-surgical from 2010 to 2020 indicate shifting practices in methods used to complete abortions. In 2010, 54.9 percent of all abortion procedures were surgical procedures. Since then, the proportion of abortions conducted through surgical means has decreased, with 49.8 percent of all abortion procedures conducted in 2020 being surgical procedures.

Abortion ratios (the number of abortions per 1,000 live births in each age group) vary by age at reported termination of pregnancy. Ratios tend to be higher at the extremes of the age distribution of the childbearing period, i.e., among women under age 15 and those aged 40 years or older (**Figure-1D-3**).

A comparison of abortion ratios by race/ethnicity is provided in **Table 1D-2**.

Figure 1D-3
Abortion Ratios[a] by Age Group, Arizona Residents, 2020

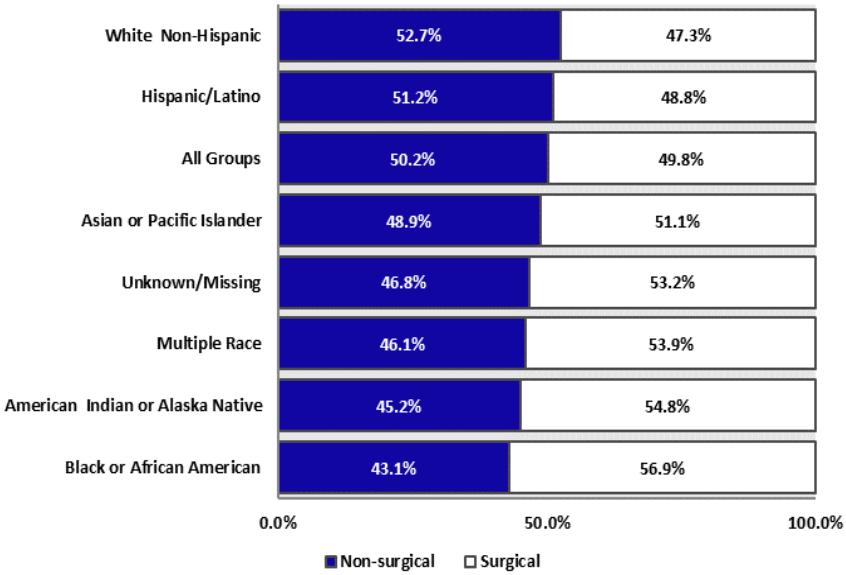


	<15	15-19	20-24	25-29	30-34	35-39	40+
Abortions	20	1,198	4,011	3,633	2,501	1,359	464
Births	28	3,906	16,020	23,135	20,947	10,347	2,396
Ratio	714	307	250	157	119	131	194

Note: [a] Number of reported abortions per 1,000 live births in specified group.

In 2020, non-surgical (also called "medical") abortions made up 50.2 percent of all procedures reported in Arizona. The proportion of non-surgical abortion was the highest among White non-Hispanic, and exceeded the average for all groups (**Figure 1D-4**). The proportion of surgical abortions was highest among Black or African American women than women of other racial/ethnic groups.

Figure 1D-4
Proportional Contribution of Non-Surgical[a] and Surgical Abortions by Race/Ethnicity, Arizona Residents, 2020



Notes: [a] Non-surgical: Mifepristone, Methotrexate, Cytotec, etc.; Reporting changes related to race/ethnicity makes comparisons with previous years difficult.

TABLE 1D-1
CHARACTERISTICS OF WOMEN RECEIVING ABORTIONS, ARIZONA, 2010-2020

Characteristics	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ABORTIONS PERFORMED IN ARIZONA	11,438	14,401	13,340	13,401	12,900	12,655	13,332	12,533	12,438	13,097	13,273
RESIDENT ABORTIONS	11,059	13,606	13,129	13,254	12,747	12,479	13,170	12,336	12,362	13,003	13,186
RACE/ETHNICITY											
White non-Hispanic	5,241	2,385	1,904	2,515	5,562	5,378	5,321	4,762	4,807	4,798	4,684
Hispanic or Latino	3,422	4,274	3,393	4,189	4,499	4,350	4,823	4,639	4,679	5,093	5,349
Black or African American	476	145	116	189	981	1,074	1,253	1,196	1,229	1,372	1,594
American Indian	218	48	38	61	291	331	340	348	315	344	372
Asian or other Pacific Islander	254	47	75	110	534	532	608	598	552	612	550
Multiple race[a]	NA	4,442	2,985	4,257	361	175	244	216	259	290	323
Refused/Unknown	1,448	2,265	4,618	1,933	519	639	581	577	521	494	314
AGE											
19 years and under	1,512	1,785	1,539	1,441	1,249	1,189	1,297	1,179	1,146	1,169	1,218
20-29 years	6,278	7,814	7,602	7,676	7,520	7,265	7,680	7,245	7,212	7,520	7,644
30 years and over	3,113	4,007	3,987	4,136	3,978	4,021	4,186	3,912	4,004	4,314	4,324
Not stated	156	NA	*	*	0	*	7	0	0	0	0
YEARS OF EDUCATION											
Elementary/secondary (1-12)	4,316	4,757	3,615	2,400	1,372	2,561	3,234	3,228	3,457	3,971	3,820
College (1-4 or 5+)	3,199	2,252	2,518	2,522	2,706	3,203	3,801	3,365	2,966	3,355	3,045
Not stated or unknown	3,544	6,597	6,996	8,332	8,064	6,715	6,135	5,743	5,939	5,677	6,321
WEEKS OF GESTATION											
12 weeks or under	9,967	12,156	11,677	11,767	11,232	11,062	11,762	10,917	10,924	11,510	11,708
13 weeks or over	948	1,427	1,432	1,487	1,507	1,411	1,396	1,419	1,438	1,493	1,478
Not stated or unknown	144	23	20	0	8	6	12	0	0	0	0
FACILITY											
Clinic	9,689	14,358	13,072	13,023	12,671	12,065	13,139	12,301	12,308	12,957	13,140
Hospital	16	42	54	152	70	24	27	31	51	41	41
Other	[d]1,354	0	*	79	6	390	*	*	*	*	*

TABLE 1D-1 (continued)
CHARACTERISTICS OF WOMEN RECEIVING ABORTIONS, ARIZONA, 2010-2020

Characteristics	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
PREVIOUS LIVE BIRTHS											
None	4,867	5,820	5,829	5,810	5,201	5,267	5,586	5,326	5,430	5,656	5,705
One or more	6,178	7,772	7,280	7,387	7,337	7,187	7,542	6,972	6,856	7,212	7,365
PREVIOUS ABORTIONS											
None	6,746	8,382	8,445	8,450	7,872	7,843	8,177	7,900	7,893	8,406	8,503
One or more	4,282	5,183	4,616	4,672	4,616	4,549	4,913	4,365	4,346	4,424	4,533
PREVIOUS SPONTANEOUS TERMINATIONS OF PREGNANCY											
None	9,300	11,257	10,941	10,825	10,241	10,146	10,462	9,930	9,932	10,460	10,532
One or more	1,643	2,301	2,108	2,283	2,213	2,220	2,613	2,307	2,302	2,324	2,456
NONSURGICAL ABORTIONS											
	4,983	5,108	4,198	3,731	3,550	3,996	4,412	4,529	4,973	5,156	6,624
ABORTION RATE[b]	**127.0**	**159.7**	**153.2**	**156.0**	**147.1**	**146.8**	**156.0**	**151.1**	**153.5**	**164.2**	**171.7**
ABORTION RATE[c]	**8.8**	**10.7**	**10.2**	**10.3**	**9.8**	**9.5**	**10.0**	**9.2**	**9.1**	**9.4**	**9.6**

Notes: * Cell suppressed due to count less than 6; [a] Multiple race data was not available for previous years (2007-2010); [b] Number of abortions per 1,000 women giving birth; [c] Number of abortions per 1,000 women of childbearing age (15 - 44 years old); [d] Outpatient Surgical Centers in 2010.

TABLE 1D-2
PROPORTION, RATES, AND RATIOS[a] OF ABORTIONS BY RACE/ETHNICITY PER YEAR, ARIZONA, 2010-2020

Race and Ethnicity	Year										
	2010	2011[e]	2012	2013	2014	2015	2016	2017	2018	2019	2020
Percent of Abortions[b]											
White non-Hispanic	47.4	17.5	14.5	19.0	43.6	43.1	40.4	38.6	38.9	36.9	35.5
Hispanic or Latino	30.9	31.4	25.8	31.6	35.3	34.9	36.6	37.6	37.8	39.2	40.6
Black or African American	4.3	1.1	0.9	1.4	7.7	8.6	9.5	9.7	9.9	10.6	12.1
American Indian or Alaska Native	2.0	0.4	0.3	0.5	2.3	2.7	2.6	2.8	2.5	2.6	2.8
Asian or Pacific Islander	2.3	0.3	0.6	0.8	4.2	4.3	4.6	4.8	4.5	4.7	4.2
Multiple races	NA	32.6	22.7	32.1	2.8	1.4	1.9	1.8	2.1	2.2	2.5
Refused/Unknown	13.1	16.6	35.2	14.6	4.1	5.1	4.4	4.7	4.2	3.8	2.4
Abortion Rates[c]											
White non-Hispanic	8.2	3.7	2.9	3.8	8.6	8.3	8.3	7.4	7.5	7.4	7.3
Hispanic or Latino	8.0	9.9	7.7	9.3	10.6	9.1	9.9	9.3	9.2	9.7	10.2
Black or African American	8.5	2.5	2.0	3.2	12.8	16.3	18.4	17.0	16.8	18.0	20.2
American Indian or Alaska Native	3.2	0.6	0.6	0.9	3.4	5.1	5.2	5.2	4.7	5.1	5.7
Asian or Pacific Islander	5.2	0.9	1.6	2.3	8.5	9.2	10.1	9.9	8.8	9.1	8.1
Multiple races	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Refused/Unknown	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Abortion Ratio[d]											
White non-Hispanic	135	62	49	66	139	141	141	133	138	141	142
Hispanic or Latino	100	132	102	127	133	127	142	140	142	156	168
Black or African American	110	33	25	40	217	246	286	260	264	282	334
American Indian or Alaska Native	37	8	7	11	57	65	68	72	67	77	91
Asian or Pacific Islander	77	13	21	32	169	164	181	180	169	194	185
Multiple races	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Refused/Unknown	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes: [a] Number of resident abortions performed in Arizona per 1,000 resident live births in specified race/ethnicity group; [b] Proportion of total abortions by ethnicity and/or race represented as a percentage. Percentages are calculated using the total number of reported abortions as the denominator and the number of reported abortions for a specific ethnicity and/or race as the numerator. Percents do not add up to a 100 due to rounding errors, multiple race and unknown ethnicity/race categories; [c] Calculated using the number of abortions obtained by women, ages 15-44 in a given race and/or ethnic group per 1,000 women in the same group; [d] Calculated using the number of abortions per 1,000 live births; [e] Beginning 2011, rates and ratios should be interpreted with caution due to the addition of the Multiple Race and Unknown categories. Single race selections are the best estimates for rates and ratios.

TABLE 1D-3
ABORTIONS BY WEEK OF GESTATION AND AGE GROUP, ARIZONA, 2020

Age	Gestational Age					
	≤13 weeks		14 to 20 weeks		≥21 or more weeks	
	Count	Percent	Count	Percent	Count	Percent
<15 yrs	14	70.0	6	30.0	0	0.0
15-19 yrs	1,053	87.9	122	10.2	23	1.9
20-24 yrs	3,660	91.2	303	7.6	48	1.2
25-29 yrs	3,349	92.2	254	7.0	30	0.8
30-34 yrs	2,291	91.6	172	6.9	38	1.5
35-39 yrs	1,227	90.3	105	7.7	27	2.0
≥40 yrs	433	93.3	28	6.0	*	**
Totals	**12,027**	**91.2**	**990**	**7.5**	**170†**	**1.3**

Notes: * Cell suppressed due to count less than 6; ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; † Sum rounded to nearest tens unit due to addend less than 6.

TABLE 1D-4
ABORTIONS BY WEEK OF GESTATION AND RACE/ETHNICITY, ARIZONA, 2020

Week of gestation	Total	Race/ethnicity						
		White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander	Multiple race	Refused / Unknown race
Total	13,186	4,684	5,349	1,594	370†	550†	320†	310†
6 weeks or less	3,771	1,452	1,442	406	73	197	80	121
7	2,801	995	1,144	355	56	119	56	76
8	1,892	666	803	227	55	61	44	36
9	1,516	517	652	177	48	42	56	24
10	784	263	332	103	33	25	16	12
11	612	187	273	79	21	26	13	13
12	332	108	139	44	11	12	16	*
13	319	103	123	48	14	13	7	11
14	263	83	106	38	12	11	10	*
15	260	89	102	26	17	11	6	9
16	130†	43	39	31	6	*	*	*
17	80†	25	29	17	*	*	*	*
18	90†	28	35	14	*	6	*	*
19	90†	36	36	10	*	*	*	0
20	70†	23	29	7	6	*	*	0
21+	170†	66	65	12	8	12	*	*

Notes: * Cell suppressed due to count less than 6; † Sum rounded to nearest tens unit due to addend less than 6.

CHAPTER 2

TRENDS AND PATTERNS IN MORTALITY, ARIZONA, 2010-2020

2A. TOTAL MORTALITY

2B. LEADING CAUSES OF DEATH

2C. AGE-SPECIFIC MORTALITY

- INFANT MORTALITY
- CHILDHOOD MORTALITY
- ADOLESCENT MORTALITY
- YOUNG ADULT MORTALITY
- MIDDLE-AGED ADULT MORTALITY
- ELDERLY MORTALITY

2D. PATTERNS OF PREMATURE MORTALITY

2A.

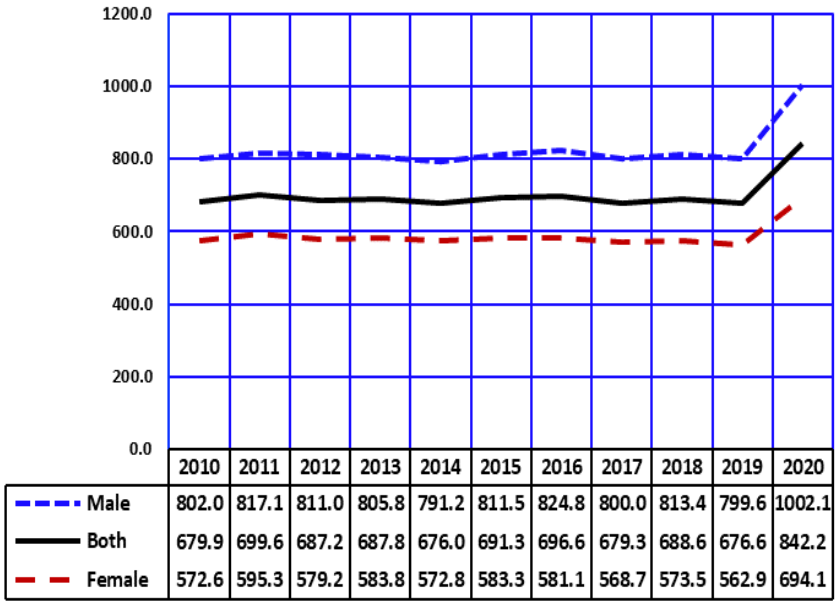
TOTAL MORTALITY

The total number of deaths from all causes among Arizona residents increased by 25.8 percent from 60,161 in 2019 to 75,700 in 2020 (**Table 2A-1**). The age-adjusted mortality rate for all causes of death increased from 676.6/100,000 in 2019 to 842.2/100,000 in 2020. When considering race/ethnicity, we observe an increase in the age adjusted mortality of all racial/ethnic groups in 2020 compared to 2010 and 2015 **(Figure 2A-2)**.

Between 2019 and 2020, the increase in mortality affected all but one leading causes of death. A 3.7 percent reduction in the number of deaths was recorded only for intentional self-harm (suicide) 1,411 deaths in 2019 compared to 1,359 deaths.

There were some disparities by gender and race/ethnicity for total mortality. Deaths in Arizona by residents in 2020 mostly occurred in December (12.0 percent) and the smallest counts were recorded in February (7.0 percent) **(Table 2A-3)**.

Figure 2A-1
Age-adjusted Mortality Rates[a] for all Causes by Gender and Year, Arizona, 2010-2020



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	802.0	817.1	811.0	805.8	791.2	811.5	824.8	800.0	813.4	799.6	1002.1
Both	679.9	699.6	687.2	687.8	676.0	691.3	696.6	679.3	688.6	676.6	842.2
Female	572.6	595.3	579.2	583.8	572.8	583.3	581.1	568.7	573.5	562.9	694.1

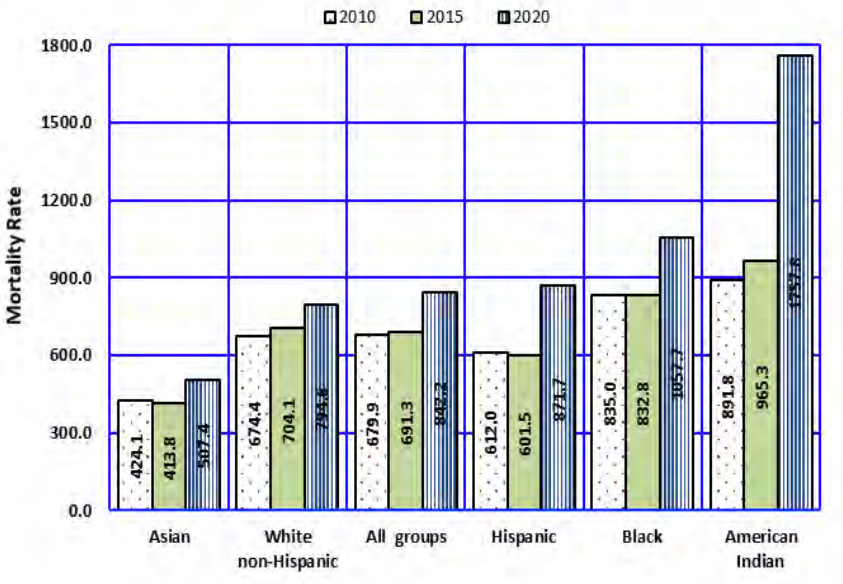
The age-adjusted mortality rates discussed below are based on the year 2000 population standard. All mortality rates in sections 2A and 2B are age-adjusted. A detailed explanation of the age-adjustment of mortality rates is given in the ***Technical Notes***.

The total age-adjusted mortality rate increased by 24.5 percent, from 676.6 deaths per 100,000 population in 2019 to 842.2 deaths in 2020 (**Figure 2A-1, Table 2B-2**). Over this period, the age-adjusted mortality rates increased for both males (25.3 percent) and females (23.3 percent).

The gap between male and female mortality rates remained between 2010 and 2020. In each year during the 11-year period, the male age-adjusted mortality rate was almost 1.4 times higher than the female age-adjusted mortality annually.

Note: [a] Number of deaths per 100,000 persons (adjusted to the 2000 standard U.S. population).

Figure 2A-2
Age-adjusted Mortality Rates[a] for all Causes by Race/Ethnicity and Year, Arizona Residents, 2010, 2015, and 2020



The 2020 age-adjusted death rates for the major racial/ethnic groups were as follows: for Asian or Pacific Islander, 507.4 deaths per 100,000 population; Hispanic or Latino, 871.7; White non-Hispanic, 794.6; Black or African American, 1057.7; and American Indian or Alaska Native, 1757.8 (**Figure 2A-2, Table 2B-4**).

In 2020, as in 2010 and 2015, American Indians and Blacks had higher total mortality rates than White non-Hispanics, Hispanics, and Asians. The total mortality rates for Asians were lower than the rates of both White non-Hispanics and Hispanics in 2010, 2015, and 2020.

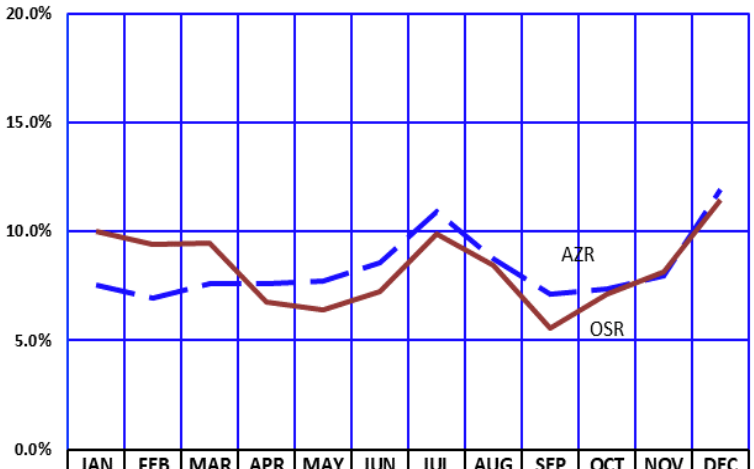
Note: [a] Number of deaths per 100,000 persons (adjusted to the 2000 standard U.S. population).

If there was no monthly variation in proportional contribution to total annual deaths, 8.3 percent (100/12) of deaths should occur monthly. However, when the monthly distribution of resident deaths is examined, the month of December (12.0 percent), July (10.9 percent), August (8.7 percent), and June (8.6 percent) contributed more than the expected value (**Figure 2A-3**). February was the month with the lowest percent contribution to the total annual deaths among Arizona residents (AZR).

The majority of the 3,653 non-residents who died in Arizona during 2020 did so during the months of December, January, July, March, and February.

September was the month with the lowest percent contribution (5.6 percent) to the annual death among out-of-State residents (OSR) who died in Arizona.

Figure 2A-3
Percent of Annual Deaths by Month of Occurrence and Residence Status, Arizona, 2020

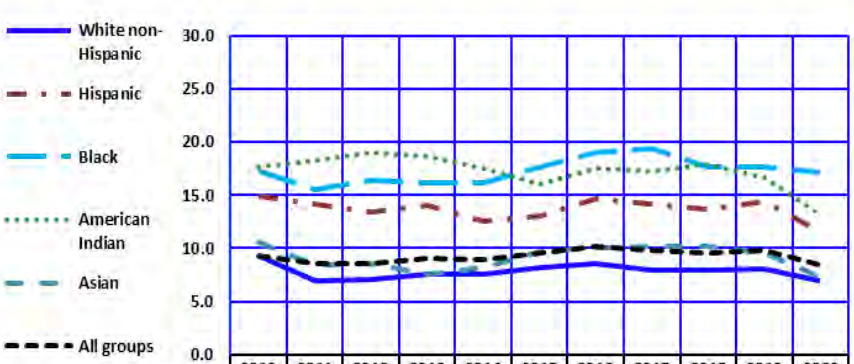


	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
AZR	7.5%	7.0%	7.6%	7.6%	7.7%	8.6%	10.9%	8.7%	7.1%	7.4%	8.0%	12.0%
OSR	10.0%	9.4%	9.5%	6.8%	6.4%	7.2%	9.9%	8.4%	5.6%	7.1%	8.2%	11.4%

Autopsies were reported as performed on 6,432 decedents, or 8.5 percent of the deaths that occurred among Arizona residents in 2020. From 2010 – 2020, the percentage of deaths for which autopsies were reported varied from 9.3 percent in 2010, to a low of 8.6 percent in 2011 and 2012, a high of 10.1 percent in 2016, then 8.5 percent in 2020, making it the lowest percentage among the time period.

The percentage autopsied varies by the decedent's demographic characteristics. By race/ethnicity (**Figure 2A-4**) the percentage autopsied was the lowest for White non-Hispanic than for other racial/ethnic groups. The prevalence of autopsies was substantially greater among Black, American Indian, and Hispanic or Latino sub-populations. A substantial portion of the differential in the use of autopsy by race/ethnicity reflects differences in the age and manner of death. For example, autopsies tend to be more common at younger ages and for deaths by homicide, suicide, accidents, and undetermined manner.

Figure 2A-4
Percentage of Deaths for which Autopsies were Reported by Race/Ethnicity and Year, Arizona Residents, 2010-2020



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
White non-Hispanic	9.3	6.9	7.0	7.6	7.6	8.2	8.6	8.0	7.9	8.0	6.9
Hispanic	14.9	14.2	13.4	14.0	12.5	13.1	14.7	14.2	13.7	14.4	11.5
Black	17.3	15.5	16.4	16.1	16.2	17.7	19.0	19.4	17.7	17.7	17.2
American Indian	17.6	18.3	19.0	18.7	17.5	16.0	17.5	17.2	17.9	16.6	13.2
Asian	10.5	8.4	8.5	7.6	8.2	9.7	10.0	10.2	10.2	9.5	7.3
All groups	9.3	8.6	8.6	9.1	8.9	9.5	10.1	9.8	9.6	9.8	8.5

TABLE 2A-1
NUMBER OF DEATHS BY RACE/ETHNICITY, GENDER, AND YEAR, ARIZONA RESIDENTS, 2010-2020

		2010	2011	2012[a]	2013[a]	2014[a]	2015[a]	2016[a]	2017[a]	2018[a]	2019[a]	2020
TOTAL	**Total**	45,871	47,547	48,459	49,929	51,074	54,152	56,480	57,261	59,206	60,161	75,700
	Male	24,163	24,785	25,577	26,222	27,037	28,814	30,431	30,721	32,067	32,575	41,431
	Female	21,708	22,762	22,874	23,703	24,034	25,334	26,046	26,537	27,136	27,585	34,269
White non-Hispanic	**Total**	36,066	37,211	38,629	39,543	40,391	42,750	44,092	44,191	45,194	45,467	54,148
	Male	18,693	19,307	20,206	20,550	21,207	22,504	23,439	23,375	24,150	24,334	28,990
	Female	17,373	17,904	18,416	18,989	19,181	20,242	20,653	20,816	21,044	21,133	25,158
Hispanic or Latino	**Total**	5,374	5,575	5,963	6,300	6,444	6,839	7,343	7,539	8,088	8,488	12,504
	Male	2,959	2,982	3,323	3,412	3,543	3,814	4,154	4,197	4,629	4,770	7,277
	Female	2,415	2,593	2,640	2,888	2,901	3,025	3,189	3,341	3,458	3,718	5,227
Black or African American	**Total**	1,336	1,399	1,509	1,593	1,578	1,742	1,925	1,896	2,057	2,207	2,932
	Male	735	734	803	897	852	971	1,108	1,076	1,104	1,205	1,723
	Female	601	665	706	696	726	771	817	820	953	1,002	1,209
American Indian or Alaska Native	**Total**	1,781	1,681	1,806	1,955	2,074	2,140	2,346	2,355	2,527	2,599	4,290
	Male	1,015	876	993	1,103	1,152	1,187	1,365	1,334	1,445	1,463	2,412
	Female	766	805	812	852	922	953	981	1,021	1,081	1,136	1,878
Asian or Pacific Islander	**Total**	487	528	552	538	582	673	769	796	886	957	1,199
	Male	258	269	252	260	280	334	364	377	419	492	586
	Female	229	259	300	278	302	339	405	419	467	465	613
Refused / Unknown race	**Total**	827	1,153	[b]	[b]	10†	10†	0†	484	454	443	627
	Male	503	617	[b]	[b]	*	*	*	362	320	311	443
	Female	324	536	[b]	[b]	*	*	*	120	133	131	184

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Deaths with unknown gender or unknown race/ethnicity were included in total; [b] Bridging of race/ethnicity in 2012 and 2013 differed from previous years. Individuals with unknown race were categorized as White non-Hispanic, while individuals with unknown race and Hispanic ethnicity were coded as Hispanic.

TABLE 2A-2
RESIDENT MORTALITY BY MONTH OF OCCURRENCE AND YEAR, ARIZONA, 2010-2020

Month of death		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
JAN	Count	3,950	4,321	4,210	5,079	4,824	5,028	5,119	5,111	6,219	5,595	5,693
	Percent	8.6%	9.1%	8.7%	10.2%	9.4%	9.3%	9.1%	8.9%	10.5%	9.3%	7.5%
FEB	Count	3,582	4,070	4,147	4,383	4,227	4,267	5,135	4,514	4,832	4,724	5,275
	Percent	7.8%	8.6%	8.6%	8.8%	8.3%	7.9%	9.1%	7.9%	8.2%	7.9%	7.0%
MAR	Count	4,084	4,358	4,414	4,484	4,333	4,819	5,387	5,070	5,353	5,372	5,745
	Percent	8.9%	9.2%	9.1%	9.0%	8.5%	8.9%	9.5%	8.9%	9.0%	8.9%	7.6%
APR	Count	3,845	3,967	4,176	4,231	4,278	4,547	4,689	4,854	4,922	5,029	5,768
	Percent	8.4%	8.3%	8.6%	8.5%	8.4%	8.4%	8.3%	8.5%	8.3%	8.4%	7.6%
MAY	Count	3,811	3,899	3,980	4,076	4,291	4,527	4,603	4,867	4,768	5,098	5,833
	Percent	8.3%	8.2%	8.2%	8.2%	8.4%	8.4%	8.1%	8.5%	8.1%	8.5%	7.7%
JUN	Count	3,651	3,823	3,868	3,831	4,072	4,396	4,464	4,782	4,666	4,689	6,483
	Percent	8.0%	8.0%	8.0%	7.7%	8.0%	8.1%	7.9%	8.4%	7.9%	7.8%	8.6%
JUL	Count	3,843	3,791	3,862	3,926	4,071	4,338	4,496	4,739	4,761	4,923	8,243
	Percent	8.4%	8.0%	8.0%	7.9%	8.0%	8.0%	8.0%	8.3%	8.0%	8.2%	10.9%
AUG	Count	3,756	3,913	3,850	3,893	4,112	4,338	4,432	4,534	4,647	4,848	6,603
	Percent	8.2%	8.2%	7.9%	7.8%	8.1%	8.0%	7.8%	7.9%	7.8%	8.1%	8.7%
SEP	Count	3,633	3,678	3,849	3,804	3,994	4,183	4,253	4,423	4,505	4,755	5,390
	Percent	7.9%	7.7%	7.9%	7.6%	7.8%	7.7%	7.5%	7.7%	7.6%	7.9%	7.1%
OCT	Count	3,678	3,888	3,956	3,868	4,184	4,284	4,501	4,548	4,619	4,858	5,566
	Percent	8.0%	8.2%	8.2%	7.7%	8.2%	7.9%	8.0%	7.9%	7.8%	8.1%	7.4%
NOV	Count	3,806	3,753	3,894	3,924	4,239	4,543	4,518	4,547	4,706	5,058	6,048
	Percent	8.3%	7.9%	8.0%	7.9%	8.3%	8.4%	8.0%	7.9%	7.9%	8.4%	8.0%
DEC	Count	4,232	4,086	4,253	4,430	4,449	4,882	4,883	5,272	5,208	5,212	9,053
	Percent	9.2%	8.6%	8.8%	8.9%	8.7%	9.0%	8.6%	9.2%	8.8%	8.7%	12.0%
TOTAL	Count	45,871	47,547	48,459	49,929	51,074	54,152	56,480	57,261	59,206	60,161	75,700
	Percent	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TABLE 2A-3
DEATHS BY DAY AND MONTH OF OCCURRENCE, ARIZONA RESIDENTS, 2020

Day of death	Month of death												Total
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1	176	181	192	193	229	170	247	265	185	164	200	232	2,434
2	191	175	186	168	160	226	255	227	183	188	205	236	2,400
3	194	195	213	200	203	205	269	239	175	179	183	244	2,499
4	214	178	189	177	182	188	279	227	218	188	190	265	2,495
5	203	175	162	196	214	195	264	228	175	159	214	274	2,459
6	179	174	196	215	193	201	269	218	203	185	179	243	2,455
7	184	161	200	207	205	196	259	223	175	181	201	310	2,502
8	204	166	160	194	191	201	294	203	199	177	159	257	2,405
9	200	174	195	178	212	184	298	216	169	185	182	281	2,474
10	183	169	177	209	194	206	280	217	167	160	164	280	2,406
11	202	175	211	174	167	213	257	217	179	164	182	274	2,415
12	165	179	187	207	174	217	262	215	181	201	188	302	2,478
13	184	189	178	199	195	242	298	240	153	169	178	264	2,489
14	182	190	182	178	198	207	285	200	210	170	194	302	2,498
15	184	199	154	170	178	226	302	197	166	176	202	294	2,448
16	203	185	187	194	195	221	286	224	198	167	190	269	2,519
17	186	192	192	171	175	213	267	235	192	186	225	304	2,538
18	159	163	178	170	167	212	249	205	163	153	204	316	2,339
19	180	194	176	200	183	220	273	214	168	184	213	308	2,513
20	179	168	187	189	164	231	288	210	175	203	249	303	2,546
21	171	206	180	204	175	209	269	203	165	174	229	332	2,517
22	185	176	187	174	187	221	258	184	203	170	211	339	2,495
23	189	176	186	225	198	233	246	211	171	197	217	311	2,560
24	175	195	196	182	181	223	243	191	172	187	230	311	2,486
25	157	167	202	197	191	231	252	198	183	192	205	281	2,456
26	182	187	176	216	177	235	234	206	202	184	203	297	2,499
27	178	187	179	186	192	237	270	200	181	155	228	330	2,523
28	187	202	153	201	179	250	263	223	169	179	199	333	2,538
29	168	197	187	180	188	215	236	215	152	204	200	318	2,460
30	162	[redacted]	210	214	190	254	257	169	158	208	224	311	2,357
31	187	[redacted]	187	[redacted]	196	[redacted]	234	183	[redacted]	177	[redacted]	332	1,496
Total	5,693	5,275	5,745	5,768	5,833	6,483	8,243	6,603	5,390	5,566	6,048	9,053	75,700

TABLE 2A-4
AGE-SPECIFIC MORTALITY BY PLACE OF DEATH AND DECEDENT STATUS, ARIZONA, 2020

		Age												
		<1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	Un-known	Total
IN HOSPITAL	In-patient	303	43	36	201	521	781	1,497	3,385	4,949	5,035	3,020	0	19,771
	Out-patient[a]	58	30	25	192	306	315	419	710	792	650	366	0	3,863
	Died on arrival	0	0	0	*	*	*	*	*	*	*	8	0	30†
	Status unknown	28	17	41	287	534	735	1,355	3,298	5,714	7,231	7,315	0	26,555
	Subtotal	389	90	102	680†	1,360†	1,840†	3,270†	7,400†	11,460†	12,920†	10,709	0	50,218
NOT IN HOSPITAL	Nursing home[b]	7	*	8	18	42	101	250	812	1,343	1,759	1,854	0	6,200†
	Residence	0	0	0	*	7	23	91	303	806	1,259	1,970	0	4,460†
	Other[c]	8	7	29	381	652	658	702	1,176	1,825	3,375	6,006	*	14,824
	Unspecified	0	0	0	0	0	0	0	0	0	0	0	0	0
	Subtotal	15	10†	37	400†	701	782	1,043	2,291	3,974	6,393	9,830	10†	25,482
TOTAL		404	101	139	1,082	2,065	2,618	4,316	9,687	15,434	19,310	20,539	5	75,700

Notes:* Cell suppressed due to count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; [a] Includes Emergency Room; [b] Includes other long-term care facilities; [c] Includes hospices.

2B.

LEADING CAUSES OF DEATH

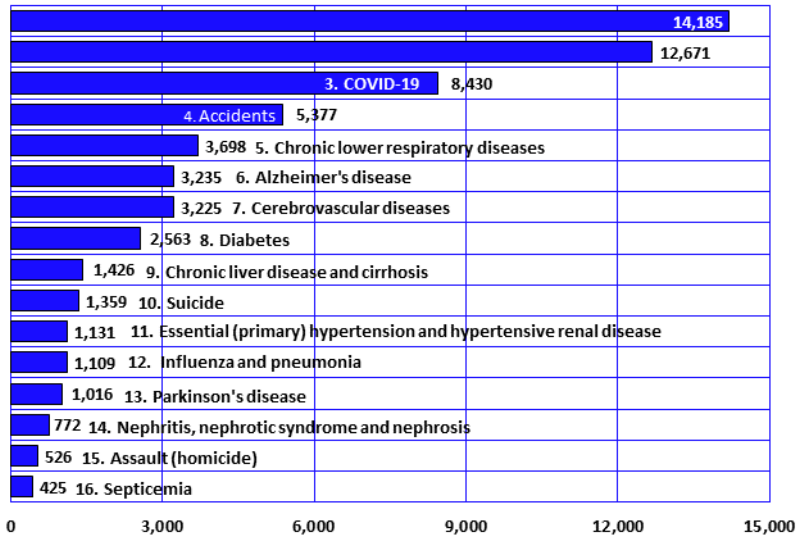
In 2010, the Office of Vital Records (OVR) of the Arizona Department of Health Services implemented the new (version 2003) Standard U.S. death certificate. The new certificate added several new questions: 1) whether tobacco use contributed to the death, and 2) whether, if the decedent was a female, the death was "pregnancy-associated" (defined as death from any cause during pregnancy or within one calendar year of delivery or pregnancy termination).

The death certificate now includes a new classification of the decedent's racial/ethnic status, consistent with the revised federal standards for collecting and reporting racial and ethnic status. These standards were published in the Federal Register on October 30, 1997, as "Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity." The revised standards are available on the OMB (the Office of Management and Budget) web-site at: https://www.whitehouse.gov/omb.

There are now 15 racial categories (including Guamanian or Chamorro; Samoan or Native Hawaiian) to choose from. It is also permitted to indicate more than one race for a decedent. To create frequency counts of race and ethnicity that were adequate to compute statistically reliable mortality rates, race was "bridged", or essentially collapsed into 5 categories; White non-Hispanic, Hispanic or Latino, Black or African American, Native American or Alaska Native, and Asian or Pacific Islander. When an individual was identified as both Hispanic and any other race, that person was added to the racial/ethnic group with the lowest population. For example, a person identified as both White and Hispanic would be coded as Hispanic, where a person identified as American Indian and Hispanic would be coded as American Indian. Please refer to the technical appendix for further explanation of the racial bridging used in this report.

Figure 2B-1A
Leading Causes of Death among Arizona Residents in 2020

BASED ON THE NUMBER OF DEATHS DUE TO THE UNDERLYING CAUSE:

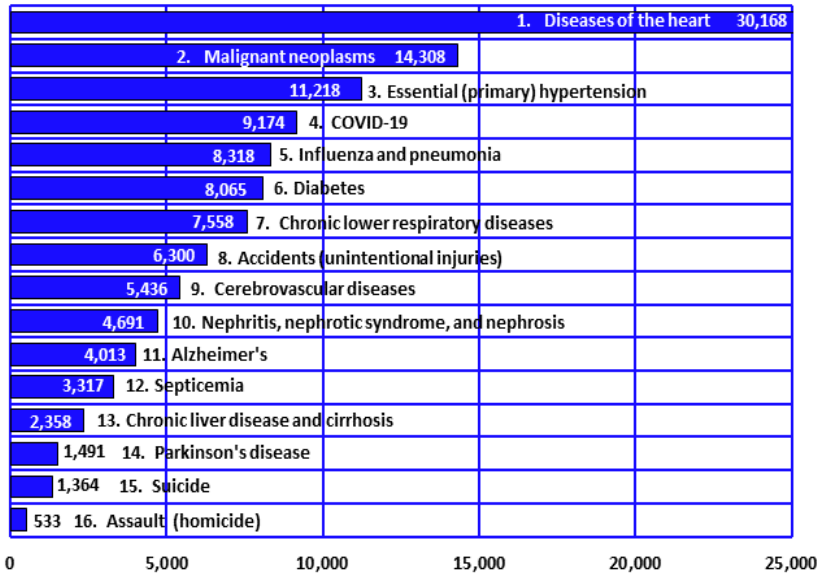


Based on the number of deaths (but not age-adjusted mortality rate), the leading underlying cause of death to Arizona residents in 2020 was *heart disease* (14,185 or 18.7 percent of all deaths), closely followed by *cancer*, which accounted for 12,671 or 16.7 percent of deaths (**Figure 2B-1A**, **Table 2B-1**, **Table 5E-14**).

The third leading cause of death, *COVID-19* accounted for 8,430 or 11.1 percent of total deaths. Deaths due to *accidents (unintentional injuries)* ranked fourth in 2020, with 5,377 (7.1 percent) resident deaths reported. Deaths due to *chronic lower respiratory diseases* ranked fifth in 2020, with 3,698 (4.9 percent) resident deaths reported. Together, these five causes accounted for 58.6 percent of total deaths in 2020. The fifteen leading causes accounted for 80.2 percent of all deaths among Arizona residents.

Figure 2B-1B
Leading Causes of Death among Arizona Residents in 2020

BASED ON THE NUMBER OF DEATHS DUE TO ANY MENTION OF A CAUSE:



For the purpose of mortality statistics, every death is attributed to one underlying condition or underlying cause of death. The underlying cause is defined as the disease or injury that initiated the chain of events leading directly to death. It is selected from up to 20 causes and conditions entered by the physician on the death certificate. The totality of all these conditions is known as multiple cause of death.

In addition to 14,185 deaths that had diseases of the heart assigned as the underlying cause, another 15,983 deaths had diseases of the heart assigned as a secondary cause of death. The sum of these two counts (30,168, **Figure 2B-1B**) is the total number of deaths that had any mention of diseases of the heart on the 2020 death certificates. The ranking based on any mention of the 15 diagnostic categories is different from ranking of the leading causes of death based on the underlying cause. In particular, *Essential (primary) hypertension* ranked 11th as the underlying cause but ranked 3rd when any mention of it was counted.

It is important to note that (**Figures 2B-2, 2B-3, 2B-4, and 2B-5)** are based on the age-adjusted mortality rates and not on the number of deaths.

In 2020, diseases of the heart were the leading cause of death for White non-Hispanics, Blacks, and Asians but placed 2nd for Hispanics and 3rd for American Indians. Cancer ranked 2nd leading cause of death for White non-Hispanics, Black or African Americans, and Asians but ranked 3rd for Hispanics and 4th for American Indians. In 2020, COVID-19 was the leading cause of death for Hispanics and American Indians, 3rd for Blacks and Asians, and 4th for White non- Hispanics. Unintentional injury ranked 2nd for American Indians, 3rd for White non-Hispanics, and 4th for Hispanics and Blacks. (**Figure 2B-2, Table 2B-4**).

In 2020, Cerebrovascular diseases was 4th leading cause of death specific to Asians. Diabetes ranked 5th among the leading causes of death for Hispanics, Blacks, and American Indians. Chronic lower respiratory disease was the fifth leading cause of death specific to White non-Hispanics, and Alzheimer's disease ranked in 5th specific to Asians. (**Table 2B-4**).

Figure 2B-2
Age-adjusted Mortality Rates[a] for the Five Leading Causes of Death for Both Genders by Race/Ethnicity, Arizona, 2020

Rank	White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander
1	Diseases of heart 154.9	COVID-19 185.8	Diseases of heart 212.3	COVID-19 492.3	Diseases of heart 91.0
2	Cancer 138.9	Diseases of heart 125.5	Cancer 169.4	Unintentional injury 180.1	Cancer 87.9
3	Unintentional injury 69.2	Cancer 114.8	COVID-19 101.6	Diseases of heart 164.3	COVID-19 72.6
4	COVID-19 55.4	Unintentional injury 60.4	Unintentional injury 82.2	Cancer 116.5	Cerebro-vascular diseases 29.9
5	Chronic lower respiratory diseases 43.1	Diabetes 43.1	Diabetes 51.7	Diabetes 106.4	Alzheimer's disease 28.6

Note: [a] Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

Based on age-adjusted mortality rates, diseases of the heart were the leading cause of death for Black or African American females, while cancer was the leading cause of death for White non-Hispanics and Asians. Diseases of heart ranked 2nd for White non-Hispanics, American Indians, and Asians, 3rd for Hispanics, while Cancer came in 2nd for Hispanics and Blacks, and 4th for American Indians. COVID-19 was the leading cause for Hispanics and American Indians, 3rd for Blacks and Asians but 4th for White non-Hispanics. (**Figure 2B-3**, **Table 2B-4**).

Alzheimer's disease ranked fourth among the leading cause of death for Hispanic, Black, and Asian females. Chronic lower respiratory diseases were the fifth leading cause of death specific to White non-Hispanic females.

Cerebrovascular diseases ranked fifth among Hispanic, Black and Asian females. Chronic liver disease and cirrhosis was unique to American Indian women and ranked fifth among the leading causes of death. While unintentional injury was the third leading cause of death for White non-Hispanic and American Indian women.

Figure 2B-3
Age-adjusted Mortality Rates[a] for the Five Leading Causes of Death by Race/Ethnicity among Females, Arizona, 2020

Rank	White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander
1	Cancer 121.8	COVID-19 126.4	Diseases of heart 164.4	COVID-19 406.9	Cancer 81.5
2	Diseases of heart 120.8	Cancer 100.9	Cancer 141.6	Diseases of heart 113.2	Diseases of heart 74.6
3	Unintentional injury 43.8	Diseases of heart 94.8	COVID-19 83.7	Unintentional injury 104.9	COVID-19 46.6
4	COVID-19 43.2	Alzheimer's disease 40.4	Alzheimer's disease 54.3	Cancer 102.8	Alzheimer's disease 34.7
5	Chronic lower respiratory diseases 41.9	Cerebro-vascular diseases 34.2	Cerebro-vascular diseases 45.9	Chronic liver disease and cirrhosis 95.5	Cerebro-vascular diseases 28.0

Note: [a] Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

2B. LEADING CAUSES OF DEATH
Five Leading Causes by Gender

Figure 2B-4
Age-adjusted Mortality Rates[a] for the Five Leading Causes of Death by Race/Ethnicity among Males, Arizona, 2020

Rank	White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander
1	Diseases of heart 192.5	COVID-19 259.9	Diseases of heart 263.8	COVID-19 605.3	Diseases of heart 112.0
2	Cancer 159.3	Diseases of heart 163.5	Cancer 206.2	Unintentional injury 262.7	COVID-19 110.4
3	Unintentional injury 94.4	Cancer 132.7	Unintentional injury 124.6	Diseases of heart 234.2	Cancer 97.0
4	COVID-19 69.5	Unintentional injury 89.5	COVID-19 123.1	Cancer 138.7	Cerebro-vascular diseases 32.0
5	Chronic lower respiratory diseases 44.4	Diabetes 56.0	Diabetes 61.9	Diabetes 137.7	Diabetes 24.9

Note: [a] Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

Based on age-adjusted mortality rates, diseases of the heart ranked first and second as the leading cause of death for all racial/ethnic groups except for American Indians who ranked third; followed by cancer as the second leading cause for White non-Hispanic and Black males, third for Hispanic and Asian males, and fourth for American Indian males. (**Figure 2B-4**; **Table 2B-4**).

Unintentional injury ranked the second leading cause of death for American Indian males, third among White non-Hispanic and Black males, and fourth for Hispanic males.

In 2020, based on the age-adjusted mortality rates, COVID-19 was the first leading cause of death for Hispanic and American Indian males, second for Asian males, and fourth for White non-Hispanic and Black males. Diabetes was the fifth leading cause of death for Hispanic, Black, American Indian and Asian males, while cerebrovascular diseases ranked fourth specific to Asian males and chronic lower respiratory diseases ranked fifth for White non-Hispanic males.

Figure 2B-5
Age-adjusted Mortality Rates[a] for the Five Leading Causes of Death by Gender in Urban[b] and Rural Areas, Arizona, 2020

Rank	Urban male	Urban female	Rural male	Rural female
1	Diseases of heart 185.1	Diseases of heart 115.8	Diseases of heart 219.3	Diseases of heart 127.6
2	Cancer 152.7	Cancer 115.0	Cancer 167.1	Cancer 127.5
3	COVID-19 113.0	COVID-19 64.3	COVID-19 145.0	COVID-19 93.8
4	Unintentional injury 96.3	Alzheimer's disease 40.8	Unintentional injury 120.7	Unintentional injury 55.4
5	Chronic lower respiratory diseases 38.0	Unintentional injury 40.0	Chronic lower respiratory diseases 53.3	Chronic lower respiratory diseases 46.9

Notes: [a] Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard; [b] Urban = Maricopa, Pima, Pinal, and Yuma counties. The remaining counties comprise Arizona's rural areas.

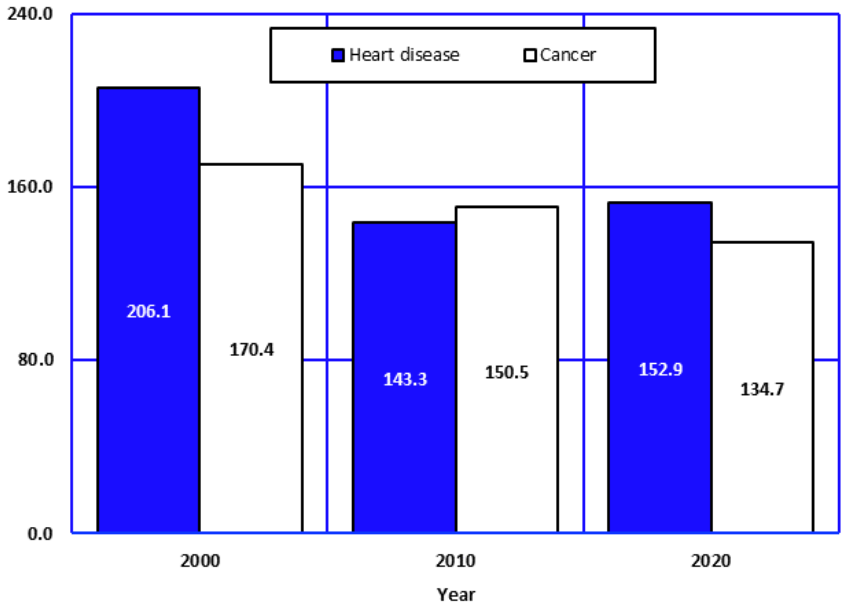
In 2020, the ranking of the leading causes of death were mostly similar by gender for residents of the urban (Maricopa, Pima, Pinal, and Yuma counties) and rural (all the remaining counties) areas of the state (**Figure 2B-5**, **Table 2B-5**). Diseases of the heart exceeded cancer as the leading causes of death among both urban and rural males, as well as urban and rural females. COVID-19 was ranked the third leading cause of death for both urban and rural males and females. Unintentional injury placed fourth among the leading cause for males regardless of area of residence, and rural females, but placed fifth for urban females.

Alzheimer's disease was the fourth leading cause of death specific to urban females. Chronic lower respiratory diseases were the fifth leading cause of death for urban and rural males and rural females.

The age-adjusted mortality rate for diseases of the heart decreased by 25.8 percent from 206.1 deaths per 100,000 population in 2000 to 152.9/100,000 in 2020 (**Figure 2B-6**). The age-adjusted mortality rate for cancer declined less, by 21.0 percent, from 2000-2020. In Arizona, the relative risk of death from heart disease versus cancer changed from 21 percent greater in 2000 to 13.5 percent less in 2020.

In 2010, 704 less Arizonans died from diseases of the heart than cancer (**Table 2B-1**). In 2020, the number of deaths due to diseases of the heart exceeded by 1,514 cases (**Table 2B-4**).

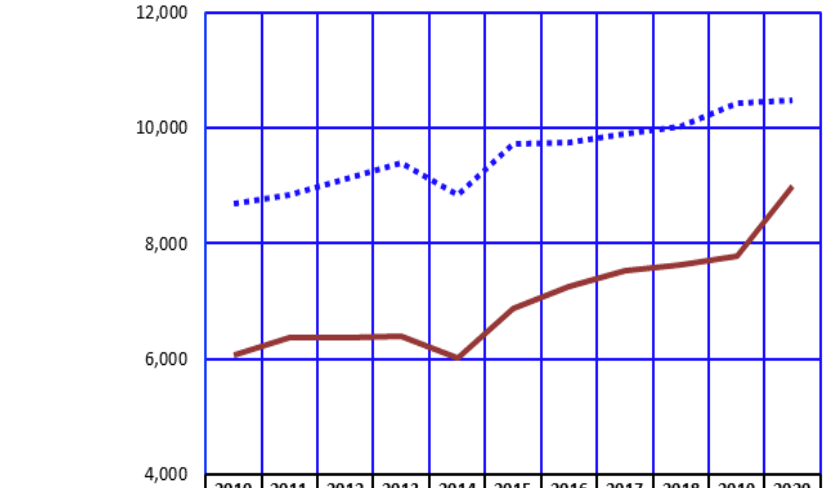
Figure 2B-6
Comparison of Age-adjusted Mortality Rates[a] for Heart Disease and Cancer (Malignant Neoplasm), Arizona, 2000, 2010, and 2020



Note: [a] Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

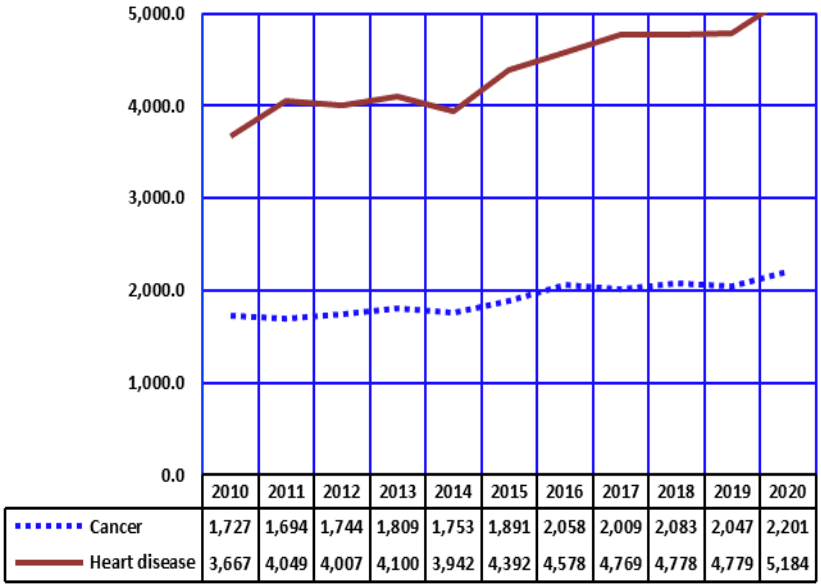
For the past several years, cancer has been the number one cause of death among Arizonans aged 0-84 years (**Figure 2B-7**). Beginning in 1996, the annual number of cancer deaths exceeded the number of deaths from heart disease in this age group. In 2020, 1,469 more Arizonans 0-84 years old died from cancer (10,470) than heart disease (9,001).

Figure 2B-7
Number of Deaths from Heart Disease and Cancer among Arizonans 0-84 Years, 2010-2020



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cancer	8,696	8,849	9,127	9,384	8,847	9,733	9,743	9,908	10,014	10,438	10,470
Heart disease	6,052	6,373	6,359	6,396	6,011	6,882	7,241	7,516	7,632	7,781	9,001

Figure 2B-8
Deaths from Heart Disease and Cancer among Arizonans 85+, 2010-2020

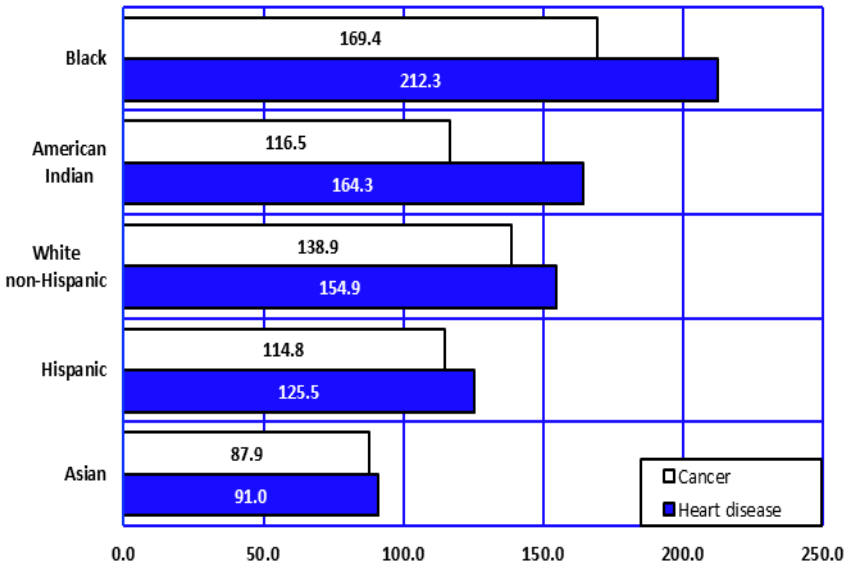


	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Cancer	1,727	1,694	1,744	1,809	1,753	1,891	2,058	2,009	2,083	2,047	2,201
Heart disease	3,667	4,049	4,007	4,100	3,942	4,392	4,578	4,769	4,778	4,779	5,184

Among Arizonans age 85 and over, heart disease is the number one leading cause of death by a wide margin. In 2020, adults aged 85 and over accounted for 17.4 percent of all deaths from cancer but 36.5 percent of all deaths from heart disease. In 2020, the median age at death for heart disease was 80 years (**Table 2D-3**); and a minority of deaths (42 percent, **Table 2D-4**) were premature, i.e., before reaching the expected years of life at birth for all U.S. residents (77.0 years).

However, from 2010 to 2020, the number of deaths from cancer increased by 27.4 percent among Arizonans 85 years or older, less than the increase observed in diseases of the heart (41.4 percent increase).

Figure 2B-9
Age-adjusted Mortality Rates[a] for Heart Disease and Cancer by Race/Ethnicity, Arizona, 2020



In Arizona, Black or African Americans were 2.3 times more likely to die from diseases of the heart and 1.9 times more likely to die from malignant neoplasms in 2020 than Asians, the group with the lowest risk of each respective cause of death (**Figure 2B-9**, **Table 2B-4**). Compared to Asians, White non-Hispanic Arizonans were 1.7 times more likely to die of heart disease and 1.6 times more likely to die of cancer.

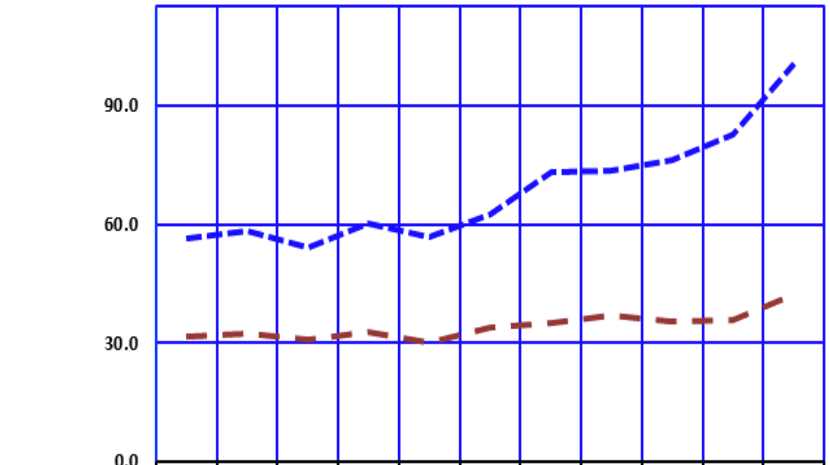
In 2020, the age-adjusted relative risk of death from heart disease exceeded cancer mortality risk (**Table 2B-3**) for all the racial/ethnic groups.

Note: [a] Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

The number of deaths from unintentional injuries increased by 18.9 percent from 4,522 in 2019 to 5,377 in 2020 (**Table 2B-1**). In 2020, based on age-adjusted mortality rates, accidents ranked fourth as a leading cause of death for males and seventh for females (**Table 2B-4**). From 2019 to 2020, the age-adjusted mortality rate for accidents increased both for males (21.8 percent) and females (17.8 percent; **Figure 2B-10**).

In 2020, 1,035 deaths were caused by motor vehicle accidents, an increase of 6.7 percent from 2019. Heat induced mortality has seen an increase of 78.0 percent between 2019 and 2020. Deaths due to accidental drowning and submersion decreased by 1.0 percent from 2019 (n=100) to 2020 (n=99). Additionally, Arizonans experienced a 37.5 percent increase in the number of accidental poisonings due to drugs and/or medicaments from 1,679 fatalities in 2019 to 2,309 in 2020 (**Table 2B-9**).

Figure 2B-10
Age-adjusted Mortality Rates[a] for Accidents (Unintentional Injuries) by Gender and Year, Arizona, 2010-2020



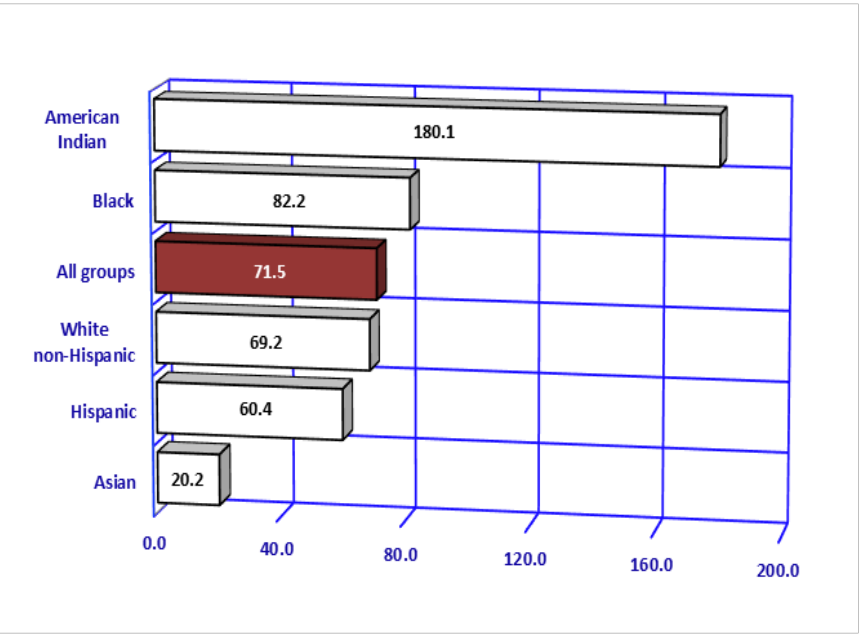
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	56.6	58.3	54.0	60.1	56.7	62.7	73.1	73.7	76.4	82.6	100.6
Female	31.6	32.6	31.0	32.8	30.1	34.1	34.9	37.0	35.6	36.0	42.4

Note: [a] Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

The American Indian death rate for unintentional injuries (180.1/100,000) was 8.9 times greater than the rate for Asians 20.2/100,000), the group with the lowest risk of unintentional injury death among racial/ethnic groups in the state (**Figure 2B-11**, **Table 2B-4**).

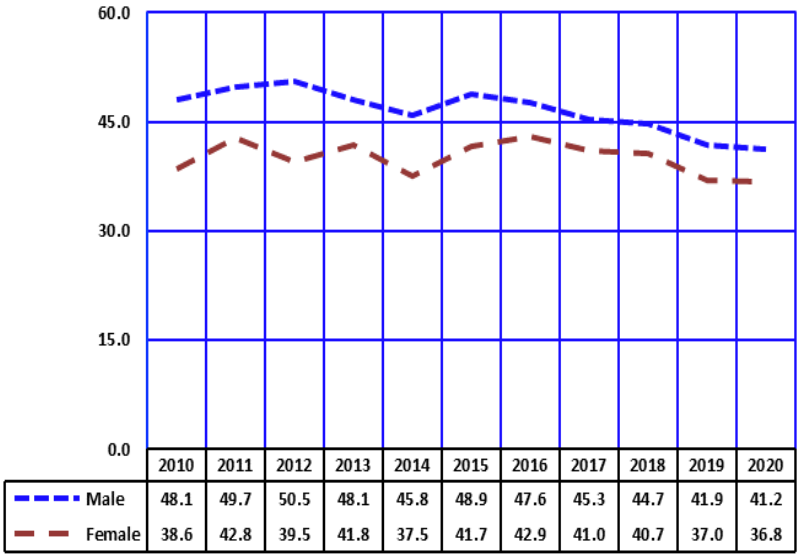
In 2020, Apache (195.3/100,000) and La Paz (193.9/100,000) counties had the two highest age-adjusted mortality rates for unintentional injuries (**Table 5E-11**).

Figure 2B-11
Age-adjusted Mortality Rates[a] for Accidents (Unintentional Injuries) by Race/Ethnicity, Arizona, 2020



Note: [a] Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

Figure 2B-12
Age-adjusted Mortality Rates[a] for Chronic Lower Respiratory Diseases[b] by Gender and Year, Arizona, 2010-2020



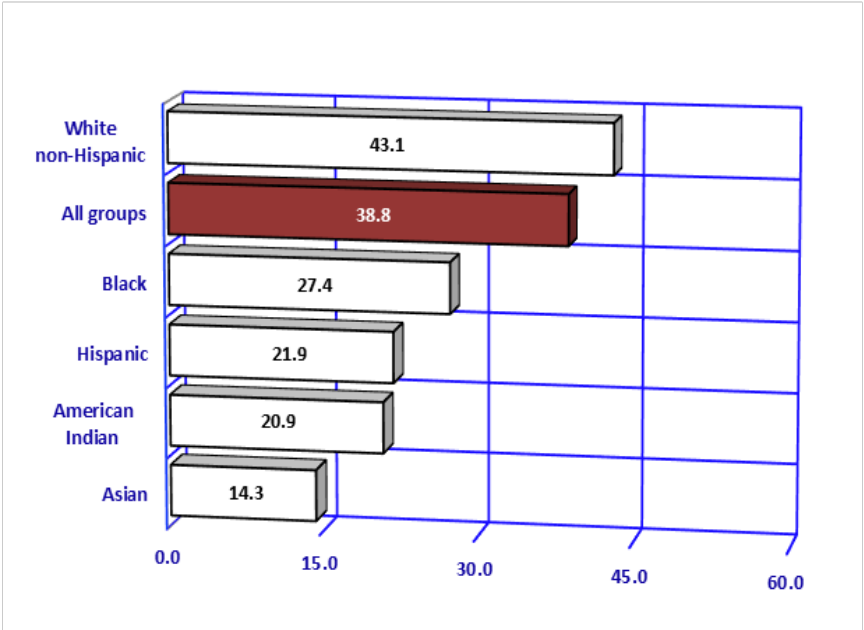
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	48.1	49.7	50.5	48.1	45.8	48.9	47.6	45.3	44.7	41.9	41.2
Female	38.6	42.8	39.5	41.8	37.5	41.7	42.9	41.0	40.7	37.0	36.8

In 2020, chronic lower respiratory diseases (bronchitis, emphysema, asthma) was the 5th leading cause of death among Arizona residents (**Table 2B-1**). The mortality rate for chronic lower respiratory diseases decreased for both genders between 2019 and 2020, but more so among males (1.7 percent) than females (0.5 percent); **Figure 2B-12**, **Table 2B-2**).

Among genders and regional groups, rural males and females experienced the highest mortality due to chronic lower respiratory diseases with rates of 53.3/100,000 and 46.9/100,000, respectively) (**Table 2B-5**).

Notes: [a] Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard; [b] This ICD-10 title corresponds to Chronic Obstructive Pulmonary Disease (ICD-9 title).

Figure 2B-13
Age-adjusted Mortality Rates[a] for Chronic Lower Respiratory Diseases by Race/Ethnicity, Arizona, 2020



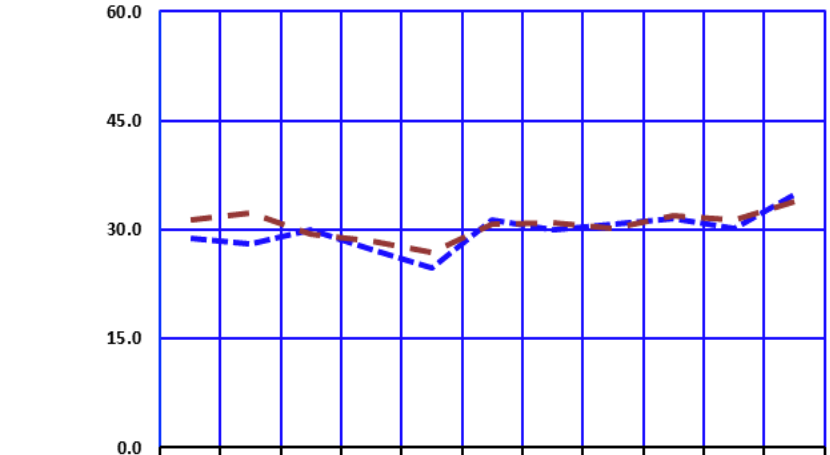
Mortality rates for emphysema, chronic bronchitis, asthma, and other lower respiratory disorders were highest among White non-Hispanics (43.1 deaths per 100,000) when compared to any other racial/ethnic groups in 2020. Asians recorded the lowest rate at 14.3 deaths per 100,000 population **(Figure 2B-13**, **Table 2B-4**).

Note: [a] Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

Cerebrovascular disease and diseases of the heart are two of the leading causes of death that share many risk factors such as hypertension, smoking, obesity, and high levels of cholesterol. The age-adjusted mortality rate for cerebrovascular diseases increased by 11.6 percent from 31.0/100,000 in 2019 to 34.6 deaths per 100,000 population in 2020 (**Table 2B-3**).

With some exceptions, the risk of dying from cerebrovascular diseases was slightly higher among females than males for the period 2010-2020 (7 of the last 11 years), but the rates were very similar. (**Figure 2B-14**, **Table 2B-2**).

Figure 2B-14
Age-adjusted Mortality Rates[a] for Cerebrovascular Disease by Gender and Year, Arizona, 2010-2020

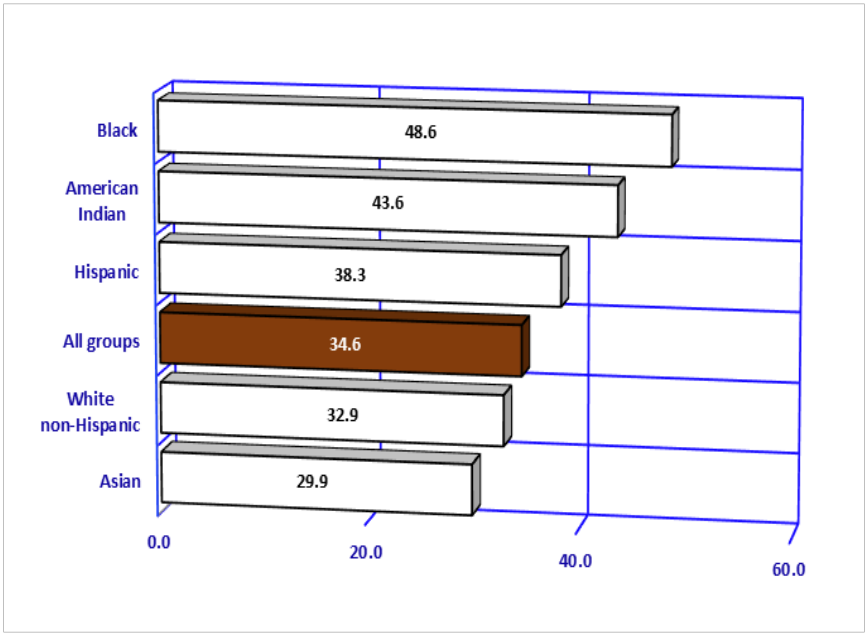


	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	28.9	28.0	30.0	27.2	24.8	31.3	29.9	30.7	31.6	30.2	34.8
Female	31.3	32.3	29.4	28.5	26.8	30.7	30.9	30.2	32.0	31.4	33.8

Note: [a] Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

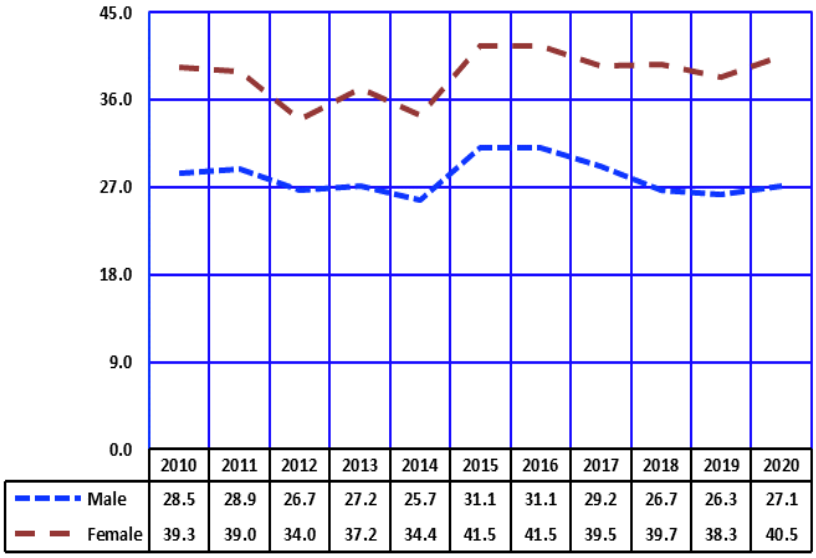
Compared to Arizona's overall rate, Black or African Americans were 1.4 times more likely to die from cerebrovascular disease in 2020 (**Figure 2B-15**, **Table 2B-4**). The 2020 mortality rate for cerebrovascular disease among Asians (29.9/100,000) was the lowest among racial/ethnic groups.

Figure 2B-15
Age-adjusted Mortality Rates[a] for Cerebrovascular Disease by Race/Ethnicity, Arizona, 2020



Note: [a] Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

Figure 2B-16
Age-adjusted Mortality Rates[a] for Alzheimer's Disease by Gender and Year, Arizona, 2010-2020



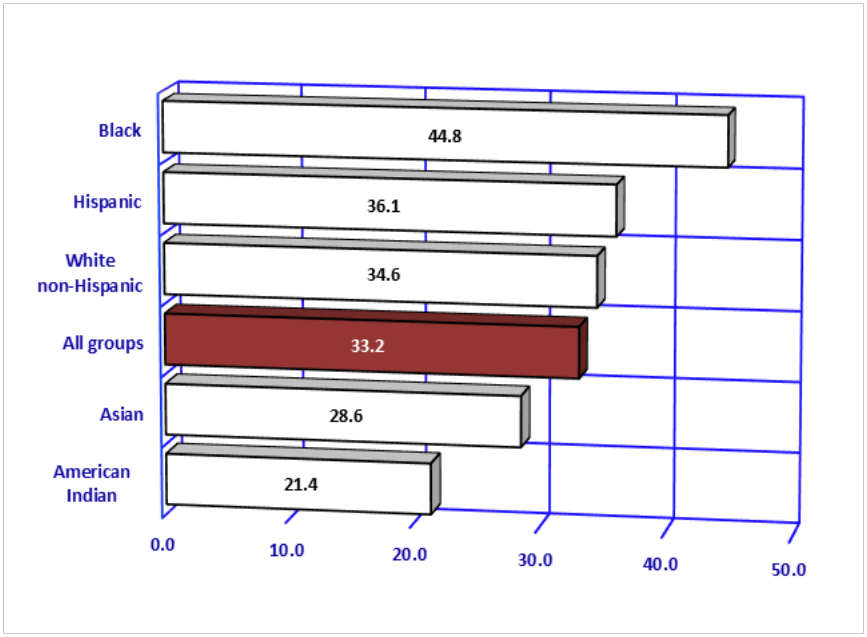
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	28.5	28.9	26.7	27.2	25.7	31.1	31.1	29.2	26.7	26.3	27.1
Female	39.3	39.0	34.0	37.2	34.4	41.5	41.5	39.5	39.7	38.3	40.5

Note: [a] Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

Based on the number of deaths in 2019, Alzheimer's disease was the 4th leading cause of death for females and 8th leading cause for males (**Table 2B-4**)

From 2019 to 2020, the age-adjusted mortality rate for Alzheimer's disease increased for both males (3.0 percent) and females (5.7 percent) (**Figure 2B-16**).

Figure 2B-17
Age-adjusted Mortality Rates[a] for Alzheimer's Disease by Race/Ethnicity, Arizona, 2020



Note: [a] Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

The age-adjusted mortality rates for Alzheimer's disease in 2020 were higher among Black or African Americans (44.8/100,000), Hispanic or Latinos (36.1/100,000), and White non-Hispanics (34.6/100,000) than the other racial/ethnic groups. Rates lower than the state average (33.2/100,000) were recorded among Asians (28.6/100,000) and American Indians (21.4/100,000); **Figure 2B-17**, **Table 2B-4**).

White non-Hispanic residents of Arizona disproportionately contributed to mortality from Alzheimer's disease. In 2020, White non-Hispanics accounted for 55.2 percent (**Table 10C-1**) of the state's population, but 81.9 percent of all deaths from Alzheimer's disease (2,650 out of 3,235; **Table 2B-4**).

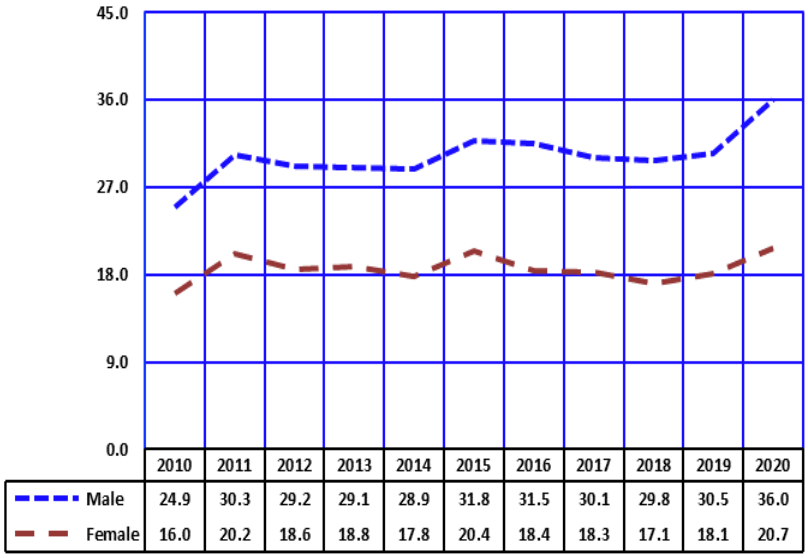
In 2020, the overall median age at death from Alzheimer's disease was 86, specifically 85 years for males and 88 years for females (**Table 2D-3**).

From 2010-2020, mortality rates for diabetes increased for both males (44.6 percent) and females (29.4 percent; **Figure 2B-18**).

In addition to 2,563 deaths that had diabetes assigned as the underlying cause in 2020, another 5,502 deaths had diabetes assigned as a contributing factor. The diabetes-related death rate of 86.8/100,000 (**Table 6A-6**) was 3.1 times greater than the rate for diabetes as an underlying cause (27.9/100,000; **Table 2B-2**).

The diabetes-related death rate includes all mentions of diabetes on the death certificate as the underlying or other than underlying cause.

Figure 2B-18
Age-adjusted Mortality Rates[a] for Diabetes by Gender and Year, Arizona, 2010-2020



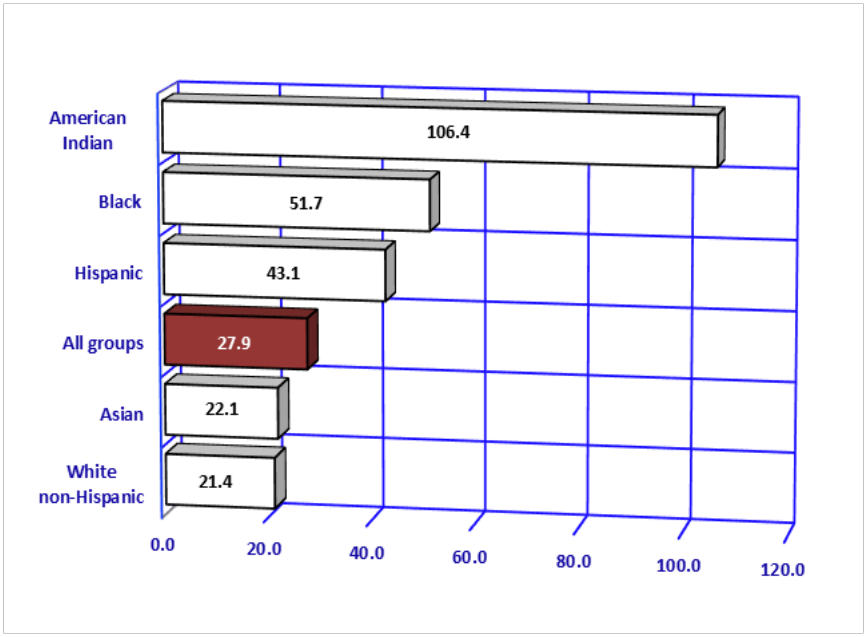
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	24.9	30.3	29.2	29.1	28.9	31.8	31.5	30.1	29.8	30.5	36.0
Female	16.0	20.2	18.6	18.8	17.8	20.4	18.4	18.3	17.1	18.1	20.7

Note: [a] Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

In 2020, compared to Arizona's rate, American Indians were 3.8 times more likely to die from diabetes (106.4 deaths per 100,000; **Figure 2B-19**, **Table 2B-4**). The rate of 21.4 deaths per 100,000 among White non - Hispanics was the lowest rate among all racial/ethnic groups in the state.

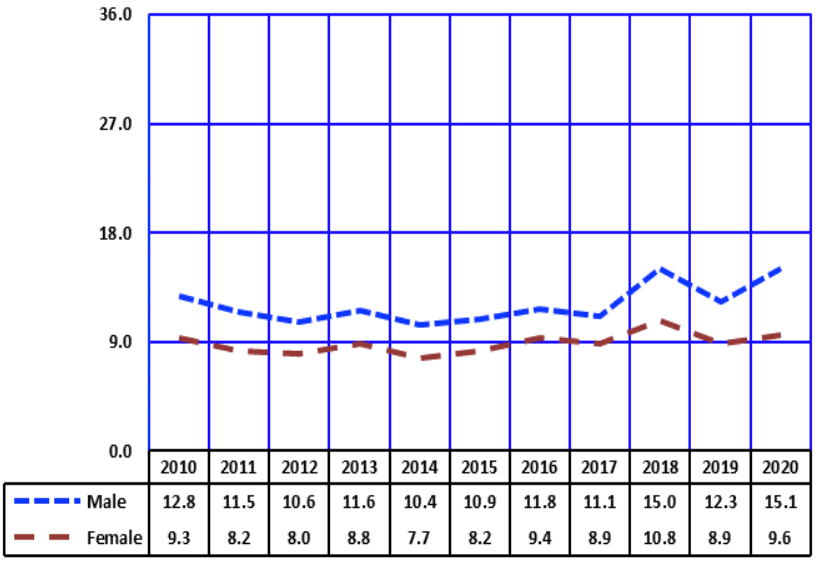
Among the 15 Arizona counties, Apache (83.5/100,000) and Graham (57.4/100,000) counties had the highest mortality rates for diabetes recorded in 2020 (**Table 5E-11**).

Figure 2B-19
Age-adjusted Mortality Rates[a] for Diabetes by Race/Ethnicity, Arizona, 2020



Note: [a] Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

Figure 2B-20
Age-adjusted Mortality Rates[a] for Influenza and Pneumonia by Gender and Year, Arizona, 2010-2020



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	12.8	11.5	10.6	11.6	10.4	10.9	11.8	11.1	15.0	12.3	15.1
Female	9.3	8.2	8.0	8.8	7.7	8.2	9.4	8.9	10.8	8.9	9.6

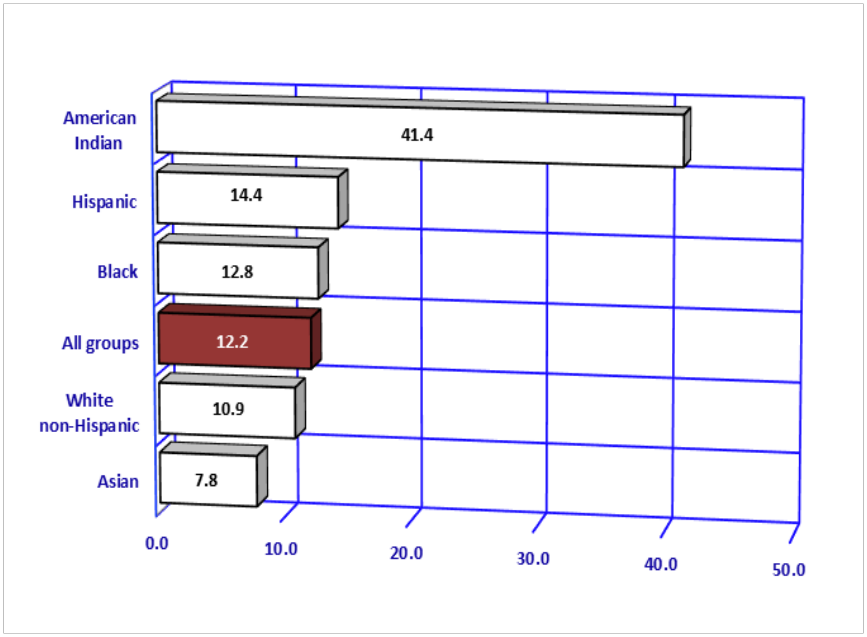
The number of deaths from influenza and pneumonia increased by 52.1 percent from 729 in 2010 to 1,109 in 2020. (**Table 2B-1**). Among the 1,109 deaths, influenza was identified as the underlying cause for 100 of them, while pneumonia was listed as the underlying cause on 1,009 death certificates (**Table 2B-6**).

The mortality rate for influenza and pneumonia increased for females from 8.9 deaths per 100,000 in 2019 to 9.6 deaths in 2020 (**Figure 2B-20, Table 2B-2**). The mortality rate for influenza and pneumonia also increased for males from 12.3 per 100,000 in 2010 to 15.1 deaths per 100,000 in 2020.

In 2020, the age-adjusted mortality rate for Arizona males was 57.3 percent greater than that of Arizona females.

Note: [a] Number of deaths per 100,000 population age-adjusted 2000 U.S. standard.

Figure 2B-21
Age-adjusted Mortality Rates[a] for Influenza and Pneumonia by Race/Ethnicity, Arizona, 2020



In 2020, American Indian residents of Arizona had the highest mortality rate for influenza and pneumonia (41.4 deaths per 100,000) among the racial/ethnic groups. Mortality due to influenza and pneumonia for White non-Hispanics (10.9/100,000) and Asians (7.8/100,000) were lower than the state rate. (**Figure 2B-21**, **Table 2B-4**).

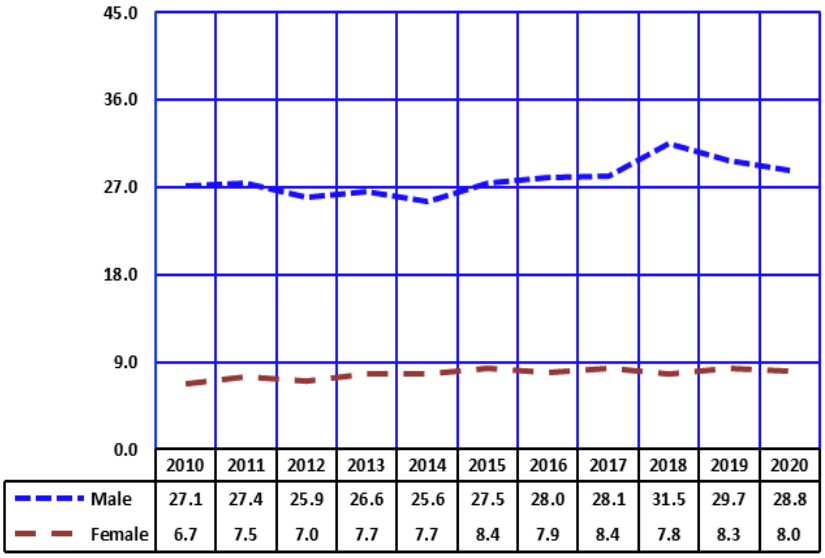
County comparisons show that in 2020 influenza and pneumonia mortality rates were highest in Apache (35.7/100,000) and La Paz (34.4/100,000) counties compared to the remaining counties (**Table 5E-11**).

Note: [a] Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

In 2020, based on age-adjusted mortality rates, suicide was the 9th leading cause of death among males. It ranked as the 12th cause of mortality for females. The overall age-adjusted suicide rate decreased from 18.9 suicides per 100,000 in 2019 to 18.2 in 2020 (**Table 2B-4**).

From 2019 to 2020, suicide mortality decreased by 3.0 percent among males and 3.6 percent among females (**Figure 2B-22**, **Table 2B-4**). In 2020, suicide posed a 3.6 times greater mortality risk for males (28.8/100,000) than for females (8.0/100,000).

Figure 2B-22
Age-adjusted Mortality Rates[a] for Suicide by Gender and Year, Arizona, 2010-2020



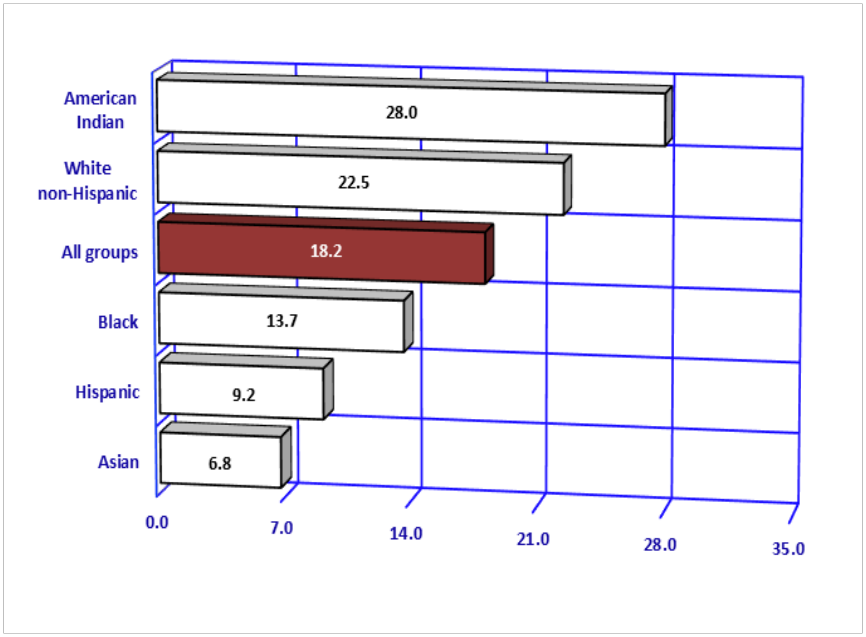
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	27.1	27.4	25.9	26.6	25.6	27.5	28.0	28.1	31.5	29.7	28.8
Female	6.7	7.5	7.0	7.7	7.7	8.4	7.9	8.4	7.8	8.3	8.0

Note: [a] Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

In 2020, American Indians had the highest age-adjusted suicide rate (28.0 suicides per 100,000) among racial/ethnic groups, followed by White non-Hispanics (22.5/100,000), while Asians recorded the lowest age-adjusted suicide rate (6.8/100,000; **Figure 2B-23**, **Table 2B-4**).

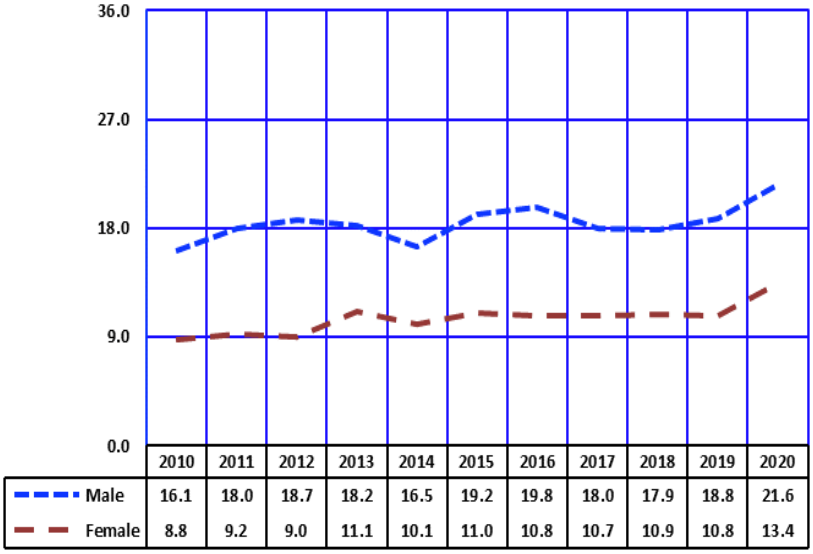
The 2020 age-adjusted mortality rates for suicide varied across the state, from a low rate of 7.8 suicides per 100,000 residents in Santa Cruz County to a high of 50.9 suicides per 100,000 residents in Apache County (**Table 5E-11**).

Figure 2B-23
Age-adjusted Mortality Rates[a] for Suicide by Race/Ethnicity, Arizona, 2020



Note: [a] Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

Figure 2B-24
Age-adjusted Mortality Rates[a] for Chronic Liver Disease and Cirrhosis by Gender and Year, Arizona, 2010-2020



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	16.1	18.0	18.7	18.2	16.5	19.2	19.8	18.0	17.9	18.8	21.6
Female	8.8	9.2	9.0	11.1	10.1	11.0	10.8	10.7	10.9	10.8	13.4

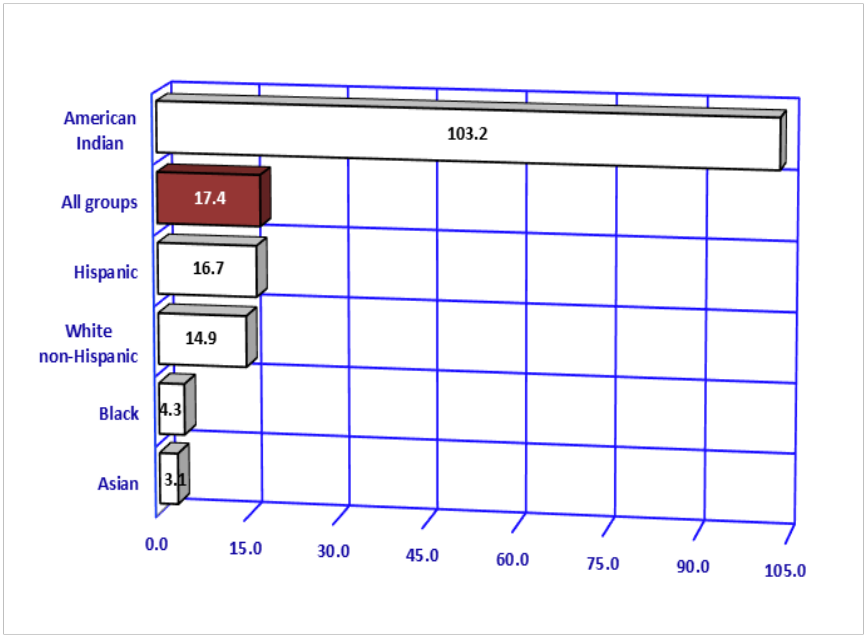
Chronic liver disease and cirrhosis was the 9th leading cause of death in Arizona in 2020 (**Figure 2B-1, Table 2B-1**). Among the 1,426 deaths due to chronic liver disease and cirrhosis, 864 (60.6 percent) were males (**Table 2B-4**).

Among females, the age-adjusted mortality rate for chronic liver disease and cirrhosis increased 24.1 percent from 2019 to 2020. Among males, the mortality rate increased 14.9 percent from 18.8/100,000 in 2019 to 21.6/100,000 in 2020 (**Figure 2B-24**, **Table 2B-3**).

In 2020, Apache, Navajo, La Paz, and Gila counties had the highest mortality rates for chronic liver disease and cirrhosis (**Table 5E-11**).

Note: [a] Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

Figure 2B-25
Age-adjusted Mortality Rates[a] for Chronic Liver Disease and Cirrhosis by Race/Ethnicity, Arizona, 2020



In 2020, chronic liver disease and cirrhosis mortality rate was exceedingly high among American Indians (103.2 deaths per 100,000 population) than any racial/ethnic groups in the state (**Figure 2B-25, Table 2B-4**). The death rate for chronic liver disease and cirrhosis among Asians, Blacks, White non-Hispanics, and Hispanics were all below the state average (17.4 deaths per 100,000 population).

Compared to the median age at death from all causes (76 years), those who died from chronic liver disease and cirrhosis were on average 17 years younger (59 years, **Table 2D-3**). In 2020, the median age at death of American Indians who died from chronic liver disease and cirrhosis was 49 years, which was at least 10 years younger than all the other race/ethnic groups (**Table 2D-3**).

Note: [a] Number of deaths per 100,000 population age-adjusted to the 2000 U.S. standard.

TABLE 2B-1
NUMBER OF DEATHS FOR THE LEADING CAUSES OF MORTALITY BY YEAR, ARIZONA, 2010-2020

Rank in 2010	Rank in 2020	Cause of death	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
2	1	Diseases of heart	9,719	10,424	10,366	10,497	9,953	11,274	11,820	12,285	12,410	12,560	14,185
1	2	Malignant neoplasms	10,423	10,543	10,871	11,193	10,600	11,624	11,801	11,917	12,097	12,485	12,671
-	3	COVID-19[±]	-	-	-	-	-	-	-	-	-	-	8,430
4	4	Accidents (unintentional injury)	2,834	2,959	2,804	3,137	3,011	3,403	3,899	4,085	4,211	4,522	5,377
3	5	Chronic lower respiratory diseases	2,892	3,143	3,167	3,295	3,185	3,648	3,788	3,779	3,820	3,678	3,698
5	6	Alzheimer's disease	2,314	2,336	2,154	2,384	2,345	2,942	3,081	3,050	3,011	3,045	3,235
6	7	Cerebrovascular diseases	2,051	2,067	2,096	2,047	1,995	2,463	2,536	2,647	2,829	2,848	3,225
7	8	Diabetes	1,372	1,721	1,698	1,744	1,776	2,050	2,013	2,037	2,041	2,170	2,563
9	9	Chronic liver disease and cirrhosis	843	933	971	1,040	984	1,120	1,169	1,122	1,159	1,211	1,426
8	10	Intentional self-harm (suicide)	1,070	1,113	1,070	1,116	1,124	1,233	1,256	1,304	1,432	1,411	1,359
12	11	Essential primary hypertension and hypertensive renal disease	498	725	739	711	758	896	1,010	1,018	928	1,009	1,131
10	12	Influenza and pneumonia	729	649	635	724	669	739	859	852	1,113	947	1,109
13	13	Parkinson's disease	488	545	579	578	569	719	712	749	790	806	1,016
11	14	Nephritis, nephrotic syndrome and nephrosis	516	409	440	391	353	498	485	535	680	759	772
15	15	Assault (homicide)	404	387	376	383	294	364	416	430	416	409	526
14	16	Septicemia	425	321	319	354	336	436	505	461	382	339	425
ALL CAUSES			45,871	47,547	48,459	49,929	51,074	54,152	56,480	57,261	59,206	60,161	75,700

Notes: The cause-of-death titles are according to the Tenth Revision of the International Classification of Diseases (ICD-10). The causes of death for 2010-2020 are classified by ICD-10, replacing the Ninth Revision (ICD-9) used during 1979-1999. The group titles, such as cardiovascular diseases, infectious and parasitic diseases, or other cardiovascular diseases are not ranked to determine the leading causes of death; [±] The COVID-19 data collection began in mid-March 2020.

TABLE 2B-2
AGE-ADJUSTED MORTALITY RATES[a] BY GENDER AND YEAR FOR SELECTED LEADING CAUSES OF DEATH, ARIZONA, 2010-2020

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
TOTAL, ALL CAUSES												
	Total	679.9	699.6	687.2	687.8	676.0	691.3	696.6	679.3	688.6	676.6	842.2
	Male	802.0	817.1	811.0	805.8	791.2	811.5	824.8	800.0	813.4	799.6	1002.1
	Female	572.6	595.3	579.2	583.8	572.8	583.3	581.1	568.7	573.5	562.9	694.1
CARDIOVASCULAR DISEASE												
	Total	188.6	201.0	193.3	187.7	171.6	189.0	190.8	189.9	188.4	184.9	205.3
	Male	225.1	239.2	233.6	229.0	206.9	226.7	230.7	228.6	225.2	221.2	246.9
	Female	156.7	168.0	159.1	152.4	140.7	156.1	155.9	155.5	155.6	152.4	167.8
-----DISEASES OF HEART												
	Total	143.3	152.7	145.8	143.0	129.9	141.3	142.5	141.9	140.5	137.3	152.9
	Male	179.8	192.8	184.4	183.6	164.1	177.1	180.5	179.4	176.3	172.5	192.2
	Female	112.2	119.0	113.7	109.2	100.5	110.5	109.8	109.3	109.1	106.3	118.1
-----CEREBROVASCULAR DISEASE												
	Total	30.7	30.6	29.9	28.2	26.2	31.1	30.7	30.7	32.1	31.0	34.6
	Male	28.9	28.0	30.0	27.2	24.8	31.3	29.9	30.7	31.6	30.2	34.8
	Female	31.3	32.3	29.4	28.5	26.8	30.7	30.9	30.2	32.0	31.4	33.8
MALIGNANT NEOPLASMS												
	Total	150.5	151.3	149.8	149.6	136.3	144.0	140.7	136.6	135.9	134.7	134.7
	Male	180.6	179.3	180.3	175.0	160.8	169.0	166.3	161.0	161.8	156.7	156.1
	Female	127.1	129.5	125.9	129.9	116.8	123.8	120.0	116.6	114.7	116.4	117.2
CHRONIC LOWER RESPIRATORY DISEASE												
	Total	42.6	45.9	44.2	44.5	41.1	45.1	45.0	43.0	42.6	39.2	38.8
	Male	48.1	49.7	50.5	48.1	45.8	48.9	47.6	45.3	44.7	41.9	41.2
	Female	38.6	42.8	39.5	41.8	37.5	41.7	42.9	41.0	40.7	37.0	36.8
ACCIDENTS (UNINTENTIONAL INJURIES)												
	Total	43.8	45.5	42.4	46.3	43.3	48.1	53.7	55.3	55.9	59.2	71.5
	Male	56.6	58.3	54.0	60.1	56.7	62.7	73.1	73.7	76.4	82.6	100.6
	Female	31.6	32.6	31.0	32.8	30.1	34.1	34.9	37.0	35.6	36.0	42.4
-----MOTOR VEHICLE ACCIDENTS												
	Total	11.1	12.1	11.4	11.4	10.3	12.6	13.9	13.8	14.1	13.1	14.0
	Male	15.9	17.6	16.8	16.3	14.5	18.0	20.1	19.5	20.0	18.9	20.2
	Female	6.4	6.9	6.3	6.6	6.0	7.2	7.8	8.2	8.3	7.5	7.8
INFLUENZA AND PNEUMONIA												
	Total	10.9	9.7	9.1	10.0	8.9	9.4	10.4	9.9	12.7	10.4	12.2
	Male	12.8	11.5	7.4	11.6	10.4	10.9	11.8	11.1	15.0	12.3	15.1
	Female	9.3	8.2	5.6	8.8	7.7	8.2	9.4	8.9	10.8	8.9	9.6

TABLE 2B-2 (continued)
AGE-ADJUSTED MORTALITY RATES[a] BY GENDER AND YEAR FOR SELECTED LEADING CAUSES OF DEATH, ARIZONA, 2010-2020

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
COVID-19[±]												
	Total	-	-	-	-	-	-	-	-	-	-	92.1
	Male	-	-	-	-	-	-	-	-	-	-	118.3
	Female	-	-	-	-	-	-	-	-	-	-	69.2
ALZHEIMER'S DISEASE												
	Total	35.1	35.2	29.9	33.2	30.9	37.3	37.3	35.2	34.3	33.2	34.7
	Male	28.5	28.9	41.5	27.2	25.7	31.1	31.1	29.2	26.7	26.3	27.1
	Female	39.3	39.0	52.8	37.2	34.4	41.5	41.5	39.5	39.7	38.3	40.5
DIABETES												
	Total	20.1	24.8	23.5	23.6	23.0	25.7	24.5	23.8	23.0	23.9	27.9
	Male	24.9	30.3	29.2	29.1	28.9	31.8	31.5	30.1	29.8	30.5	36.0
	Female	16.0	20.2	18.6	18.8	17.8	20.4	18.4	18.3	17.1	18.1	20.7
CHRONIC LIVER DISEASE AND CIRRHOSIS												
	Total	12.3	13.4	13.6	14.5	13.2	14.9	15.1	14.2	14.2	14.7	17.4
	Male	16.1	18.0	18.7	18.2	16.5	19.2	19.8	18.0	17.9	18.8	21.6
	Female	8.8	9.2	9.0	11.1	10.1	11.0	10.8	10.7	10.9	10.8	13.4
NEPHRITIS, NEPHROTIC SYNDROME, AND NEPHROSIS												
	Total	7.6	6.0	6.2	5.3	4.6	6.3	5.8	6.2	7.7	8.3	8.4
	Male	9.0	7.2	8.9	6.1	5.2	7.7	6.9	7.7	9.0	10.3	9.8
	Female	6.4	5.1	6.7	4.8	4.2	5.2	4.9	4.9	6.7	6.5	7.2
INTENTIONAL SELF-HARM (SUICIDE)												
	Total	16.7	17.2	16.2	17.0	16.5	17.8	17.7	18.0	19.5	18.9	18.2
	Male	27.1	27.4	25.9	26.6	25.6	27.5	28.0	28.1	31.5	29.7	28.8
	Female	6.7	7.5	7.0	7.7	7.7	8.4	7.9	8.4	7.8	8.3	8.0
ASSAULT (HOMICIDE)												
	Total	6.5	6.1	5.9	5.9	4.6	5.6	6.3	6.4	6.1	5.9	7.7
	Male	10.5	9.6	8.6	9.2	7.1	8.6	9.9	10.0	9.8	9.1	12.1
	Female	2.4	2.6	3.1	2.5	2.1	2.5	2.5	2.8	2.4	2.6	3.2
SEPTICEMIA												
	Total	7.4	4.7	4.5	4.8	4.4	5.4	6.2	5.5	4.4	3.8	4.7
	Male	10.8	5.4	6.1	5.6	5.0	6.4	7.1	5.9	5.0	4.4	5.1
	Female	5.1	4.0	4.8	4.3	4.0	4.6	5.5	5.1	3.9	3.3	4.4

Notes: [a] The number of deaths per 100,000 population adjusted to the 2000 U.S. standard. The cause-of-death titles are according to the Tenth Revision of the International Classification of Diseases (ICD-10). Beginning in 2000, the causes of death are classified by ICD-10; [±] The COVID-19 data collection began in mid-March 2020.

TABLE 2B-3
AGE-ADJUSTED[a] MORTALITY RATES FOR SELECTED CAUSES OF DEATH BY RACE/ETHNICITY AND GENDER, ARIZONA, 2000-2020

	All groups			White non-Hispanic			Hispanic or Latino			Black or African American			American Indian or Alaska Native			Asian or Pacific Islander		
	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F
Total, all causes																		
2000	785.6	941.1	654.6	776.6	930.6	647.3	769.9	926.0	642.4	1057.5	1263.1	890.3	1011.4	1240.4	818.7	504.1	544.0	451.5
2001	791.2	952.4	656.7	778.1	936.3	647.1	787.6	958.7	644.5	1050.6	1211.7	923.5	1010.5	1213.3	836.9	560.7	592.9	517.2
2002	796.4	964.8	658.0	786.7	948.7	654.4	811.1	1007.5	651.5	951.5	1170.1	759.6	975.1	1201.3	792.3	560.4	661.8	452.6
2003	784.0	942.8	651.5	764.9	921.4	636.0	839.5	1007.3	698.7	1048.6	1201.7	901.9	900.7	1057.7	761.4	497.2	522.0	478.7
2004	757.3	909.0	632.0	734.6	885.2	612.8	834.0	1006.6	691.5	1021.7	1149.2	895.8	879.2	1040.6	741.7	557.5	446.5	715.3
2005	772.5	925.7	644.9	744.6	894.4	622.3	849.2	1062.1	679.8	1053.1	986.6	1125.9	1006.6	1215.2	835.6	629.5	670.8	593.1
2006	727.3	861.6	611.8	728.5	854.4	621.1	685.6	837.3	556.0	885.1	1109.5	693.6	744.5	933.9	593.0	393.4	478.0	340.5
2007	663.2	773.8	561.7	665.1	777.7	563.2	603.7	705.7	509.3	719.2	739.1	691.2	752.5	928.8	605.2	356.3	1008.6	342.1
2008	659.6	777.6	554.3	660.1	780.7	553.9	606.9	704.0	515.8	710.7	746.4	670.5	766.3	937.9	620.0	427.0	529.7	359.0
2009	653.2	763.9	555.1	647.3	761.9	546.8	614.9	712.3	528.4	736.8	728.4	736.1	823.5	972.5	695.0	472.8	561.7	408.7
2010	679.9	802.0	572.6	674.4	791.8	569.7	612.0	716.0	525.0	835.0	1009.6	698.5	891.8	1080.0	731.1	424.1	544.7	345.7
2011	699.6	817.1	595.3	741.5	810.1	595.9	656.4	781.9	549.7	833.6	981.9	718.5	765.5	871.4	669.5	436.7	521.8	377.8
2012	687.2	811.0	579.2	693.1	817.9	583.0	616.2	743.0	512.8	886.5	985.3	793.1	843.8	1001.0	708.3	440.1	463.6	418.3
2013	687.8	805.8	583.8	693.7	811.8	588.8	615.6	708.5	534.9	918.5	1061.5	782.1	887.0	1075.3	728.5	413.4	485.9	364.6
2014	676.0	791.2	572.8	685.7	802.3	579.5	636.9	752.5	538.1	739.9	850.5	646.5	818.5	971.5	684.9	371.8	416.1	337.6
2015	691.3	811.5	583.3	704.1	821.6	597.0	601.5	725.0	497.2	832.8	980.1	704.1	965.3	1171.5	790.6	413.8	498.8	360.5
2016	696.6	824.8	581.1	704.8	826.6	593.6	607.5	739.7	496.9	874.2	1029.9	724.6	1023.9	1314.1	783.5	433.5	485.6	392.8
2017	679.3	800.0	568.7	681.4	796.3	574.9	592.0	705.7	493.5	800.0	912.2	680.8	1001.9	1244.9	796.7	419.1	478.8	377.9
2018	688.6	813.4	573.5	690.2	808.2	579.8	607.1	736.8	493.9	843.2	945.3	746.7	1036.1	1293.0	816.9	429.7	487.7	388.2
2019	676.6	799.6	562.9	674.5	792.5	563.3	602.8	720.7	500.0	841.5	970.2	727.5	1051.0	1311.8	836.8	421.6	519.6	351.0
2020	842.2	1002.1	694.1	794.6	929.2	667.9	871.7	1085.5	689.9	1057.7	1275.0	854.0	1757.8	2199.1	1397.5	507.4	597.5	437.9
Cardiovascular diseases																		
2000	276.1	333.1	230.0	276.0	335.8	227.7	273.6	320.8	236.1	411.5	460.3	374.6	257.5	308.3	218.7	190.6	197.0	183.2
2001	267.3	321.6	223.0	265.8	322.0	220.1	281.4	325.8	242.8	388.1	422.3	354.6	234.1	275.6	202.5	184.3	190.8	179.9
2002	265.5	321.1	221.0	266.1	323.2	220.0	276.3	321.8	240.0	329.8	402.1	269.0	216.2	257.6	184.4	218.4	280.4	173.5
2003	258.4	310.3	215.8	257.2	309.3	214.2	278.2	339.9	230.3	390.1	426.5	348.3	188.6	239.3	150.6	145.3	137.2	150.7
2004	248.5	298.4	207.8	243.1	295.7	200.6	284.1	331.4	247.0	372.5	365.2	363.2	214.6	254.7	181.0	200.3	158.8	259.2
2005	245.7	298.2	203.8	241.3	295.8	198.2	266.1	331.8	217.5	343.3	304.3	385.9	235.6	279.7	201.6	243.0	244.9	241.3
2006	216.4	258.3	181.0	218.2	258.9	183.3	203.2	243.8	170.2	310.3	443.9	208.0	167.0	213.0	131.3	136.2	159.0	122.9
2007	194.4	227.5	164.3	196.9	234.0	163.5	179.8	201.8	159.1	225.9	210.0	239.7	155.0	181.8	132.4	108.9	265.9	108.3
2008	194.1	235.8	158.1	196.3	240.6	158.3	184.8	218.8	153.8	219.6	235.0	205.2	150.4	172.8	133.7	121.4	132.3	114.1
2009	188.8	228.1	154.9	188.3	229.4	152.9	179.8	211.3	151.9	245.7	228.8	252.2	164.2	209.1	130.0	150.8	182.3	127.9
2010	188.6	225.1	156.7	188.8	224.9	156.6	172.4	201.5	148.9	258.5	305.4	215.1	183.2	216.9	154.8	130.0	175.8	98.9
2011	201.0	239.2	168.0	212.6	239.9	167.1	193.4	223.9	168.0	266.1	329.3	219.6	149.2	160.8	136.3	122.4	148.6	103.7
2012	193.3	233.6	159.1	195.1	238.4	157.9	176.2	204.3	153.1	284.0	290.7	269.6	168.3	204.1	139.8	134.7	159.3	116.7
2013	187.7	229.0	152.4	190.9	233.3	154.0	161.9	194.2	135.3	280.2	354.0	218.5	164.2	199.8	137.4	133.6	154.8	119.2
2014	171.6	206.9	140.7	174.9	210.4	143.0	156.2	191.6	127.3	212.3	256.3	176.8	147.7	196.6	111.3	100.8	112.7	90.4
2015	189.0	226.7	156.1	192.4	231.6	157.8	165.1	191.3	141.7	266.8	306.2	232.1	167.0	205.0	136.2	119.1	153.6	97.6
2016	190.8	230.7	155.9	194.4	235.2	158.0	168.3	202.3	140.4	275.8	314.3	233.8	189.6	238.8	152.7	120.9	135.9	111.0
2017	189.9	228.6	155.5	191.4	228.9	157.3	166.2	204.8	134.8	258.3	297.4	220.1	204.2	268.3	157.4	125.2	150.3	110.3
2018	188.4	225.2	155.6	189.8	227.1	155.9	167.5	203.0	137.4	241.1	254.7	227.4	186.0	216.7	160.8	128.2	148.9	113.7
2019	184.9	221.2	152.4	185.9	221.9	152.9	160.4	196.4	131.0	254.7	270.6	237.7	192.7	238.6	156.7	128.0	159.5	104.4
2020	205.3	246.9	167.8	204.5	243.4	168.6	182.7	230.3	144.3	293.7	352.6	238.6	237.2	304.4	187.6	134.7	160.9	114.1

TABLE 2B-3 (continued)
AGE-ADJUSTED[a] MORTALITY RATES FOR SELECTED CAUSES OF DEATH BY RACE/ETHNICITY AND GENDER, ARIZONA, 2000-2020

	All groups			White non-Hispanic			Hispanic or Latino			Black or African American			American Indian or Alaska Native			Asian or Pacific Islander		
	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F
-----Diseases of heart																		
2000	206.1	259.3	163.6	207.2	263.2	162.5	204.7	247.2	171.4	289.5	312.8	267.0	183.8	229.5	148.5	132.3	146.1	118.8
2001	201.7	251.3	161.5	202.1	252.9	160.9	206.1	255.8	165.4	273.6	300.5	248.5	177.7	218.4	146.8	116.1	116.8	116.0
2002	201.0	253.6	158.9	203.0	257.8	159.0	201.2	239.2	170.5	237.0	311.6	178.6	164.0	201.2	134.3	145.6	177.8	122.0
2003	197.1	246.6	157.1	197.9	248.4	157.2	198.5	252.7	155.9	299.4	335.2	259.2	141.9	181.6	111.0	97.6	88.8	103.5
2004	186.7	234.2	148.5	184.9	235.0	144.8	197.6	239.1	165.0	258.5	241.3	258.5	166.9	215.3	128.2	135.3	112.8	167.4
2005	186.9	237.4	147.3	185.2	237.7	144.5	189.6	242.2	149.9	250.3	235.7	266.2	179.1	231.7	139.9	159.8	177.7	143.9
2006	166.1	207.3	131.8	168.8	210.6	133.9	149.8	181.1	124.0	231.9	328.6	153.5	129.4	169.5	98.1	94.7	118.5	80.2
2007	149.5	184.0	119.4	153.2	191.3	120.0	131.5	158.9	107.7	171.3	160.4	182.5	115.2	140.5	94.7	58.6	152.9	56.4
2008	149.3	189.3	115.1	153.1	195.7	116.8	132.0	165.2	102.4	161.7	175.2	146.9	114.6	129.0	103.8	71.8	92.0	57.8
2009	145.9	183.1	114.1	147.5	186.5	114.2	130.5	159.6	105.4	171.3	176.1	160.4	125.8	156.1	100.5	96.7	118.1	80.9
2010	143.3	179.8	112.2	145.4	181.9	113.7	121.3	149.0	99.5	177.7	233.6	133.9	135.9	169.5	108.1	86.8	128.1	60.0
2011	152.7	192.8	119.0	164.3	196.2	120.4	137.4	167.1	113.2	174.0	252.9	119.3	111.1	131.1	92.7	77.0	105.3	57.3
2012	145.8	184.4	113.7	150.0	190.9	115.3	123.4	149.8	101.8	190.5	216.9	168.5	122.7	160.6	93.9	87.9	116.9	68.3
2013	143.0	183.6	109.2	147.6	190.0	111.5	116.1	144.4	93.0	200.5	269.1	144.8	122.9	159.8	97.1	82.5	98.8	70.9
2014	129.9	164.1	100.5	134.4	168.9	104.1	114.0	147.8	87.0	140.9	175.3	113.3	107.5	159.3	70.3	60.3	73.8	49.9
2015	141.3	177.1	110.5	146.0	183.7	112.9	117.6	140.7	97.5	184.4	216.8	155.9	119.9	158.9	89.1	75.0	99.0	59.6
2016	142.5	180.5	109.8	147.7	186.9	113.5	116.3	147.1	91.5	188.3	224.0	151.5	139.9	191.2	102.3	76.6	86.8	69.9
2017	141.9	179.4	109.3	146.1	183.4	112.8	112.5	144.9	86.6	169.6	210.0	134.3	150.9	217.2	103.9	87.2	105.3	76.4
2018	140.5	176.3	109.1	144.3	181.1	111.4	116.0	147.4	90.1	166.4	185.8	149.5	129.9	156.0	108.6	86.0	112.9	68.5
2019	137.3	172.5	106.3	140.4	175.7	108.5	107.9	141.6	81.1	188.3	201.7	175.5	132.8	176.0	100.6	86.7	118.0	63.8
2020	152.9	192.2	118.1	154.9	192.5	120.8	125.5	163.5	94.8	212.3	263.8	164.4	164.3	234.2	113.2	91.0	112.0	74.6
-----Cerebrovascular diseases																		
2000	51.7	50.8	51.8	50.8	49.3	51.4	51.2	54.4	48.3	82.4	101.5	71.6	55.3	60.2	51.9	46.1	45.0	47.8
2001	47.7	48.3	46.8	46.2	47.1	45.0	55.4	50.8	57.7	79.6	80.0	76.2	44.3	46.6	42.9	51.1	49.2	52.1
2002	47.0	47.3	46.7	45.9	45.3	46.2	53.9	62.6	47.8	69.6	57.9	72.9	39.4	46.5	34.7	57.6	72.6	46.9
2003	43.9	42.9	43.8	41.7	40.1	42.1	61.9	65.7	59.2	69.0	60.6	73.5	36.4	45.8	29.9	35.9	42.5	31.1
2004	43.6	42.7	43.6	41.4	40.6	41.3	61.3	62.4	60.1	71.5	69.0	69.1	27.5	20.1	31.8	45.1	31.6	64.4
2005	40.6	40.0	40.5	38.8	38.1	38.8	51.0	59.8	44.3	66.0	40.3	94.1	32.3	29.9	33.7	64.6	49.0	78.3
2006	34.8	33.4	35.2	34.1	31.3	35.5	37.3	43.9	32.1	58.2	86.0	41.1	27.0	32.8	23.0	18.4	6.8	25.9
2007	30.6	27.7	32.2	29.7	26.9	31.2	34.9	30.0	37.8	34.1	30.9	36.5	22.0	23.9	20.3	37.7	85.6	40.0
2008	30.3	29.6	30.5	29.2	28.0	29.9	33.6	34.6	32.0	40.0	42.9	38.9	23.5	26.2	21.8	36.2	32.8	38.9
2009	28.9	28.2	29.1	27.5	26.6	27.9	33.8	34.3	32.7	42.8	31.4	54.5	24.7	33.5	20.0	39.2	43.6	35.9
2010	30.7	28.9	31.3	29.4	27.2	30.5	35.1	34.8	34.6	53.5	41.4	58.1	29.8	30.0	29.5	26.0	30.7	21.7
2011	30.6	28.0	32.3	30.4	26.2	30.7	34.9	33.3	35.6	56.5	43.3	64.3	29.7	24.8	33.1	29.1	34.2	26.2
2012	29.9	30.0	29.4	28.1	28.0	27.6	35.5	37.8	33.6	56.0	50.9	57.7	27.1	30.3	24.5	30.9	26.4	33.3
2013	28.2	27.2	28.5	27.1	25.7	27.7	29.7	30.8	28.5	54.4	51.4	54.6	23.4	18.6	25.3	30.7	30.0	31.2
2014	26.2	24.8	26.8	25.3	25.2	26.1	27.4	26.6	27.5	40.8	41.7	39.2	24.5	24.2	24.0	28.7	33.1	25.8
2015	31.1	31.3	30.7	30.1	29.6	30.1	32.4	34.0	30.6	51.8	59.6	45.5	31.6	31.7	31.1	30.4	36.7	27.0
2016	30.7	29.9	30.9	30.0	28.7	30.6	31.5	31.4	31.2	48.1	49.7	45.8	30.1	27.8	30.9	31.1	41.5	24.8
2017	30.7	30.7	30.2	29.2	28.5	29.3	34.5	38.1	31.3	49.2	45.6	50.3	31.7	30.7	31.1	23.6	26.2	22.0
2018	32.1	31.6	32.0	30.6	29.9	30.8	34.6	36.3	32.6	44.1	42.7	43.9	39.2	37.4	40.5	27.9	25.2	29.2
2019	31.0	30.2	31.4	30.0	28.8	30.7	33.9	33.7	33.5	35.7	38.6	32.7	35.7	34.9	35.8	23.2	25.0	21.7
2020	34.6	34.8	33.8	32.9	32.3	32.9	38.3	42.8	34.2	48.6	51.6	45.9	43.6	44.7	42.9	29.9	32.0	28.0

TABLE 2B-3 (continued)
AGE-ADJUSTED[a] MORTALITY RATES FOR SELECTED CAUSES OF DEATH BY RACE/ETHNICITY AND GENDER, ARIZONA, 2000-2020

	All groups			White non-Hispanic			Hispanic or Latino			Black or African American			American Indian or Alaska Native			Asian or Pacific Islander		
	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F
Malignant neoplasms																		
2000	170.4	204.0	145.8	174.8	208.1	150.0	156.9	201.5	126.0	216.1	274.7	178.0	123.0	142.7	107.2	103.4	103.6	103.1
2001	169.2	199.8	147.5	173.1	203.7	151.4	155.6	196.8	126.9	213.0	247.6	195.0	121.7	128.8	115.4	147.0	175.5	127.1
2002	168.6	209.1	139.1	172.4	213.2	142.5	156.3	211.2	118.0	222.7	290.3	176.0	117.6	125.8	112.5	116.5	126.5	108.5
2003	169.4	208.3	141.3	171.2	212.4	141.2	168.5	209.2	140.1	218.5	245.6	200.8	120.7	112.6	126.7	132.9	132.8	132.6
2004	164.7	201.2	138.6	165.4	202.9	138.1	161.6	218.1	123.6	227.7	274.2	200.5	139.3	150.9	131.8	111.0	72.9	165.2
2005	161.8	197.1	136.1	162.4	197.6	136.8	165.9	217.1	130.8	217.9	216.7	219.3	122.2	159.7	97.5	112.7	122.5	104.0
2006	154.7	187.0	131.0	162.8	195.5	138.4	124.7	160.9	98.7	163.5	216.0	127.7	83.1	93.9	79.5	82.0	113.2	64.1
2007	148.0	176.7	125.6	154.6	184.4	131.1	118.6	144.3	99.0	153.4	178.3	135.2	113.9	135.0	100.1	84.2	248.1	81.6
2008	145.5	173.8	123.0	150.4	179.7	127.0	123.8	151.9	101.5	149.2	150.1	146.3	106.7	126.4	93.2	104.4	149.4	74.0
2009	147.2	174.9	125.8	151.1	179.8	128.7	128.4	157.1	105.9	153.1	160.3	154.2	113.3	127.5	103.5	108.1	122.0	98.7
2010	150.5	180.6	127.1	155.6	185.8	131.6	126.2	148.8	110.6	182.6	231.0	144.8	106.4	137.8	86.6	96.2	130.7	74.2
2011	151.3	179.3	129.5	170.3	182.2	132.4	136.3	176.0	107.3	167.1	170.6	169.0	100.8	116.3	90.9	116.6	126.2	110.2
2012	149.8	180.3	125.9	155.6	185.9	131.5	127.2	161.8	102.4	180.1	220.1	147.1	100.8	114.5	90.4	100.5	113.1	94.6
2013	149.6	175.0	129.9	154.3	180.9	133.3	129.8	147.2	117.0	190.4	209.3	176.5	118.2	126.0	114.5	100.1	131.4	81.4
2014	136.3	160.8	116.8	141.8	166.5	121.8	124.9	153.6	103.4	145.0	154.7	140.9	97.1	124.6	77.3	83.2	82.1	83.5
2015	144.0	169.0	123.8	149.8	173.9	129.9	120.4	152.9	96.2	154.7	181.5	135.0	124.4	142.1	112.4	104.8	133.4	88.2
2016	140.7	166.3	120.0	146.7	171.3	126.5	115.9	147.3	92.3	171.6	214.4	138.9	101.2	110.7	94.6	102.6	106.6	98.4
2017	136.6	161.0	116.6	141.4	167.7	119.1	110.9	130.9	95.9	158.5	164.8	151.2	117.1	114.6	118.2	99.4	121.4	85.6
2018	135.9	161.8	114.7	140.2	165.7	118.9	118.7	144.3	99.6	156.7	193.4	131.2	115.3	149.6	92.6	102.7	112.0	96.7
2019	134.7	156.7	116.4	136.9	158.3	118.6	118.3	137.3	103.7	173.5	210.0	147.1	132.3	162.6	112.5	98.4	113.1	89.8
2020	134.7	156.1	117.2	138.9	159.3	121.8	114.8	132.7	100.9	169.4	206.2	141.6	116.5	138.7	102.8	87.9	97.0	81.5
-----Lung cancer																		
2000	46.1	59.2	35.8	49.1	61.9	39.1	31.6	49.6	18.1	65.8	79.8	52.1	8.9	13.1	5.5	29.6	29.0	29.8
2001	44.5	54.8	36.4	47.6	57.0	40.2	29.2	49.4	14.4	55.7	78.9	39.5	9.8	11.9	8.1	41.7	62.8	27.1
2002	46.6	58.6	37.1	50.1	62.4	40.4	27.7	40.0	18.3	61.2	74.7	49.5	13.1	13.4	13.0	24.7	24.5	24.6
2003	47.4	61.0	37.1	50.6	64.0	40.3	33.5	49.6	21.5	59.4	80.8	45.6	13.2	17.2	10.3	21.9	26.3	18.5
2004	45.4	57.3	36.3	48.2	59.6	39.3	29.4	49.4	14.7	61.4	74.4	53.0	17.3	21.5	14.2	21.5	15.7	30.3
2005	43.0	54.1	34.4	45.9	56.8	37.4	29.0	45.0	17.3	53.0	58.6	46.8	6.5	9.0	4.7	19.7	18.8	20.4
2006	42.7	53.5	34.2	47.4	58.6	38.5	21.4	31.6	13.8	45.9	65.9	33.9	4.7	4.3	4.9	18.4	32.5	9.2
2007	38.2	47.2	30.9	42.4	51.7	34.8	20.5	30.4	12.4	39.6	46.3	35.7	9.9	14.2	6.8	21.5	48.0	23.1
2008	38.5	47.7	31.2	42.3	51.7	34.8	20.0	27.7	13.7	37.1	45.4	27.8	11.2	10.1	11.7	32.7	49.1	21.8
2009	39.0	47.4	32.2	42.7	51.5	35.5	23.7	33.9	15.8	38.7	38.3	39.8	10.0	7.1	12.6	26.6	37.0	19.1
2010	38.1	46.1	31.5	41.7	49.5	35.3	20.6	28.5	14.6	36.6	41.7	31.4	7.5	12.5	3.6	22.1	36.9	12.8
2011	37.8	46.1	31.1	46.7	49.2	34.9	22.9	35.9	13.3	36.6	40.4	33.3	7.9	13.8	3.9	20.8	33.9	13.4
2012	37.7	45.2	31.6	41.5	49.0	35.3	22.0	30.6	15.6	43.0	50.7	36.7	9.3	7.9	9.8	20.9	33.6	13.5
2013	36.4	42.9	31.0	40.2	46.7	34.8	22.1	27.6	17.3	40.5	57.3	29.4	10.0	11.6	9.5	22.9	31.6	17.6
2014	32.2	38.1	27.3	35.3	41.0	30.5	21.6	30.4	15.2	29.5	37.5	22.7	10.2	12.0	8.7	26.7	27.8	25.4
2015	35.1	40.5	30.7	39.1	44.2	34.8	18.8	24.9	14.5	38.4	58.6	22.5	8.1	10.3	6.9	30.6	38.0	25.8
2016	31.4	36.6	26.9	34.8	40.0	30.5	17.8	22.0	14.3	37.8	48.7	31.5	7.4	10.7	4.7	19.5	20.1	18.4
2017	30.8	36.0	26.5	34.3	39.6	29.7	15.2	19.6	11.7	27.9	35.6	20.6	8.5	3.9	11.6	29.2	30.5	28.1
2018	28.9	33.8	24.6	31.5	36.4	27.3	17.6	20.7	15.0	35.6	47.7	26.2	9.0	17.9	2.8	22.8	26.3	20.4
2019	26.2	29.7	23.3	28.6	31.7	25.9	16.3	20.9	12.8	33.1	41.4	25.9	8.1	9.3	7.3	20.9	19.4	21.7
2020	26.8	29.9	24.2	29.4	32.0	27.3	15.3	18.8	12.6	36.0	47.9	26.8	9.6	12.5	7.6	14.8	16.6	13.6

TABLE 2B-3 (continued)
AGE-ADJUSTED[a] MORTALITY RATES FOR SELECTED CAUSES OF DEATH BY RACE/ETHNICITY AND GENDER, ARIZONA, 2000-2020

	All groups			White non-Hispanic			Hispanic or Latino			Black or African American			American Indian or Alaska Native			Asian or Pacific Islander		
	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F
-----Colorectal cancer																		
2000	17.0	20.5	14.1	17.4	20.7	14.6	16.4	20.5	13.5	16.3	26.3	9.7	8.2	15.1	2.7	6.6	12.9	2.2
2001	16.7	19.0	14.8	16.9	19.0	15.2	16.6	22.1	12.9	27.4	26.2	25.2	7.2	7.8	6.3	10.6	15.3	7.2
2002	16.5	20.6	13.4	16.9	21.0	13.6	16.2	23.4	11.7	26.4	36.4	19.8	9.1	7.9	9.3	9.7	13.9	7.0
2003	17.9	21.8	14.7	17.9	22.0	14.4	21.2	25.5	17.9	26.3	22.3	28.2	6.3	10.2	3.7	3.0	4.8	1.8
2004	15.3	18.9	12.6	15.5	19.2	12.8	13.1	15.8	11.5	27.3	41.2	16.9	9.3	14.1	5.6	11.0	7.7	15.9
2005	15.4	18.9	12.8	15.2	18.8	12.5	17.6	21.5	14.8	27.0	23.7	30.6	7.5	10.0	6.0	12.5	18.7	7.1
2006	14.6	18.1	12.0	15.1	18.9	12.0	14.2	15.8	13.1	14.9	21.1	10.1	4.7	3.5	5.5	6.5	11.4	3.9
2007	14.4	17.7	11.5	15.0	18.1	12.3	12.0	16.5	8.6	15.7	19.3	11.8	8.0	10.6	5.3	9.4	28.7	9.8
2008	13.1	15.1	11.3	13.2	15.0	11.4	13.2	15.5	11.2	16.4	20.3	13.0	11.1	11.9	10.9	8.6	14.9	4.2
2009	12.9	14.9	11.2	12.9	15.1	11.0	13.8	16.7	11.5	14.1	14.0	14.9	8.5	7.4	9.1	13.8	16.4	12.5
2010	13.8	16.6	11.4	13.9	16.0	12.1	13.5	19.0	9.2	21.9	28.9	16.0	12.4	19.9	8.0	10.3	22.2	2.6
2011	13.4	15.4	11.6	14.4	15.3	11.4	13.6	16.5	11.2	20.2	12.6	25.6	9.9	12.0	7.4	14.3	16.2	12.7
2012	13.1	15.8	10.7	13.4	16.0	11.2	12.2	17.0	8.3	20.5	23.9	17.4	7.1	7.8	6.3	9.8	8.0	11.4
2013	13.6	15.3	12.3	13.7	15.5	12.2	12.5	14.3	10.9	21.7	19.6	23.0	11.3	7.3	14.0	12.1	13.0	11.7
2014	12.4	14.6	10.5	13.2	15.0	11.5	10.8	15.1	7.4	15.8	18.4	14.3	7.0	9.5	4.7	7.2	8.3	6.3
2015	12.9	15.6	10.5	12.9	15.1	10.9	11.8	16.6	8.0	19.5	25.1	15.0	13.3	18.8	9.6	9.4	17.1	4.9
2016	12.9	15.4	10.6	13.2	15.6	11.2	11.1	14.7	7.8	17.4	17.9	16.1	8.0	7.7	8.3	13.1	10.6	13.8
2017	13.0	16.0	10.2	13.2	16.4	10.3	12.7	16.6	9.5	15.1	13.8	16.1	11.1	14.1	8.4	6.0	11.3	2.4
2018	12.9	15.8	10.3	12.7	14.9	10.7	13.8	20.0	9.0	17.2	26.2	10.8	10.8	16.3	6.9	12.5	18.3	9.0
2019	12.3	14.6	10.1	12.4	15.0	10.0	11.2	12.5	9.8	14.2	17.3	11.3	12.9	17.2	10.4	11.0	10.2	11.6
2020	12.7	14.2	11.4	12.9	14.0	11.9	11.3	14.6	8.7	18.2	18.3	17.6	12.8	15.3	10.5	9.2	9.1	9.4
-----Female breast cancer																		
2000	NA	NA	25.4	NA	NA	26.2	NA	NA	20.7	NA	NA	29.5	NA	NA	12.1	NA	NA	12.8
2001	NA	NA	23.6	NA	NA	24.7	NA	NA	17.5	NA	NA	55.8	NA	NA	11.7	NA	NA	12.7
2002	NA	NA	22.2	NA	NA	22.5	NA	NA	18.7	NA	NA	42.3	NA	NA	9.6	NA	NA	17.7
2003	NA	NA	22.1	NA	NA	22.3	NA	NA	18.9	NA	NA	41.2	NA	NA	16.4	NA	NA	19.6
2004	NA	NA	21.4	NA	NA	21.4	NA	NA	18.0	NA	NA	32.2	NA	NA	18.4	NA	NA	35.2
2005	NA	NA	20.7	NA	NA	20.5	NA	NA	19.8	NA	NA	35.7	NA	NA	14.9	NA	NA	17.3
2006	NA	NA	21.6	NA	NA	23.2	NA	NA	14.0	NA	NA	25.7	NA	NA	6.9	NA	NA	7.5
2007	NA	NA	20.1	NA	NA	20.5	NA	NA	16.9	NA	NA	23.9	NA	NA	16.2	NA	NA	11.3
2008	NA	NA	19.8	NA	NA	20.6	NA	NA	15.1	NA	NA	38.0	NA	NA	11.6	NA	NA	7.1
2009	NA	NA	19.2	NA	NA	19.8	NA	NA	16.4	NA	NA	30.7	NA	NA	11.6	NA	NA	5.9
2010	NA	NA	19.2	NA	NA	19.9	NA	NA	18.5	NA	NA	25.8	NA	NA	8.2	NA	NA	12.9
2011	NA	NA	19.7	NA	NA	20.8	NA	NA	12.2	NA	NA	24.1	NA	NA	7.5	NA	NA	15.6
2012	NA	NA	19.2	NA	NA	20.0	NA	NA	14.8	NA	NA	30.3	NA	NA	8.6	NA	NA	15.3
2013	NA	NA	20.7	NA	NA	21.3	NA	NA	19.7	NA	NA	23.3	NA	NA	13.1	NA	NA	11.4
2014	NA	NA	17.9	NA	NA	18.5	NA	NA	16.5	NA	NA	29.4	NA	NA	9.2	NA	NA	6.3
2015	NA	NA	19.2	NA	NA	20.7	NA	NA	12.9	NA	NA	23.1	NA	NA	12.8	NA	NA	13.3
2016	NA	NA	19.4	NA	NA	20.8	NA	NA	13.9	NA	NA	23.0	NA	NA	11.8	NA	NA	13.4
2017	NA	NA	18.2	NA	NA	18.7	NA	NA	13.3	NA	NA	36.7	NA	NA	13.0	NA	NA	14.5
2018	NA	NA	17.6	NA	NA	18.7	NA	NA	13.8	NA	NA	24.9	NA	NA	9.1	NA	NA	17.6
2019	N/A	N/A	18.8	N/A	N/A	19.1	N/A	N/A	15.2	N/A	N/A	39.3	N/A	N/A	17.6	N/A	N/A	13.8
2020	N/A	N/A	18.5	N/A	N/A	19.5	N/A	N/A	15.9	N/A	N/A	28.2	N/A	N/A	6.5	N/A	N/A	13.5

TABLE 2B-3 (continued)
AGE-ADJUSTED[a] MORTALITY RATES FOR SELECTED CAUSES OF DEATH BY RACE/ETHNICITY AND GENDER, ARIZONA, 2000-2020

	All groups			White non-Hispanic			Hispanic or Latino			Black or African American			American Indian or Alaska Native			Asian or Pacific Islander		
	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F
-----Prostate cancer																		
2000	NA	28.4	NA	NA	28.0	NA	NA	30.0	NA	NA	74.8	NA	NA	27.1	NA	NA	8.9	NA
2001	NA	24.3	NA	NA	24.1	NA	NA	26.3	NA	NA	45.0	NA	NA	14.0	NA	NA	24.2	NA
2002	NA	24.8	NA	NA	24.1	NA	NA	35.3	NA	NA	48.6	NA	NA	12.5	NA	NA	8.4	NA
2003	NA	25.1	NA	NA	25.2	NA	NA	22.4	NA	NA	41.2	NA	NA	21.0	NA	NA	7.6	NA
2004	NA	24.0	NA	NA	22.6	NA	NA	35.0	NA	NA	54.6	NA	NA	31.2	NA	NA	6.1	NA
2005	NA	23.8	NA	NA	23.5	NA	NA	30.6	NA	NA	20.4	NA	NA	23.5	NA	NA	5.1	NA
2006	NA	20.1	NA	NA	19.2	NA	NA	25.9	NA	NA	34.9	NA	NA	16.9	NA	NA	24.0	NA
2007	NA	18.9	NA	NA	19.5	NA	NA	15.8	NA	NA	23.6	NA	NA	16.6	NA	NA	19.4	NA
2008	NA	19.1	NA	NA	18.9	NA	NA	20.3	NA	NA	20.5	NA	NA	14.7	NA	NA	25.5	NA
2009	NA	18.4	NA	NA	18.2	NA	NA	20.0	NA	NA	28.9	NA	NA	16.4	NA	NA	2.1	NA
2010	NA	19.1	NA	NA	18.4	NA	NA	23.9	NA	NA	35.2	NA	NA	21.6	NA	NA	12.6	NA
2011	NA	19.8	NA	NA	19.5	NA	NA	20.6	NA	NA	24.1	NA	NA	17.1	NA	NA	5.0	NA
2012	NA	18.9	NA	NA	18.8	NA	NA	22.0	NA	NA	26.7	NA	NA	12.4	NA	NA	9.8	NA
2013	NA	18.2	NA	NA	18.0	NA	NA	17.0	NA	NA	26.7	NA	NA	19.9	NA	NA	18.5	NA
2014	NA	17.0	NA	NA	17.0	NA	NA	15.5	NA	NA	24.0	NA	NA	23.0	NA	NA	7.4	NA
2015	NA	17.6	NA	NA	17.3	NA	NA	17.6	NA	NA	29.6	NA	NA	26.0	NA	NA	10.7	NA
2016	NA	18.8	NA	NA	18.6	NA	NA	19.4	NA	NA	39.5	NA	NA	15.9	NA	NA	6.4	NA
2017	NA	16.8	NA	NA	16.5	NA	NA	16.3	NA	NA	26.3	NA	NA	19.9	NA	NA	9.7	NA
2018	NA	17.4	NA	NA	17.1	NA	NA	15.8	NA	NA	30.5	NA	NA	23.7	NA	NA	12.1	NA
2019	N/A	17.4	N/A	N/A	17.0	N/A	N/A	16.9	N/A	N/A	41.9	N/A	N/A	19.0	N/A	N/A	9.9	N/A
2020	N/A	18.5	N/A	N/A	18.2	N/A	N/A	18.3	N/A	N/A	35.4	N/A	N/A	17.5	N/A	N/A	8.1	N/A
Chronic lower respiratory diseases[b]																		
2000	47.4	56.2	41.3	51.1	59.8	44.8	24.4	38.2	15.9	30.4	38.4	26.3	21.9	28.9	17.9	12.7	7.8	16.5
2001	46.9	53.9	42.2	51.0	58.1	46.2	17.7	25.4	12.5	37.9	48.9	32.2	26.8	30.0	24.3	21.4	19.2	23.0
2002	47.0	57.1	40.3	50.4	59.4	44.5	25.2	46.6	11.2	38.3	59.0	21.9	22.3	30.1	17.0	24.5	45.8	9.0
2003	45.4	53.8	40.0	48.3	56.5	42.9	28.7	39.9	22.1	30.3	39.7	23.1	19.4	20.8	18.4	15.5	34.4	2.1
2004	41.9	48.1	37.7	45.1	51.3	41.0	22.7	29.5	17.8	24.9	38.8	14.8	10.8	4.7	15.1	21.6	27.1	14.2
2005	46.8	51.3	43.5	49.6	53.6	46.7	31.6	42.7	24.0	43.9	49.4	37.9	12.0	12.9	11.4	17.9	22.6	13.8
2006	44.3	50.2	40.1	49.2	55.5	44.7	18.3	20.9	16.2	27.3	28.8	25.6	8.4	6.2	10.4	9.9	26.2	0.0
2007	39.2	43.5	36.0	43.7	47.9	40.7	18.8	26.4	13.4	18.7	10.1	26.7	13.0	20.1	8.4	7.5	19.9	6.1
2008	42.1	46.5	38.9	46.7	50.8	43.7	20.5	24.3	18.0	26.0	33.9	19.1	15.8	23.9	9.5	13.7	22.4	8.5
2009	40.5	44.7	37.1	45.0	48.7	42.1	16.4	20.2	13.4	26.8	34.1	20.8	19.2	29.5	12.3	18.0	33.4	8.1
2010	42.6	48.1	38.6	47.1	52.2	43.4	18.6	25.4	14.3	27.4	32.2	23.8	21.7	24.1	20.0	12.0	29.5	1.7
2011	45.9	49.7	42.8	55.3	53.3	48.5	19.5	26.5	14.7	34.8	48.5	24.7	14.4	14.7	14.4	17.2	26.4	11.9
2012	44.2	50.5	39.5	49.4	55.5	44.8	20.3	27.1	16.1	35.0	43.4	30.9	18.0	27.4	12.1	14.7	14.3	14.2
2013	44.5	48.1	41.8	49.3	52.5	47.0	20.9	24.6	18.2	46.7	56.4	37.5	15.5	11.7	18.4	19.4	32.0	12.4
2014	41.1	45.8	37.5	45.9	49.7	43.0	21.1	28.7	15.9	34.0	47.4	26.1	12.4	13.7	11.7	17.3	33.8	7.6
2015	45.1	48.9	41.7	50.8	53.7	48.0	21.5	27.9	16.8	34.0	51.8	20.6	14.8	16.5	13.0	18.1	17.5	18.4
2016	45.0	47.6	42.9	50.9	52.7	49.4	20.0	23.2	17.7	43.8	51.5	39.2	19.5	27.2	15.1	11.3	19.4	5.9
2017	43.0	45.3	41.0	48.0	49.7	46.5	19.9	23.7	17.1	28.8	21.3	34.3	22.9	27.4	19.9	20.1	29.6	14.3
2018	42.6	44.7	40.7	48.0	49.2	46.8	18.3	22.7	14.8	38.2	41.4	35.9	20.8	22.2	20.2	17.2	17.2	17.3
2019	39.2	41.9	37.0	43.7	45.1	42.5	20.1	25.9	16.1	34.2	49.7	23.4	18.1	21.5	15.6	11.6	13.2	10.6
2020	38.8	41.2	36.8	43.1	44.4	41.9	21.9	27.0	18.2	27.4	30.4	25.2	20.9	27.5	16.5	14.3	20.5	11.0

TABLE 2B-3 (continued)
AGE-ADJUSTED[a] MORTALITY RATES FOR SELECTED CAUSES OF DEATH BY RACE/ETHNICITY AND GENDER, ARIZONA, 2000-2020

	All groups			White non-Hispanic			Hispanic or Latino			Black or African American			American Indian or Alaska Native			Asian or Pacific Islander		
	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F
Chronic liver disease and cirrhosis																		
2000	12.8	17.7	8.3	10.4	14.9	6.4	15.8	20.5	11.0	6.6	7.1	5.9	61.7	80.2	45.3	4.1	6.9	2.2
2001	12.3	17.7	7.5	10.6	15.0	6.6	17.4	27.0	8.7	11.7	24.1	2.0	39.1	51.1	28.4	4.0	3.8	4.2
2002	12.1	15.6	8.9	9.9	11.9	8.0	21.6	31.9	12.3	9.8	14.6	5.5	40.5	55.6	27.5	5.3	2.9	7.0
2003	11.5	16.2	7.1	9.7	13.8	5.8	17.6	25.1	10.6	3.5	6.3	1.0	38.8	49.6	29.8	3.3	0.0	5.8
2004	11.1	15.6	6.9	8.4	11.7	5.4	18.6	26.6	10.6	6.7	7.3	6.5	51.0	68.9	36.1	3.8	7.0	2.4
2005	12.7	17.7	8.1	10.7	15.1	6.6	19.4	28.6	11.4	12.8	14.7	10.7	51.2	60.3	42.8	4.9	10.4	0.0
2006	11.4	14.3	8.5	9.6	11.8	7.6	15.5	19.9	11.1	7.2	11.6	4.2	43.6	54.3	32.7	3.1	3.8	2.5
2007	11.3	15.4	7.6	9.6	13.0	6.6	16.3	23.5	9.4	5.9	9.9	2.3	36.8	46.9	28.3	3.2	5.5	4.2
2008	11.7	15.3	8.4	10.0	13.2	7.1	15.4	19.9	11.2	7.5	9.2	5.6	40.7	52.8	30.5	1.8	2.6	1.1
2009	12.2	15.4	9.1	9.5	12.8	6.4	18.7	21.4	15.7	3.1	3.4	2.7	54.0	57.9	49.9	3.1	6.4	1.1
2010	12.3	16.1	8.8	9.7	13.6	6.1	15.5	20.9	10.3	8.0	9.5	7.0	64.6	63.9	64.9	0.5	1.2	0.0
2011	13.4	18.0	9.2	12.0	14.7	8.1	18.9	29.2	9.8	6.6	5.5	7.6	43.6	46.7	40.4	4.2	9.0	0.9
2012	13.6	18.7	9.0	11.4	15.9	7.2	16.9	25.7	9.2	10.9	14.8	8.5	59.2	63.3	55.5	2.6	6.1	0.0
2013	14.5	18.2	11.1	12.6	15.5	10.0	16.7	23.0	10.8	6.8	9.9	3.9	62.0	70.1	55.0	3.9	4.3	3.4
2014	13.2	16.5	10.1	10.9	14.1	7.9	18.0	22.4	13.6	8.3	10.7	5.5	52.7	48.0	55.5	3.8	4.0	3.6
2015	14.9	19.2	11.0	13.1	16.1	10.3	14.0	22.0	7.0	8.4	12.3	4.6	77.6	91.8	66.1	4.0	8.3	0.8
2016	15.1	19.8	10.8	12.5	16.0	9.2	16.8	24.2	10.3	7.7	12.7	2.9	85.9	107.3	67.2	2.0	5.2	0.0
2017	14.2	18.0	10.7	11.9	14.6	9.3	15.8	23.1	9.6	4.6	7.2	2.1	74.0	85.4	63.7	4.8	8.8	2.0
2018	14.2	17.9	10.9	11.3	13.7	9.1	15.1	22.9	8.3	6.8	8.5	5.5	88.8	101.9	77.1	3.4	5.7	1.8
2019	14.7	18.8	10.8	12.4	15.6	9.3	14.5	21.0	8.7	7.8	9.9	6.0	82.7	98.2	68.8	3.9	1.8	5.4
2020	17.4	21.6	13.4	14.9	18.6	11.5	16.7	23.3	10.7	4.3	6.2	2.5	103.2	110.6	95.5	3.1	2.9	3.3
Diabetes																		
2000	19.0	21.0	17.2	14.9	17.4	12.6	41.1	41.9	40.6	46.0	40.9	47.4	74.6	74.1	74.2	19.5	10.9	26.1
2001	19.9	22.9	17.5	15.4	19.2	12.2	42.9	43.5	42.3	55.7	42.2	64.1	72.8	71.2	73.9	14.8	3.0	23.3
2002	22.3	25.6	19.7	18.0	21.8	15.1	45.6	49.1	42.6	41.0	46.4	37.2	80.8	69.2	88.6	21.9	15.7	26.3
2003	20.3	23.6	17.5	16.5	20.6	13.1	39.1	35.9	40.9	53.6	55.0	49.8	55.8	48.2	60.3	15.7	22.2	11.6
2004	20.7	23.4	18.4	16.8	19.7	14.4	43.5	44.2	42.0	44.8	47.7	42.6	59.0	58.4	58.8	30.0	29.1	31.6
2005	20.1	24.7	16.7	15.5	20.2	12.1	46.0	49.9	42.4	55.2	56.2	54.0	69.9	73.5	68.2	17.8	17.7	18.0
2006	18.9	22.5	15.9	15.2	18.4	12.5	40.4	46.1	35.3	43.9	49.7	42.3	43.9	49.3	39.5	10.9	9.7	11.4
2007	17.0	20.5	13.9	13.7	17.4	10.4	30.8	32.6	28.9	30.3	32.0	30.0	51.1	61.1	42.1	5.1	12.8	4.4
2008	17.0	20.7	13.9	13.8	17.9	10.5	29.1	29.7	27.7	30.8	35.4	29.2	50.8	47.9	52.5	16.1	22.9	12.3
2009	15.7	18.2	13.5	12.2	15.5	9.4	28.1	29.2	27.2	31.1	28.6	34.9	54.2	46.6	59.9	16.2	18.5	14.4
2010	20.1	24.9	16.0	15.2	20.1	11.0	37.3	45.0	31.4	50.0	56.8	45.5	79.3	80.6	76.9	11.7	9.3	13.1
2011	24.8	30.3	20.2	21.6	25.1	15.7	41.7	48.4	35.9	57.8	71.9	44.4	61.3	50.7	68.8	23.3	32.4	17.4
2012	23.5	29.2	18.6	18.3	23.9	13.5	40.8	47.4	35.4	49.4	59.0	40.6	80.2	94.1	69.7	27.6	27.8	26.6
2013	23.6	29.1	18.8	18.6	24.0	14.0	40.7	45.8	36.3	60.2	68.0	55.8	65.7	79.7	55.0	17.9	18.5	17.9
2014	23.0	28.9	17.8	18.8	24.6	13.6	39.1	46.8	32.6	39.7	41.8	37.1	63.2	74.7	54.5	18.3	30.1	10.9
2015	25.7	31.8	20.4	20.1	25.8	15.1	45.3	53.2	38.7	53.0	67.5	42.6	73.9	85.6	65.3	22.7	29.3	18.4
2016	24.5	31.5	18.4	19.3	25.8	13.5	40.5	51.4	32.1	50.1	55.9	44.9	79.9	100.4	63.5	20.8	14.9	24.0
2017	23.8	30.1	18.3	18.1	23.5	13.3	39.4	48.7	31.7	45.9	49.5	42.3	81.6	101.9	64.8	21.3	22.6	20.3
2018	23.0	29.8	17.1	18.0	24.0	12.6	35.0	44.0	27.4	48.9	54.7	44.5	73.6	92.4	59.1	17.0	25.9	11.4
2019	23.9	30.5	18.1	18.9	25.6	12.9	34.6	42.0	28.8	43.6	44.6	42.0	91.4	106.3	78.5	19.5	23.4	16.6
2020	27.9	36.0	20.7	21.4	28.2	15.2	43.1	56.0	32.6	51.7	61.9	42.1	106.4	137.7	82.1	22.1	24.9	19.8

TABLE 2B-3 (continued)
AGE-ADJUSTED[a] MORTALITY RATES FOR SELECTED CAUSES OF DEATH BY RACE/ETHNICITY AND GENDER, ARIZONA, 2000-2020

	All groups			White non-Hispanic			Hispanic or Latino			Black or African American			American Indian or Alaska Native			Asian or Pacific Islander		
	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F
Accidents (unintentional injuries)																		
2000	41.1	58.0	24.9	36.9	51.5	23.3	41.6	60.8	22.5	49.7	75.8	22.7	113.1	165.2	67.4	24.1	24.4	21.4
2001	46.6	66.5	27.7	42.5	59.5	26.8	45.6	63.9	25.9	52.6	83.2	22.4	112.7	177.5	53.9	29.9	41.3	46.6
2002	45.2	62.8	28.8	41.5	56.8	27.8	45.5	64.6	26.2	44.0	58.5	28.5	111.0	168.4	60.4	15.5	13.8	15.6
2003	44.8	61.6	28.8	40.9	55.2	27.6	44.7	63.3	26.3	52.4	69.8	35.0	108.6	153.5	66.3	25.3	35.2	17.8
2004	46.0	61.1	31.7	43.3	56.8	30.7	48.9	66.1	31.8	45.9	66.9	26.0	103.9	137.5	73.7	21.2	21.7	30.0
2005	51.1	68.7	34.4	46.2	62.4	31.4	54.8	71.5	37.2	64.3	80.3	46.9	117.8	174.1	67.4	34.2	41.2	28.1
2006	51.2	68.5	34.3	48.7	64.5	33.5	52.4	72.9	32.2	54.8	73.0	34.5	97.2	139.8	58.6	19.8	17.0	20.8
2007	46.6	60.6	32.3	44.9	57.7	32.2	40.6	53.5	27.5	48.1	62.8	29.6	95.0	143.9	50.3	20.3	72.6	20.3
2008	44.7	59.0	30.6	45.4	59.8	31.4	34.2	46.9	22.0	43.1	50.6	33.8	92.6	142.6	47.9	23.7	31.1	17.9
2009	43.1	56.6	29.8	43.3	56.6	30.4	35.3	48.2	23.3	36.5	42.1	30.0	92.6	144.4	46.4	24.5	27.6	21.1
2010	43.8	56.6	31.6	45.5	58.0	33.3	33.7	45.3	22.8	36.0	42.3	30.7	99.2	148.9	55.4	24.6	24.9	23.9
2011	45.5	58.3	32.6	46.9	57.3	33.9	38.9	51.9	26.4	41.6	50.3	34.4	100.6	146.7	58.0	19.7	28.4	14.0
2012	42.4	54.0	31.0	43.3	54.0	32.7	33.9	45.4	22.8	38.2	50.3	25.2	94.8	136.9	56.5	21.0	20.0	20.3
2013	46.3	60.1	32.8	47.9	61.2	34.7	38.5	51.4	26.3	43.3	68.7	23.5	104.5	150.5	62.9	13.4	12.7	13.2
2014	43.3	56.7	30.1	43.7	57.7	29.9	35.9	47.3	24.9	37.6	44.1	32.2	85.4	128.2	47.4	18.3	15.5	19.3
2015	48.1	62.7	34.1	49.3	62.4	36.7	36.7	48.4	24.9	50.5	59.5	40.6	139.0	203.9	82.7	21.7	23.7	20.2
2016	53.7	73.1	34.9	55.2	73.8	36.9	41.6	58.2	25.9	52.2	66.0	35.8	139.1	219.5	67.9	25.9	33.4	20.1
2017	55.3	73.7	37.0	54.5	71.5	37.3	45.9	61.4	30.4	60.3	89.3	31.1	142.0	206.1	88.1	24.3	31.2	19.3
2018	55.9	76.4	35.6	56.3	74.7	37.8	44.5	63.5	26.0	57.6	80.4	34.1	144.5	224.0	74.5	24.9	31.5	18.7
2019	59.2	82.6	36.0	60.5	83.0	38.0	48.3	70.8	26.1	60.4	80.0	40.3	129.4	183.3	81.6	22.9	31.5	15.0
2020	71.5	100.6	42.4	69.2	94.4	43.8	60.4	89.5	31.5	82.2	124.6	38.0	180.1	262.7	104.9	20.2	24.8	16.1
-----Motor vehicle accidents																		
2000	17.5	24.4	10.6	13.8	18.5	9.2	18.2	28.5	7.5	19.3	33.1	6.8	74.2	106.4	46.3	15.3	11.6	12.8
2001	17.2	24.2	10.1	13.5	18.5	8.5	18.2	26.3	9.4	19.1	28.8	7.2	63.2	88.8	38.3	8.6	7.7	9.9
2002	18.5	25.5	11.6	14.7	20.3	9.3	21.1	27.4	14.0	11.9	15.9	7.5	65.9	100.2	35.3	10.1	8.2	11.1
2003	18.0	24.9	11.2	14.6	20.3	9.0	21.3	29.1	13.6	15.2	23.3	8.1	59.0	78.0	40.4	11.8	14.1	9.9
2004	18.1	23.9	12.5	15.3	20.3	10.6	23.2	30.0	16.0	14.8	18.2	10.8	54.1	63.9	44.1	11.3	13.7	13.9
2005	18.9	27.0	11.1	15.0	21.9	8.4	22.7	33.1	12.6	24.9	31.4	17.8	62.6	91.3	36.4	10.2	14.5	6.3
2006	19.6	26.8	12.4	16.6	22.8	10.7	21.9	29.9	13.3	15.3	22.9	7.7	56.9	76.5	38.5	5.9	5.3	6.1
2007	16.2	22.2	10.1	13.1	18.3	8.0	17.6	22.6	12.2	13.6	18.2	7.6	49.0	72.8	27.2	9.9	37.6	10.6
2008	13.6	19.5	7.9	12.0	17.7	6.5	13.1	18.5	7.7	11.5	16.8	5.6	41.9	55.0	29.3	4.4	6.9	2.0
2009	11.6	16.8	6.5	10.1	15.2	5.1	10.6	14.4	6.7	12.4	14.2	10.3	36.9	51.0	23.3	6.5	11.2	3.0
2010	11.1	15.9	6.4	9.2	13.6	4.8	11.1	15.6	6.9	10.8	14.2	7.2	41.7	60.2	24.0	5.5	4.3	6.3
2011	12.1	17.6	6.9	10.4	14.5	5.6	11.7	17.6	6.2	11.7	16.6	7.5	44.2	66.8	23.7	6.8	6.3	7.3
2012	11.4	16.8	6.3	10.0	14.8	5.3	10.6	16.3	5.4	10.1	15.2	5.1	37.8	53.1	22.8	4.9	5.4	4.5
2013	11.4	16.3	6.6	10.2	15.1	5.3	11.4	15.5	7.3	12.0	18.1	4.8	31.7	40.3	23.5	5.8	8.6	3.8
2014	10.3	14.5	6.0	8.3	12.5	4.1	10.3	14.2	6.5	7.9	11.1	4.4	35.6	49.2	23.1	2.5	2.8	2.2
2015	12.6	18.0	7.2	10.7	15.5	5.9	9.9	15.2	4.8	14.1	19.1	8.2	54.3	74.1	36.5	8.2	7.9	8.3
2016	13.9	20.1	7.8	11.5	17.3	5.9	13.3	19.9	7.2	19.1	22.6	14.7	52.2	77.6	29.5	7.2	9.0	6.2
2017	13.8	19.5	8.2	12.0	17.8	6.1	12.7	17.7	8.1	17.1	26.0	8.6	54.0	70.0	39.7	7.5	10.1	5.2
2018	14.1	20.0	8.3	12.3	17.3	7.4	12.1	18.7	6.0	13.9	17.0	10.7	60.7	91.1	33.1	6.2	7.9	4.8
2019	13.1	18.9	7.5	12.4	18.0	6.9	12.5	19.1	6.3	12.0	16.2	7.8	36.7	48.4	26.5	6.1	10.4	2.6
2020	14.0	20.2	7.8	12.0	17.9	6.2	13.7	19.7	7.6	12.2	19.3	4.6	44.7	59.4	30.8	6.8	6.0	7.4

TABLE 2B-3 (continued)
AGE-ADJUSTED[a] MORTALITY RATES FOR SELECTED CAUSES OF DEATH BY RACE/ETHNICITY AND GENDER, ARIZONA, 2000-2020

	All groups			White non-Hispanic			Hispanic or Latino			Black or African American			American Indian or Alaska Native			Asian or Pacific Islander		
	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F
Assault (homicide)																		
2000	7.6	11.1	3.8	3.9	5.4	2.3	13.0	19.2	6.1	22.7	32.3	11.0	14.9	22.1	7.5	7.6	5.1	9.7
2001	8.7	13.7	3.6	4.3	6.1	2.6	15.5	24.8	5.0	22.2	35.7	6.8	17.2	24.8	10.0	4.9	9.7	1.2
2002	8.6	13.9	3.0	4.4	6.8	2.0	15.1	25.8	3.4	21.3	32.5	7.1	20.3	29.0	11.8	3.3	0.0	5.8
2003	8.3	12.8	3.6	3.7	5.1	2.2	14.7	23.7	4.8	24.9	38.7	9.0	18.8	31.5	6.9	5.4	2.5	5.8
2004	8.2	13.3	2.9	4.8	7.0	2.6	13.6	23.2	3.0	22.3	35.5	7.4	14.7	25.9	4.5	1.4	2.3	0.0
2005	8.2	13.5	2.6	3.5	5.6	1.3	14.6	24.2	3.9	27.4	45.7	7.5	14.0	22.4	5.8	5.1	8.0	2.5
2006	8.5	13.5	3.1	4.6	6.8	2.4	13.0	21.6	3.3	19.6	30.5	7.5	13.2	23.7	3.2	2.4	1.5	3.5
2007	7.7	11.8	3.2	3.9	5.5	2.2	12.0	19.5	3.7	23.4	32.3	12.7	13.1	21.7	4.8	2.6	16.0	1.6
2008	7.1	11.2	2.7	3.7	5.6	1.7	10.6	16.9	3.7	20.7	32.7	6.4	12.8	20.6	5.2	3.2	4.3	2.1
2009	5.5	8.0	2.9	3.2	4.9	1.5	8.1	12.1	4.0	14.2	18.5	9.1	13.2	18.0	8.5	0.9	0.0	1.5
2010	6.5	10.5	2.4	3.8	5.5	2.2	8.0	13.5	2.3	15.4	25.6	3.4	18.0	31.4	5.0	4.1	4.2	4.0
2011	6.1	9.6	2.6	3.5	5.1	1.8	7.9	14.0	2.0	16.5	23.8	7.9	11.9	18.9	4.8	3.9	5.5	2.7
2012	5.9	8.6	3.1	4.3	6.0	2.4	6.1	9.7	2.5	14.5	20.2	8.2	17.3	26.3	8.8	2.0	3.0	0.9
2013	5.9	9.2	2.5	4.0	6.2	1.7	5.8	9.0	2.4	15.4	25.4	3.6	17.7	29.6	6.2	1.9	2.1	1.7
2014	4.6	7.1	2.1	3.0	4.2	1.8	6.0	9.8	2.1	11.1	17.5	4.0	7.3	12.0	2.6	0.4	0.8	0.0
2015	5.6	8.6	2.5	4.0	5.7	2.3	5.3	8.3	2.2	15.5	25.7	3.6	15.7	25.7	5.8	2.4	3.0	1.7
2016	6.3	9.9	2.5	3.7	5.3	2.1	6.8	11.7	1.8	20.4	33.4	5.6	17.6	25.7	9.9	4.0	7.1	1.6
2017	6.4	10.0	2.8	4.1	5.5	2.7	6.8	11.1	2.5	17.9	30.0	4.1	17.9	30.7	5.5	0.7	0.8	0.6
2018	6.1	9.8	2.4	3.6	4.9	2.3	6.6	11.4	1.6	19.3	30.0	6.9	17.9	29.1	6.9	2.6	3.9	1.4
2019	5.9	9.1	2.6	3.7	5.5	1.9	5.8	9.3	2.1	15.2	22.8	6.6	20.3	32.6	8.6	2.3	4.2	0.6
2020	7.7	12.1	3.2	4.3	6.0	2.6	6.9	11.5	2.1	27.3	45.4	7.2	28.4	46.0	11.7	2.3	2.7	1.8
Intentional self-harm (suicide)																		
2000	14.6	24.7	5.2	16.7	27.6	6.8	7.2	12.7	1.4	6.5	12.2	0.0	16.2	29.7	3.7	5.7	12.3	0.0
2001	14.9	24.6	5.6	12.8	21.0	5.1	5.9	9.9	1.6	9.2	15.2	2.4	15.4	26.4	5.2	9.4	15.4	4.7
2002	15.9	26.4	6.0	18.3	30.0	7.4	8.3	14.2	2.5	6.2	11.4	0.0	17.9	31.7	4.9	4.1	9.1	0.0
2003	14.6	24.0	5.8	16.4	27.1	6.4	8.2	11.8	4.2	11.3	16.6	4.8	15.2	27.4	3.6	6.0	7.0	5.9
2004	14.9	24.1	6.3	16.6	26.4	7.5	9.8	17.5	2.2	12.1	17.3	5.1	17.0	28.5	6.5	4.0	7.0	2.7
2005	15.4	24.9	6.5	16.6	26.7	7.3	10.5	17.8	3.0	3.3	4.7	1.8	17.5	28.7	6.8	11.7	8.9	14.1
2006	15.4	24.7	6.6	17.8	27.9	8.5	8.2	14.2	2.0	8.3	13.9	2.3	13.7	23.4	4.5	8.4	13.2	4.3
2007	15.4	24.4	6.7	18.7	29.4	8.3	9.2	14.7	3.6	6.2	10.1	1.7	9.8	16.3	3.6	6.1	9.2	2.4
2008	14.8	23.0	7.0	17.6	27.3	8.5	6.5	10.8	1.9	7.5	10.3	4.2	13.5	21.2	5.9	9.9	10.7	8.8
2009	16.1	24.6	8.1	18.4	28.0	9.5	9.0	14.0	3.9	10.5	12.7	7.7	15.9	22.9	9.3	9.9	19.9	2.3
2010	16.7	27.1	6.7	20.6	32.8	8.7	7.4	12.5	2.6	6.4	9.9	2.2	18.7	32.3	5.7	6.8	11.0	3.2
2011	17.2	27.4	7.5	22.0	33.1	10.1	8.1	14.8	1.8	9.1	13.7	4.3	14.9	24.0	5.8	5.3	6.9	3.5
2012	16.2	25.9	7.0	20.2	32.2	8.7	6.8	11.1	2.9	10.0	15.5	4.0	17.9	27.9	8.1	5.7	10.2	1.8
2013	17.0	26.6	7.7	20.8	32.4	9.6	8.4	12.8	4.2	6.7	9.7	3.1	21.9	36.1	8.1	7.0	14.5	1.1
2014	16.5	25.6	7.7	21.0	31.9	10.4	8.3	13.4	3.4	9.0	13.6	4.2	13.9	24.3	3.7	7.0	12.0	2.7
2015	17.8	27.5	8.4	23.6	36.4	11.1	6.7	10.4	3.2	6.6	9.2	3.7	19.0	28.4	10.0	7.0	9.9	4.5
2016	17.7	28.0	7.9	21.7	33.6	10.2	8.8	15.0	2.9	9.0	13.1	5.2	24.2	36.7	11.9	9.3	14.0	4.7
2017	18.0	28.1	8.4	22.1	33.8	10.8	8.5	14.1	3.0	10.5	19.1	2.3	26.2	40.4	12.7	9.3	10.6	7.8
2018	19.5	31.5	7.8	23.7	37.5	10.2	8.7	15.2	2.4	16.0	24.6	6.6	36.5	61.8	12.3	7.3	11.0	4.1
2019	18.9	29.7	8.3	23.1	36.4	10.1	9.9	16.4	3.7	12.5	14.1	11.1	26.8	41.8	12.4	7.3	11.5	3.9
2020	18.2	28.8	8.0	22.5	35.0	10.3	9.2	14.9	3.6	13.7	22.1	4.5	28.0	43.9	12.9	6.8	12.4	1.9

Notes: [a] Adjusted to the 2000 standard U.S. population; [b] Chronic obstructive pulmonary diseases in 1990; [±] The COVID-19 data collection began in mid-March 2020; age-adjusted rates by race/ethnicity for COVID-19 may be found in Table 2b-4; beginning in 2000, when the new standard for the age-adjustment of mortality rates was implemented, all previously published rates for 1979-1999 became obsolete. With the 2008 edition of this report we have added the recomputed age-adjusted mortality rates for 1991-1999. In order to compute these rates, we have used the population denominators consistent with both the 1990 and 2000 census. The mortality rates for 1989-1999 in Table 2B-2 also were revised for consistency; The denominators are available at:

http://pub.azdhs.gov/health-stats/

TABLE 2B-4
NUMBER OF DEATHS AND AGE-ADJUSTED MORTALITY RATES[a] FOR SELECTED CAUSES OF DEATH BY RACE/ETHNICITY AND GENDER, ARIZONA, 2020

	NUMBER OF DEATHS																	
	All groups			White non-Hispanic			Hispanic or Latino			Black or African American			American Indian or Alaska Native			Asian or Pacific Islander		
	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F
Total, all causes[b]	75,700	41,431	34,269	54,148	28,990	25,158	12,504	7,277	5,227	2,932	1,723	1,209	4,290	2,412	1,878	1,199	586	613
Major cardiovascular diseases	19,063	10,406	8,657	14,934	8,056	6,878	2,348	1,336	1,012	770	443	327	542	301	241	311	157	154
Diseases of heart	14,185	8,097	6,088	11,275	6,356	4,919	1,635	968	667	557	334	223	379	233	146	210	111	99
Coronary heart disease	10,205	6,074	4,131	8,148	4,786	3,362	1,185	732	453	363	239	124	253	160	93	156	84	72
Malignant neoplasms	12,671	6,821	5,850	9,983	5,421	4,562	1,656	860	796	469	258	211	274	137	137	222	98	124
Malignant neoplasm of trachea, bronchus and lung	2,592	1,336	1,256	2,208	1,123	1,085	208	112	96	100	60	40	23	13	10	37	16	21
Malignant neoplasm of colon, rectum, and anus	1,173	602	571	885	442	443	172	100	72	53	27	26	30	17	13	24	9	15
Malignant neoplasm of breast	890†	10†	883	684	8	676	130†	*	130	40†	*	42	9	0	9	20	0	20
Malignant neoplasm of prostate	795	795	0	633	633	0	98	98	0	41	41	0	13	13	0	7	7	0
Malignant melanoma of skin	210†	150†	60†	193	140	53	14	8	6	0†	*	0	0†	*	0	0†	0	*
Malignant neoplasm of cervix uteri	74	0	70†	42	0	42	23	0	23	0†	0	*	0†	0	*	0†	0	*
COVID-19[±]	8,430	4,980	3,450	4,098	2,365	1,733	2,635	1,668	967	270	154	116	1,194	636	558	177	112	65
Accidents (unintentional injury)	5,377	3,677	1,700	3,208	2,077	1,131	1,254	942	312	290	227	63	492	344	148	52	29	23
Accidental poisoning	2,480†	1,829	650†	1,290	899	391	702	560	142	186	146	40	248	182	66	20†	11	*
Falls	1,130†	590†	541	935	480	455	117	59	58	16	10	6	46	31	15	10†	*	6
Motor vehicle accidents	1,035	747	288	520	384	136	312	225	87	47	39	8	125	82	43	18	7	11
Accidental drowning and submersion	100†	70†	30†	68	43	25	20†	17	*	0†	*	*	10†	*	0	0†	*	*
Chronic lower respiratory diseases	3,698	1,795	1,903	3,237	1,546	1,691	270	141	129	73	37	36	47	26	21	31	16	15
Alzheimer's disease	3,235	1,103	2,132	2,650	921	1,729	385	128	257	87	26	61	40	7	33	57	14	43
Cerebrovascular diseases	3,225	1,474	1,751	2,435	1,088	1,347	478	240	238	123	60	63	97	41	56	71	31	40
Diabetes	2,563	1,549	1,014	1,451	904	547	620	366	254	147	85	62	259	149	110	57	26	31
Chronic liver disease and cirrhosis	1,430†	860†	560†	827	507	320	290	195	95	20†	11	*	274	140	134	10†	*	6
Intentional self-harm (suicide)	1,360†	1,066	290†	992	772	220	204	163	41	50	43	7	85	65	20	20†	18	*
Essential (primary) hypertension and hypertensive renal disease	1,131	562	569	807	400	407	174	92	82	69	37	32	56	23	33	18	7	11
Influenza and pneumonia	1,109	629	480	755	427	328	199	104	95	35	24	11	97	59	38	16	8	8
Parkinson's disease	1,020†	659	360†	859	563	296	92	53	39	20†	17	*	23	13	10	19	12	7
Nephritis, nephrotic syndrome and nephrosis	770†	411	360†	517	286	231	162	81	81	31	15	16	46	17	29	10†	8	*
Assault (homicide)	530†	420†	110†	165	114	51	164	138	26	104	91	13	77	60	17	10†	*	*
Septicemia	430†	210†	210†	271	143	128	73	28	45	24	13	11	45	20	25	10†	*	*
Human immunodeficiency virus (HIV) disease	70†	60†	10†	40†	36	*	10†	10	*	10†	9	*	0†	*	*	0†	*	0
Injury by firearms	1,260†	1,072	190†	779	647	132	253	222	31	122	113	9	82	68	14	20†	13	*
Drug-induced deaths	2,668	1,907	761	1,495	1,006	489	728	578	150	194	149	45	185	126	59	18	12	6
Opioid-induced deaths	1,880†	1,358	530†	1,035	703	332	554	437	117	126	98	28	133	93	40	10†	9	*
Alcohol-induced deaths	1,570†	1,060†	510†	890	593	297	238	182	56	29	22	7	398	251	147	10†	*	*

TABLE 2B-4 (continued)
NUMBER OF DEATHS AND AGE-ADJUSTED MORTALITY RATES[a] FOR SELECTED CAUSES OF DEATH BY RACE/ETHNICITY AND GENDER, ARIZONA, 2020

	AGE-ADJUSTED MORTALITY RATES[a]																	
	All groups			White non-Hispanic			Hispanic or Latino			Black or African American			American Indian or Alaska Native			Asian or Pacific Islander		
	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F
Total, all causes	842.2	1002.1	694.1	794.6	929.2	667.9	871.7	1085.5	689.9	1057.7	1275.0	854.0	1757.8	2199.1	1397.5	507.4	597.5	437.9
Major cardiovascular diseases	205.3	246.9	167.8	204.5	243.4	168.6	182.7	230.3	144.3	293.7	352.6	238.6	237.2	304.4	187.6	134.7	160.9	114.1
Diseases of heart	152.9	192.2	118.1	154.9	192.5	120.8	125.5	163.5	94.8	212.3	263.8	164.4	164.3	234.2	113.2	91.0	112.0	74.6
Coronary heart disease	109.4	143.4	79.4	111.2	144.1	81.6	91.5	123.8	65.5	138.3	188.4	92.5	111.1	160.5	74.1	66.6	83.6	53.7
Malignant neoplasms	134.7	156.1	117.2	138.9	159.3	121.8	114.8	132.7	100.9	169.4	206.2	141.6	116.5	138.7	102.8	87.9	97.0	81.5
Malignant neoplasm of trachea, bronchus and lung	26.8	29.9	24.2	29.4	32.0	27.3	15.3	18.8	12.6	36.0	47.9	26.8	9.6	12.5	7.6	14.8	16.6	13.6
Malignant neoplasm of colon, rectum, and anus	12.7	14.2	11.4	12.9	14.0	11.9	11.3	14.6	8.7	18.2	18.3	17.6	12.8	15.3	10.5	9.2	9.1	9.4
Malignant neoplasm of breast	9.9	0.3	18.5	10.4	0.3	19.5	8.8	**	15.9	15.6	**	28.2	3.5	0.0	6.5	8.0	0.0	13.5
Malignant neoplasm of prostate	8.3	18.5	0.0	8.3	18.2	0.0	7.8	18.3	0.0	15.8	35.4	0.0	6.7	17.5	0.0	3.2	8.1	0.0
Malignant melanoma of skin	2.3	3.5	1.2	2.8	4.4	1.4	0.9	1.1	0.7	**	**	0.0	**	**	0.0	**	0.0	**
Malignant neoplasm of cervix uteri	0.9	0.0	1.7	0.7	0.0	1.3	1.3	0.0	2.5	**	0.0	**	**	0.0	**	**	0.0	**
COVID-19[±]	92.1	118.3	69.2	55.4	69.5	43.2	185.8	259.9	126.4	101.6	123.1	83.7	492.3	605.3	406.9	72.6	110.4	46.6
Accidents (unintentional injury)	71.5	100.6	42.4	69.2	94.4	43.8	60.4	89.5	31.5	82.2	124.6	38.0	180.1	262.7	104.9	20.2	24.8	16.1
Accidental poisoning	36.2	52.9	19.1	35.7	49.7	21.3	30.4	47.8	12.7	50.0	75.6	22.5	88.4	135.3	45.0	5.0	7.7	**
Motor vehicle accidents	14.0	20.2	7.8	12.0	17.9	6.2	13.7	19.7	7.6	12.2	19.3	4.6	44.7	59.4	30.8	6.8	6.0	7.4
Falls	12.2	14.2	10.5	12.7	14.4	11.1	9.6	11.3	8.4	6.5	7.8	5.1	20.5	31.2	11.9	5.0	**	4.6
Accidental drowning and submersion	1.3	1.9	0.8	1.6	2.1	1.0	0.9	1.6	**	**	**	**	**	**	0.0	**	**	**
Chronic lower respiratory diseases	38.8	41.2	36.8	43.1	44.4	41.9	21.9	27.0	18.2	27.4	30.4	25.2	20.9	27.5	16.5	14.3	20.5	11.0
Alzheimer's disease	34.7	27.1	40.5	34.6	27.0	40.5	36.1	30.0	40.4	44.8	31.1	54.3	21.4	11.0	28.2	28.6	17.9	34.7
Cerebrovascular diseases	34.6	34.8	33.8	32.9	32.3	32.9	38.3	42.8	34.2	48.6	51.6	45.9	43.6	44.7	42.9	29.9	32.0	28.0
Diabetes	27.9	36.0	20.7	21.4	28.2	15.2	43.1	56.0	32.6	51.7	61.9	42.1	106.4	137.7	82.1	22.1	24.9	19.8
Intentional self-harm (suicide)	18.2	28.8	8.0	22.5	35.0	10.3	9.2	14.9	3.6	13.7	22.1	4.5	28.0	43.9	12.9	6.8	12.4	**
Chronic liver disease and cirrhosis	17.4	21.6	13.4	14.9	18.6	11.5	16.7	23.3	10.7	4.3	6.2	**	103.2	110.6	95.5	3.1	**	3.3
Essential (primary) hypertension and hypertensive renal disease	12.2	13.3	11.0	10.9	11.9	9.8	14.2	17.5	11.8	25.0	29.0	21.6	25.1	21.7	26.7	8.8	8.3	9.0
Influenza and pneumonia	12.2	15.1	9.6	10.9	13.5	8.5	14.4	15.6	13.1	12.8	18.8	7.8	41.4	57.8	29.0	7.8	9.4	6.5
Parkinson's disease	10.8	15.6	6.8	11.2	16.1	7.0	8.1	10.9	6.0	8.1	14.4	**	11.4	16.9	8.0	8.9	14.6	5.1
Nephritis, nephrotic syndrome and nephrosis	8.4	9.8	7.2	7.2	8.7	5.9	12.0	14.0	10.5	11.8	12.0	11.5	20.2	16.8	22.3	5.5	8.6	**
Assault (homicide)	7.7	12.1	3.2	4.3	6.0	2.6	6.9	11.5	2.1	27.3	45.4	7.2	28.4	46.0	11.7	2.3	**	**
Septicemia	4.7	5.1	4.4	4.1	4.7	3.5	5.3	4.5	6.0	8.3	9.5	7.1	19.4	19.1	19.2	2.7	**	**
Human immunodeficiency virus (HIV) disease	0.9	1.5	0.3	0.8	1.3	**	0.6	1.0	**	3.8	5.7	**	**	**	**	**	**	0.0
Injury by firearms	17.2	29.4	5.2	17.6	29.2	6.2	10.8	18.8	2.7	32.4	57.3	5.1	28.3	48.6	8.9	5.6	8.7	**
Drug-induced deaths	38.4	54.7	21.7	40.4	54.8	25.5	31.6	49.5	13.4	51.9	76.8	25.2	64.3	88.6	40.8	5.9	8.4	3.4
Opioid-induced deaths	27.6	39.4	15.4	29.3	40.1	18.0	23.2	35.6	10.3	32.6	47.8	15.8	45.5	64.4	27.0	3.7	6.1	**
Alcohol-induced deaths	20.4	27.7	13.3	17.9	23.9	12.1	12.8	20.4	5.8	8.2	12.1	4.2	149.2	198.2	105.5	1.9	**	**

Notes: * Cell suppressed due to count less than 6; ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; [a] The number of deaths per 100,000 resident population age-adjusted to the 2000 U.S. standard; The rates for cervical cancer are per 100,000 females; The rate for prostate cancer is per 100,000 males; [b] Includes records with unknown gender and race/ethnicity; [±] The COVID-19 data collection began in mid-March 2020.

TABLE 2B-5
AGE-ADJUSTED MORTALITY RATES[a] FOR SELECTED CAUSES OF DEATH BY URBAN/RURAL AREA AND GENDER, ARIZONA, 2020

	Arizona			Urban			Rural		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Total, all causes	842.2	1002.1	694.1	811.9	964.6	672.1	991.1	1180.9	806.3
Major cardiovascular diseases	205.3	246.9	167.8	200.8	240.6	165.3	222.2	269.3	178.2
Diseases of heart	152.9	192.2	118.1	148.2	185.1	115.8	171.7	219.3	127.6
Coronary heart disease	109.4	143.4	79.4	104.9	137.0	77.0	127.6	168.6	89.8
Malignant neoplasms	134.7	156.1	117.2	131.8	152.7	115.0	146.0	167.1	127.5
Malignant neoplasm of trachea, bronchus and lung	26.8	29.9	24.2	25.7	28.8	23.3	31.1	34.0	28.3
Malignant neoplasm of colon, rectum, and anus	12.7	14.2	11.4	12.5	13.9	11.2	13.4	14.6	12.5
Malignant neoplasm of breast	9.9	0.3	18.5	9.6	0.2	17.8	11.4	0.3	21.8
Malignant neoplasm of prostate	8.3	18.5	0.0	8.0	18.1	0.0	9.4	20.2	0.0
Malignant melanoma of skin	2.3	3.5	1.2	2.2	3.4	1.2	2.7	4.2	1.4
Malignant neoplasm of cervix uteri	0.9	0.0	1.7	0.9	0.0	1.8	0.7	0.0	1.3
COVID-19[±]	92.1	118.3	69.2	86.8	113.0	64.3	118.7	145.0	93.8
Accidents (unintentional injury)	71.5	100.6	42.4	68.1	96.3	40.0	88.4	120.7	55.4
Accidental poisoning	36.2	52.9	19.1	35.4	52.0	18.5	38.5	54.9	21.4
Motor vehicle accidents	14.0	20.2	7.8	12.6	18.4	6.7	22.4	30.1	14.5
Falls	12.2	14.2	10.5	11.9	13.8	10.4	13.9	16.8	11.1
Accidental drowning and submersion	1.3	1.9	0.8	1.3	1.9	0.8	1.2	1.7	0.7
Chronic lower respiratory diseases	38.8	41.2	36.8	36.1	38.0	34.7	49.9	53.3	46.9
Alzheimer's disease	34.7	27.1	40.5	35.2	27.5	40.8	32.3	25.0	38.7
Cerebrovascular diseases	34.6	34.8	33.8	34.4	34.9	33.5	34.6	33.7	35.2
Diabetes	27.9	36.0	20.7	27.4	35.5	20.4	30.6	39.2	22.5
Intentional self-harm (suicide)	18.2	28.8	8.0	16.2	25.6	7.2	30.0	47.2	12.7
Chronic liver disease and cirrhosis	17.4	21.6	13.4	14.5	18.3	11.0	34.6	41.5	27.6
Essential (primary) hypertension and hypertensive renal disease	12.2	13.3	11.0	12.7	14.0	11.4	9.7	10.2	9.1
Influenza and pneumonia	12.2	15.1	9.6	12.0	14.8	9.6	13.2	16.8	9.9
Parkinson's disease	10.8	15.6	6.8	11.4	16.8	7.2	7.9	10.9	5.3
Nephritis, nephrotic syndrome and nephrosis	8.4	9.8	7.2	7.7	8.8	6.7	11.5	13.7	9.5
Assault (homicide)	7.7	12.1	3.2	7.3	11.4	3.0	10.5	16.2	4.6
Septicemia	4.7	5.1	4.4	4.4	4.9	4.0	5.9	5.8	5.9
(HIV) disease	0.9	1.5	0.3	0.9	1.5	0.4	1.0	1.8	0.1
Injury by firearms	17.2	29.4	5.2	15.9	27.0	4.9	24.7	42.4	6.8
Drug-induced deaths	38.4	54.7	21.7	37.7	54.4	20.7	40.5	53.3	26.8
Opioid-induced deaths	27.6	39.4	15.4	27.6	39.7	15.1	26.2	35.3	16.2
Alcohol-induced deaths	20.4	27.7	13.3	15.4	21.3	9.9	50.4	66.2	34.6

Notes: [a] The number of deaths per 100,000 population in specified group age-adjusted to the 2000 standard U.S.; The rates for cervical cancer are per 100,000 females; the rates for prostate cancer are per 100,000 males; [±] The COVID-19 data collection began in mid-March 2020.

TABLE 2B-6
DEATHS AND DEATH RATES BY GENDER FOR SELECTED CAUSES,
ARIZONA RESIDENTS, 2020

Cause of death (Tenth Revision, International Statistical Classification of Diseases)	Number of deaths			Crude death rate per 100,000 persons		
	Total	Male	Female	Total	Male	Female
Total, all causes[a]	75,700	41,431	34,269	1054.8	1162.0	949.0
Salmonella infections	0†	0	*	**	0.0	**
Shigellosis and amebiasis	0	0	0	0.0	0.0	0.0
Certain other intestinal infections	211	89	122	2.9	2.5	3.4
Enterocolitis due to Clostridium difficile	116	52	64	1.6	1.5	1.8
Tuberculosis	15	8	7	0.2	0.2	0.2
Respiratory tuberculosis	10†	*	6	0.2	**	0.2
Other tuberculosis	0†	*	*	**	**	**
Whooping cough	0	0	0	0.0	0.0	0.0
Scarlet fever and erysipelas	0	0	0	0.0	0.0	0.0
Meningococcal infection	0	0	0	0.0	0.0	0.0
Septicemia	425	212	213	5.9	5.9	5.9
Syphilis	0	0	0	0.0	0.0	0.0
Acute poliomyelitis	0	0	0	0.0	0.0	0.0
Arthropod-borne encephalitis	0†	*	0	**	**	0.0
Measles	0	0	0	0.0	0.0	0.0
Viral hepatitis	100	63	37	1.4	1.8	1.0
Human immunodeficiency virus (HIV) disease	73	60	13	1.0	1.7	0.4
Malaria	0	0	0	0.0	0.0	0.0
Other and unspecified infectious and parasitic diseases	403	243	160	5.6	6.8	4.4
Malignant neoplasms	12,671	6,821	5,850	176.6	191.3	162.0
Malignant neoplasm of lip, oral cavity and pharynx	217	154	63	3.0	4.3	1.7
Malignant neoplasm of esophagus	313	263	50	4.4	7.4	1.4
Malignant neoplasm of stomach	215	125	90	3.0	3.5	2.5
Malignant neoplasm of colon, rectum, and anus	1,173	602	571	16.3	16.9	15.8
Malignant neoplasm of liver and intrahepatic bile ducts	630	401	229	8.8	11.2	6.3
Malignant neoplasm of pancreas	1,005	545	460	14.0	15.3	12.7
Malignant neoplasm of larynx	71	58	13	1.0	1.6	0.4
Malignant neoplasm of trachea, bronchus and lung	2,592	1,336	1,256	36.1	37.5	34.8
Malignant melanoma of skin	212	151	61	3.0	4.2	1.7
Malignant neoplasm of breast	894	11	883	12.5	0.3	24.5
Malignant neoplasm of cervix uteri	74	0	74	1.0	0.0	2.0
Malignant neoplasm of corpus uteri and uterus, part unspecified	212	0	212	3.0	0.0	5.9
Malignant neoplasm of ovary	298	0	298	4.2	0.0	8.3
Malignant neoplasm of prostate	795	795	0	11.1	22.3	0.0
Malignant neoplasm of kidney and renal pelvis	337	242	95	4.7	6.8	2.6
Malignant neoplasm of bladder	416	321	95	5.8	9.0	2.6
Malignant neoplasm of meninges, brain and other parts of central nervous sy	390	229	161	5.4	6.4	4.5
Malignant neoplasm of lymphoid, hematopoietic and related tissue	1,263	748	515	17.6	21.0	14.3
Hodgkin's disease	20†	13	*	0.2	0.4	**
Non-Hodgkin's lymphoma	452	267	185	6.3	7.5	5.1
Leukemia	499	305	194	7.0	8.6	5.4
Multiple myeloma and immunoproliferative neoplasms	292	162	130	4.1	4.5	3.6
Other and unspecified malignant neoplasms of lymphoid tissue	0†	*	*	**	**	**
All other and unspecified malignant neoplasm	1,564	840	724	21.8	23.6	20.1
In situ neoplasms	418	233	185	5.8	6.5	5.1
Anemias	54	17	37	0.8	0.5	1.0
Diabetes	2,563	1,549	1,014	35.7	43.4	28.1

TABLE 2B-6 (continued)
DEATHS AND DEATH RATES BY GENDER FOR SELECTED CAUSES,
ARIZONA RESIDENTS, 2020

Cause of death (Tenth Revision, International Statistical Classification of Diseases)	Number of deaths			Crude death rate per 100,000 persons		
	Total	Male	Female	Total	Male	Female
Nutritional deficiencies	622	228	394	8.7	6.4	10.9
Malnutrition	600	225	375	8.4	6.3	10.4
Other nutritional deficiencies	20†	*	19	0.3	**	0.5
Obesity	243	141	102	3.4	4.0	2.8
Meningitis	20	11	9	0.3	0.3	0.2
Parkinson's disease	1,016	659	357	14.2	18.5	9.9
Alzheimer's disease	3,235	1,103	2,132	45.1	30.9	59.0
Major cardiovascular diseases	19,063	10,406	8,657	265.6	291.9	239.7
Diseases of heart	14,185	8,097	6,088	197.7	227.1	168.6
Acute rheumatic fever and chronic rheumatic heart disease	87	31	56	1.2	0.9	1.6
Hypertensive heart disease	1,619	779	840	22.6	21.8	23.3
Hypertensive heart and renal disease	179	82	97	2.5	2.3	2.7
Ischemic heart disease	8,586	5,295	3,291	119.6	148.5	91.1
Acute myocardial infarction	1,899	1,152	747	26.5	32.3	20.7
Other acute ischemic heart disease	97	61	36	1.4	1.7	1.0
Other forms of chronic ischemic heart disease	6,590	4,082	2,508	91.8	114.5	69.5
Atherosclerotic cardiovascular disease	1,742	1,155	587	24.3	32.4	16.3
All other forms of chronic ischemic heart disease	4,848	2,927	1,921	67.6	82.1	53.2
Other heart diseases	3,714	1,910	1,804	51.8	53.6	50.0
Acute and subacute endocarditis	44	34	10	0.6	1.0	0.3
Diseases of pericardium and acute myocarditis	19	10	9	0.3	0.3	0.2
Heart failure	993	534	459	13.8	15.0	12.7
All other forms of heart disease	2,658	1,332	1,326	37.0	37.4	36.7
Essential (primary) hypertension and hypertensive renal disease	1,131	562	569	15.8	15.8	15.8
Cerebrovascular diseases	3,225	1,474	1,751	44.9	41.3	48.5
Atherosclerosis	110	49	61	1.5	1.4	1.7
Other diseases of circulatory system	412	224	188	5.7	6.3	5.2
Aortic aneurysm and dissection	203	123	80	2.8	3.4	2.2
Other disease of arteries, arterioles and capillaries	209	101	108	2.9	2.8	3.0
Other disorders of circulatory system	147	85	62	2.0	2.4	1.7
Influenza and pneumonia	1,109	629	480	15.5	17.6	13.3
Influenza	100	53	47	1.4	1.5	1.3
Pneumonia	1,009	576	433	14.1	16.2	12.0
COVID-19±	8,430	4,980	3,450	117.5	139.7	95.5
Other acute lower respiratory infections	10†	*	*	0.1	**	**
Acute bronchiolitis	0†	*	*	**	**	**
Unspecified acute lower respiratory infection	0†	*	*	**	**	**
Chronic lower respiratory diseases	3,698	1,795	1,903	51.5	50.3	52.7
Bronchitis, chronic and unspecified	10†	7	*	0.2	0.2	**
Emphysema	181	106	75	2.5	3.0	2.1
Asthma	121	43	78	1.7	1.2	2.2
Other chronic lower respiratory diseases	3,385	1,639	1,746	47.2	46.0	48.4
Pneumoconioses and chemical effects	9	9	0	0.1	0.3	0.0
Pneumonitis due to solids and liquids	187	119	68	2.6	3.3	1.9
Other disease of respiratory system	1,094	611	483	15.2	17.1	13.4
Peptic ulcer	114	60	54	1.6	1.7	1.5
Diseases of appendix	12	6	6	0.2	0.2	0.2
Hernia	43	19	24	0.6	0.5	0.7

TABLE 2B-6 (continued)
DEATHS AND DEATH RATES BY GENDER FOR SELECTED CAUSES,
ARIZONA RESIDENTS, 2020

Cause of death (Tenth Revision, International Statistical Classification of Diseases)	Number of deaths			Crude death rate per 100,000 persons		
	Total	Male	Female	Total	Male	Female
Chronic liver disease and cirrhosis	1,426	864	562	19.9	24.2	15.6
Alcoholic liver disease	906	573	333	12.6	16.1	9.2
Other chronic liver disease and cirrhosis	520	291	229	7.2	8.2	6.3
Cholelithiasis and other disorders of gallbladder	100	52	48	1.4	1.5	1.3
Nephritis, nephrotic syndrome and nephrosis	772	411	361	10.8	11.5	10.0
Acute and rapidly progressive nephritic and nephrotic syndrome	10†	*	*	0.1	**	**
Chronic glomerulonephritis	10†	6	*	0.1	0.2	**
Renal failure	754	402	352	10.5	11.3	9.7
Others disorders of kidney	0†	*	0	**	**	0.0
Infections of kidney	27	7	20	0.4	0.2	0.6
Hyperplasia of prostate	14	14	0	0.2	0.4	0.0
Inflammatory diseases of female pelvic organs	0†	0	*	**	0.0	**
Pregnancy, childbirth and the puerperium	39	0	39	0.5	0.0	1.1
Pregnancy with abortive outcome	0	0	0	0.0	0.0	0.0
Other complications of pregnancy, childbirth and the puerperium	39	0	39	0.5	0.0	1.1
Perinatal conditions	194	110	84	2.7	3.1	2.3
Congenital malformations	215	113	102	3.0	3.2	2.8
Symptoms, signs, abnormal findings[a]	1,036	498	538	14.4	14.0	14.9
Total accidents	5,377	3,677	1,700	74.9	103.1	47.1
Transport accidents	1,125	821	304	15.7	23.0	8.4
Motor vehicle accidents	1,035	747	288	14.4	21.0	8.0
Other land transport accidents	40†	35	*	0.6	1.0	**
Water, air, space	50	39	11	0.7	1.1	0.3
Nontransport accidents	4,252	2,856	1,396	59.2	80.1	38.7
Falls	1,127	586	541	15.7	16.4	15.0
Accidental discharge of firearms	10†	*	*	0.1	**	**
Accidental drowning and submersion	99	68	31	1.4	1.9	0.9
Accidental exposure to smoke, fire and flames	48	31	17	0.7	0.9	0.5
Accidental poisoning	2,483	1,829	654	34.6	51.3	18.1
Other and unspecified non-transport accidents	489	337	152	6.8	9.5	4.2
Intentional self-harm (suicide)	1,359	1,066	293	18.9	29.9	8.1
By discharge of firearms	828	705	123	11.5	19.8	3.4
By other means	531	361	170	7.4	10.1	4.7
Assault (homicide)	526	415	111	7.3	11.6	3.1
By discharge of firearms	384	320	64	5.4	9.0	1.8
By other means	142	95	47	2.0	2.7	1.3
Legal intervention	30†	27	*	0.4	0.8	**
Events of undetermined intent	186	121	65	2.6	3.4	1.8
Discharge of firearms	20†	15	*	0.2	0.4	**
Other and unspecified events of undetermined intent	169	106	63	2.4	3.0	1.7
Operations of war	0	0	0	0.0	0.0	0.0
Complications of medical and surgical care	127	68	59	1.8	1.9	1.6
Injury by firearms	1,263	1,072	191	17.6	30.1	5.3
Drug-induced deaths	2,668	1,907	761	37.2	53.5	21.1
Opioid-induced deaths	1,884	1,358	526	26.3	38.1	14.6
Alcohol-induced deaths	1,574	1,061	513	21.9	29.8	14.2

Notes: * Cell suppressed due to count less than 6; ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; [a] Includes records with unknown gender; The list of Causes of Death was developed for the general analysis of ICD-10 mortality statistics and for ranking of leading causes of death. It is similar in structure and content and replaces the list of 72 Selected Causes of Death used for ICD-9 mortality statistics; ± The COVID-19 data collection began in mid-March 2020.

TABLE 2B-7
NUMBER OF DEATHS FROM DISEASES OF THE HEART BY CATEGORY, GENDER, AND YEAR, ARIZONA, 2010-2020

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ALL FORMS OF HEART DISEASE	TOTAL	9,719	10,423	10,366	10,497	9,953	11,274	11,820	12,285	12,410	12,560	14,185
	Male	5,351	5,748	5,731	5,910	5,575	6,286	6,702	6,973	7,030	7,129	8,097
	Female	4,368	4,675	4,635	4,587	4,378	4,988	5,118	5,312	5,380	5,431	6,088
Acute rheumatic fever and chronic rheumatic heart disease	TOTAL	42	69	51	64	74	52	77	79	98	71	87
	Male	15	22	19	17	26	20	33	27	41	31	31
	Female	27	47	32	47	48	32	44	52	57	40	56
Hypertensive heart and renal disease	TOTAL	36	49	51	49	65	71	111	147	153	165	179
	Male	16	22	28	27	31	36	56	73	81	77	82
	Female	20	27	23	22	34	35	55	74	72	88	97
Ischemic heart disease	TOTAL	7,043	7,498	7,294	7,159	6,650	7,264	7,734	7,814	7,540	7,617	8,586
	Male	4,076	4,409	4,279	4,259	3,957	4,391	4,703	4,829	4,670	4,642	5,295
	Female	2,967	3,089	3,015	2,900	2,693	2,873	3,031	2,985	2,870	2,975	3,291
Hypertensive heart disease	TOTAL	644	739	761	943	991	1,118	1,114	1,122	1,400	1,409	1,619
	Male	302	348	375	462	491	517	554	526	711	735	779
	Female	342	391	386	481	500	601	560	596	689	674	840
Other heart diseases	TOTAL	1,954	2,069	2,209	2,282	2,173	2,769	2,784	3,123	3,219	3,298	3,714
	Male	942	947	1,030	1,145	1,070	1,322	1,356	1,518	1,527	1,644	1,910
	Female	1,012	1,121	1,179	1,137	1,103	1,447	1,428	1,605	1,692	1,654	1,804

TABLE 2B-8
NUMBER OF DEATHS FOR SELECTED SUBCATEGORIES OF MALIGNANT NEOPLASMS BY GENDER AND YEAR, ARIZONA, 2010-2020

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ALL CANCERS[a]	TOTAL[b]	10,423	10,543	10,871	11,193	10,600	11,624	11,801	11,917	12,097	12,485	12,671
	Male	5,639	5,639	5,932	5,950	5,731	6,263	6,429	6,493	6,675	6,740	6,821
	Female	4,784	4,903	4,939	5,243	4,869	5,361	5,372	5,424	5,422	5,745	5,850
ICD-9 140-149/ICD-10 C00-C14 - Malignant neoplasm of lip, oral cavity and pharynx (oropharyngeal cancer)	TOTAL	134	132	144	150	137	160	205	180	165	187	217
	Male	98	105	106	101	98	109	157	128	127	141	154
	Female	36	27	38	49	39	51	48	52	38	46	63
ICD-9 150/ICD-10 C15 - Malignant neoplasm of esophagus	TOTAL	273	288	325	320	286	303	310	333	332	332	313
	Male	220	232	260	257	230	249	246	273	271	270	263
	Female	53	56	65	63	56	54	64	60	61	62	50
ICD-9 151/ICD-10 C16 - Malignant neoplasm of stomach	TOTAL	199	211	204	202	186	211	226	203	236	226	215
	Male	123	131	118	122	109	121	128	124	134	134	125
	Female	76	80	86	80	77	90	98	79	102	92	90
ICD-9 153, 154/ICD-10 C18-C21 - Malignant neoplasm of colon, rectum, rectosigmoid junction and anus	TOTAL	952	927	946	997	953	1,022	1,069	1,118	1,126	1,117	1,173
	Male	520	482	523	510	510	568	591	639	641	621	602
	Female	432	445	423	487	443	454	478	479	485	496	571
ICD-9 157/ICD-10 C25 - Malignant neoplasm of pancreas	TOTAL	707	708	813	755	769	852	901	914	952	1,018	1,005
	Male	373	355	450	392	400	461	494	484	513	541	545
	Female	334	353	363	363	369	391	407	430	439	477	460
ICD-9 162/ICD-10 C33-C34 - Malignant neoplasm of trachea, bronchus and lung	TOTAL	2,655	2,654	2,772	2,763	2,543	2,885	2,689	2,754	2,640	2,510	2,592
	Male	1,465	1,474	1,512	1,485	1,385	1,533	1,452	1,487	1,436	1,315	1,336
	Female	1,190	1,180	1,260	1,278	1,158	1,352	1,237	1,267	1,204	1,195	1,256
ICD-9 172/ICD-10 C43 - Malignant melanoma of skin	TOTAL	191	187	216	222	215	213	191	190	209	206	212
	Male	133	125	147	137	147	142	131	129	150	133	151
	Female	58	62	69	85	68	71	60	61	59	73	61
ICD-9 174,175/ICD-10 C50 - Malignant neoplasm of breast	TOTAL	732	747	740†	836	729	810†	853	834	815	911	894
	Male	12	6	*	9	6	*	9	8	10	12	11
	Female	720	741	740	827	723	809	844	826	805	899	883

TABLE 2B-8 (continued)
NUMBER OF DEATHS FOR SELECTED SUBCATEGORIES OF MALIGNANT NEOPLASMS BY GENDER AND YEAR, ARIZONA, 2010-2020

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ICD-9 180/ICD-10 C53 - Malignant neoplasm of cervix uteri	TOTAL	68	72	73	86	75	84	82	78	78	84	74
	Female	68	72	73	86	75	84	82	78	78	84	74
ICD-9 179, 182/ ICD-10 C54-C55 - Malignant neoplasm of body of uterus and of uterus, part unspecified	TOTAL	138	159	131	140	176	180	168	200	180	203	212
	Female	138	159	131	140	176	180	168	200	180	203	212
ICD-9 185/ICD-10 C61 - Malignant neoplasm of prostate	TOTAL	549	574	581	570	572	633	697	659	695	734	795
	Male	549	574	581	570	572	633	697	659	695	734	795
ICD-9 188/ICD-10 C67 - Malignant neoplasm of bladder	TOTAL	247	355	316	293	305	355	367	362	358	362	416
	Male	183	245	244	221	241	255	267	279	276	267	321
	Female	64	109	72	72	64	100	100	83	82	95	95
ICD-9 189/ICD-10 C64-C65 - Malignant neoplasm of kidney and other and unspecified urinary organs	TOTAL	286	267	252	274	254	309	308	323	351	308	337
	Male	189	178	171	179	177	224	205	208	250	202	242
	Female	97	89	81	95	77	85	103	115	101	106	95
ICD-9 191, 192/ICD-10 C70-C72 - Malignant neoplasm of brain	TOTAL	268	275	337	325	339	323	340	339	366	379	390
	Male	153	145	196	172	194	190	195	194	206	220	229
	Female	115	130	141	153	145	133	145	145	160	159	161
ICD-9 201/ICD-10 81 - Hodgkin's disease	TOTAL	22	19	17	26	10†	30	22	29	22	22	20†
	Male	12	9	8	16	10	21	10	15	12	14	13
	Female	10	10	9	10	*	9	12	14	10	8	*
ICD-9 200, 202/ICD-10 C82-C85 - Malignant lymphoma other than Hodgkin's disease	TOTAL	379	392	372	416	371	397	399	388	398	409	452
	Male	219	212	214	251	196	216	221	240	235	252	267
	Female	160	180	158	165	175	181	178	148	163	157	185
ICD-9 203/ICD-10 C88, C90 - Multiple myeloma and immunoproliferative neoplasms	TOTAL	206	219	221	247	221	240	243	270	297	258	292
	Male	117	133	128	129	133	139	149	162	181	150	162
	Female	89	86	93	118	88	101	94	108	116	108	130
Other malignant neoplasms	TOTAL	2,417	2,357	2,409	2,571	2,455	2,613	2,731	2,743	2,877	3,219	1,564
	Male	1,273	1,234	1,273	1,400	1,323	1,397	1,477	1,464	1,538	1,734	840
	Female	1,144	1,123	1,136	1,171	1,132	1,216	1,254	1,279	1,339	1,485	724

Notes: * Cell suppressed due to count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; [a] Includes other forms of cancer; [b] Total includes records with unknown gender.

TABLE 2B-9
NUMBER OF DEATHS FROM UNINTENTIONAL INJURIES IN ACCIDENTS BY CATEGORY AND YEAR AMONG ARIZONA RESIDENTS, 2010-2020

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total unintentional injury deaths	2,834	2,959	2,804	3,137	3,011	3,403	3,899	4,085	4,211	4,522	5,377
Railway accident	12	6	7	7	8	6	11	9	7	10	9
Motor vehicle accident	711	787	747	767	702	855	967	979	1,032	970	1,035
Water transport accident	*	*	*	*	0	*	*	7	7	*	*
Accident involving aircraft	16	21	13	9	*	7	10	17	10	13	14
Poisoning by drugs/medicaments	798	781	731	853	885	955	1,095	1,269	1,425	1,679	2,309
Poisoning by gases and vapors	81	102	86	112	94	105	153	105	120	118	174
Falls	762	776	782	870	881	1,014	1,103	1,076	1,090	1,109	1,127
Fire, flames, smoke	25	33	43	68	30	25	40	51	23	43	48
Excessive natural heat	51	57	51	56	32	43	99	108	94	118	210
Excessive natural cold	17	22	9	28	19	20	21	24	15	37	27
Contact with venomous snakes and lizards	*	0	*	0	0	0	0	*	*	0	0
Contact with venomous spiders	0	0	0	*	0	0	0	*	0	0	0
Contact with scorpions	0	0	0	*	0	0	0	0	0	0	0
Contact with hornets, wasps, bees	0	0	0	*	0	*	*	*	*	*	*
Bitten or struck by dog	*	*	*	*	*	*	*	*	0	*	*
Lightning	*	*	*	*	0	*	*	*	0	0	0
Storms and floods	*	0	0	0	0	0	0	12	*	*	0
Accidental drowning and submersion	86	86	83	72	78	81	105	106	92	100	99
Choked on food	39	34	38	29	33	34	33	38	40	38	38
Choked on other objects	57	44	44	57	56	53	38	39	29	40	31
Mechanical suffocation	28	25	23	21	35	40	35	41	25	37	27
Accidental discharge of firearms	11	8	*	9	6	*	7	8	10	13	6
Exposure to electric current	*	6	0	6	*	*	10	*	*	*	8
Overexertion	*	0	0	0	0	0	0	*	0	0	0
Adverse effects of drugs in therapeutic use	10	*	6	10	10	12	*	*	11	7	14
Misadventures to patients during medical/surgical care	41	45	42	46	32	20	43	96	103	108	113

Notes: * Cell suppressed due to count less than 6; Beginning in 2000, the data are classified by the Tenth Revision of the International Classification of Diseases (ICD-10).

TABLE 2B-10
NUMBER OF DEATHS FROM MOTOR VEHICLE-RELATED INJURIES BY PERSON INJURED, GENDER, AND YEAR, ARIZONA RESIDENTS, 2010-2020

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
TOTAL	**Total**	711	787	747	767	702	855	967	979	1,032	970	1,035
	Male	501	562	541	541	492	605	693	691	729	692	747
	Female	210	225	206	226	210	250	274	288	303	278	288
Motorcyclist	**Total**	69	113	130	111	100	121	126	137	130	130†	154
	Male	61	96	113	98	93	106	118	122	114	130	139
	Female	8	17	17	13	7	15	8	15	16	*	15
Pedestrian	**Total**	152	153	128	152	138	160	218	245	251	227	235
	Male	115	111	88	105	100	115	150	161	171	166	166
	Female	37	42	40	47	38	45	68	84	80	61	69
Pedal cyclist	**Total**	20†	20†	11	20†	20†	20†	20†	30†	20†	20†	30†
	Male	20	16	11	19	15	15	18	24	18	18	23
	Female	*	*	0	*	*	*	*	*	*	*	*
Other person	**Total**	469	502	478	481	445	558	601	568	630	587	618
	Male	305	339	329	319	284	369	407	384	426	378	419
	Female	164	163	149	162	161	189	194	184	204	209	199

Notes: * Cell suppressed due to count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; Beginning in 2000, the data are classified by the Tenth Revision of the International Classification of Diseases (ICD-10).

TABLE 2B-11
LEADING CAUSES OF DEATH BY PLACE OF DEATH AND DECEDENT STATUS, ARIZONA, 2020

Causes of death	TOTAL	IN HOSPITAL					NOT IN HOSPITAL			
		In-patient	Out-patient[a]	Died on arrival	Status Unknown	Subtotal	Nursing home[b]	Residence	Other[c]	Subtotal
TOTAL, ALL CAUSES	75,700	19,771	3,863	29	26,555	50,218	6,198	4,460	14,824	25,482
Diseases of heart	14,185	2,789	1,122	7	5,798	9,716	774	812	2,883	4,469
Coronary heart disease	10,210†	1,682	903	*	4,404	6,990†	492	553	2,167	3,212
Malignant neoplasms	12,670†	1,676	180	*	6,875	8,730†	1,854	414	1,671	3,939
Malignant neoplasm of trachea, bronchus and lung	2,592	375	38	0	1,420	1,833	339	76	344	759
Malignant neoplasm of colon, rectum, and anus	1,173	138	14	0	631	783	193	39	158	390
Malignant neoplasm of breast	894	91	11	0	465	567	164	36	127	327
Malignant neoplasm of prostate	795	51	8	0	477	536	90	39	130	259
Malignant neoplasm of cervix uteri	70†	7	*	0	34	40†	15	*	13	30†
COVID-19[‡]	8,430†	5,812	217	*	642	6,670†	511	637	608	1,756
Accidents (unintentional injury)	5,380†	1,030	754	*	1,289	3,080†	294	94	1,913	2,301
Accidental poisoning	2,480†	218	377	*	933	1,530†	8	*	943	950†
Falls	1,127	409	58	0	150	617	249	73	188	510
Motor vehicle accidents	1,040†	231	237	*	16	490†	16	*	529	550†
Accidental drowning and submersion	100†	15	17	*	25	60†	*	0	40	40†
Chronic lower respiratory diseases	3,698	589	156	0	1,737	2,482	309	252	655	1,216
Alzheimer's disease	3,240†	39	12	*	1,009	1,060†	136	425	1,613	2,174
Cerebrovascular diseases	3,225	709	65	0	923	1,697	539	282	707	1,528
Diabetes	2,560†	483	284	*	1,244	2,010†	158	121	272	551
Chronic liver disease and cirrhosis	1,426	587	44	0	418	1,049	209	51	117	377
Intentional self-harm (suicide)	1,360†	106	100	*	635	840†	10	*	506	520†
Essential (primary) hypertension & hypertensive renal disease	1,131	151	64	0	536	751	80	106	194	380
Influenza and pneumonia	1,109	781	37	0	105	923	87	41	58	186
Parkinson's disease	1,016	47	9	0	418	474	71	125	346	542
Nephritis, nephrotic syndrome and nephrosis	770†	285	29	*	264	580†	40	41	111	192
Assault (homicide)	530†	93	131	*	73	300†	*	0	224	230†
Septicemia	425	333	14	0	29	376	22	10	17	49
Human immunodeficiency virus (HIV) disease	70†	35	*	0	18	50†	10	*	*	20†
Injury by firearms	1,260†	120	173	*	470	770†	*	*	496	500†
Drug-induced deaths	2,670†	267	381	*	1,033	1,680†	31	*	949	990†
Opioid-induced deaths	1,880†	143	266	*	786	1,200†	9	*	677	690†
Alcohol-induced deaths	1,570†	424	88	*	594	1,110†	196	27	244	467

Notes: * Cell suppressed due to count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; [a] Includes Emergency Room; [b] Includes other long-term care facilities; [c] Includes hospices; [‡] The COVID-19 data collection began in mid-March 2020.

2C.

AGE-SPECIFIC MORTALITY

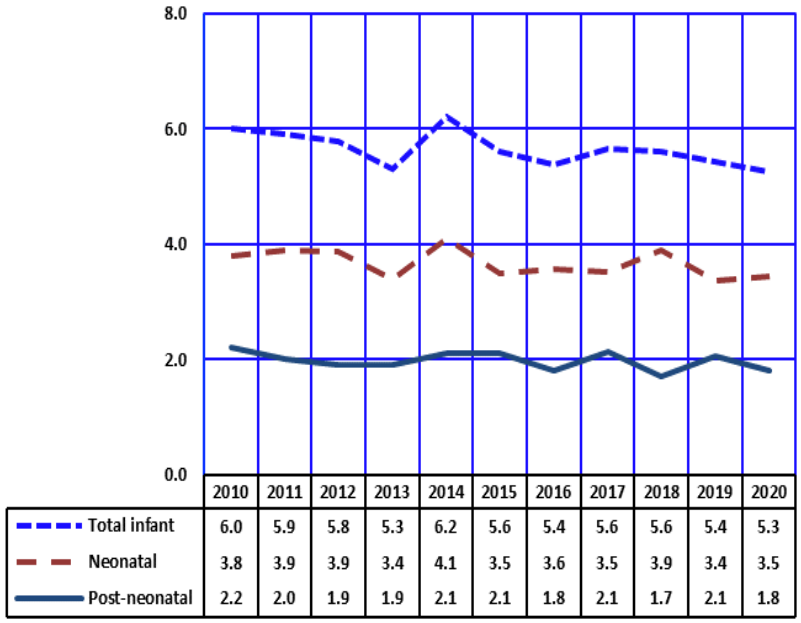
Six age-specific profiles of mortality are given on the following pages. The six developmental periods in the life span are:

- **Infants** less than one year of age
- **Children** 1 to 14 years old
- **Adolescents** or persons 15 to 19 years old
- **Young adults** or persons 20 to 44 years old
- **Middle-aged adults** or persons 45 to 64 years old
- **Elderly** or persons 65 years or older.

For each age group, cause-specific mortality is compared between urban (i.e., Maricopa, Pima, Pinal, and Yuma counties) and rural (all other counties) regions and between genders. Urban and rural regions also are compared in gender-specific total mortality.

A comparison of age-specific mortality for causes of death is provided in **Table 2C-27**. A comparison of age-specific mortality rates is presented in **Table 2C-28**.

Figure 2C-1
Infant Mortality Rates by Neonatal/Postneonatal Age and Year, Arizona, 2010-2020



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total infant	6.0	5.9	5.8	5.3	6.2	5.6	5.4	5.6	5.6	5.4	5.3
Neonatal	3.8	3.9	3.9	3.4	4.1	3.5	3.6	3.5	3.9	3.4	3.5
Post-neonatal	2.2	2.0	1.9	1.9	2.1	2.1	1.8	2.1	1.7	2.1	1.8

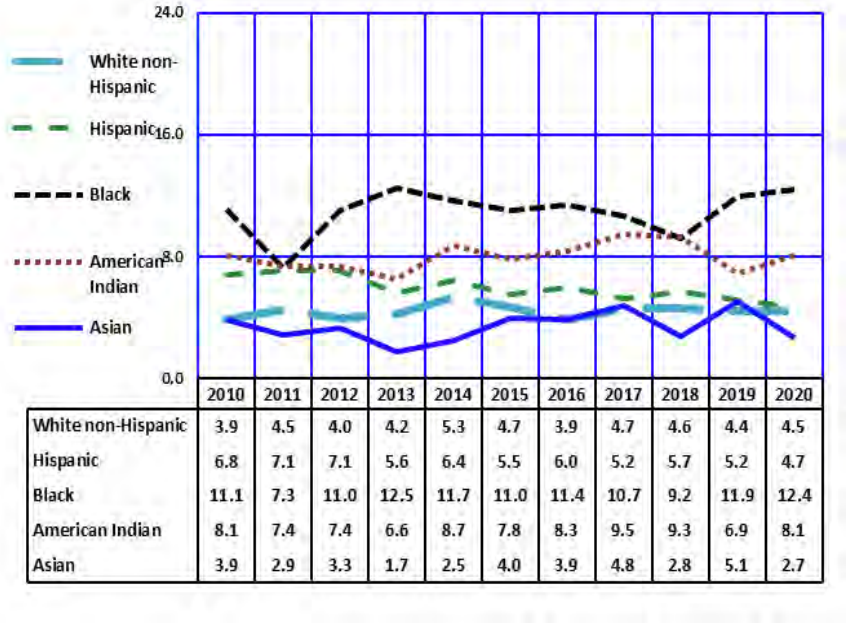
Notes: Neonatal deaths are those deaths affecting infants age 0-27 days; Post-neonatal deaths are deaths to infants aged 28 days-1 year.

Infant mortality is defined as the number of deaths within the first year of life. The infant mortality rate is computed as the number of infant deaths in a calendar year per 1,000 live births recorded for the same period.

In 2020, 404 Arizona infants died before reaching their first birthday, 131 fewer than the latest peak of 535 infant deaths in 2014, and a decrease of 26 deaths in comparison to 2019 (**Table 2C-2**).

Based on the actual number of infant deaths and live births in 2020, the infant mortality rate was slightly lower at 5.3 infant deaths per 1,000 live births in 2020 than in 2019 which had 5.4 infant deaths per 1,000 live births (**Figure 2C-1**).

Figure 2C-2
Infant Mortality Rates[a] by Race/Ethnicity and Year, Arizona, 2010-2020



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
White non-Hispanic	3.9	4.5	4.0	4.2	5.3	4.7	3.9	4.7	4.6	4.4	4.5
Hispanic	6.8	7.1	7.1	5.6	6.4	5.5	6.0	5.2	5.7	5.2	4.7
Black	11.1	7.3	11.0	12.5	11.7	11.0	11.4	10.7	9.2	11.9	12.4
American Indian	8.1	7.4	7.4	6.6	8.7	7.8	8.3	9.5	9.3	6.9	8.1
Asian	3.9	2.9	3.3	1.7	2.5	4.0	3.9	4.8	2.8	5.1	2.7

Note: [a] Number of infant deaths per 1,000 live births in specified group.

In 2020, 95.0 percent (384/404)* 100 of all infant death records were successfully matched to their corresponding birth records.

The mortality risk for infants varies by race/ethnicity. During the 11-year period (2010-2020), infants born to Asian or Pacific Islander mothers witnessed the lowest mortality rates among all racial/ethnic groups for the most part (**Figure 2C-2, Table 2C-2**). The exception being 2017 and 2019, as the infant mortality for Whites was the lowest of all racial/ethnic groups.

In parallel, in each year from 2010 to 2020, Black or African American and American Indian infants had the worst survival chances among the racial/ethnic groups (**Figure 2C-2**).

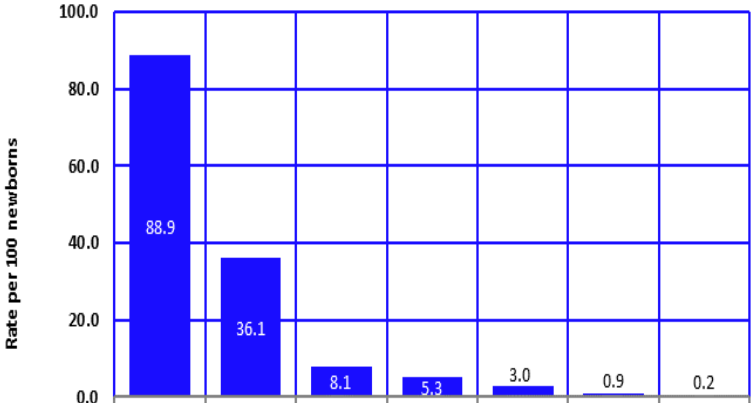
*Infant death records that were not linked to their corresponding birth certificates include unrecorded home births (i.e., no birth certificates were issued) and out-of-State births (i.e., the State issuing the certificate of birth did not send a copy to Arizona).

Newborn weight at birth is one of the most important predictors of an infant's survival chances. In 2020, the mortality rate of very low birth weight babies (birthweight less than 500 grams) was 88.9 per 100 live births (**Figure 2C-3**).

The absolute number of low birthweight births remained lower in 2020 at 5,650 than at its peak in the last 10 years which occurred in 2016 (n= 6,186). The proportion of babies whose weight at birth was less than 1,000 grams decreased slightly from 7.2 percent of all low birthweight births in 2019 to 7.8 percent in 2020 (**Table 1B-3**).

In summary, infants with low birth weight (weighing less than 2,500 grams at birth) represented an increasing proportion of infant deaths per 100 newborns as weight decreased across stratifications **(Figure 2C-3)**.

Figure 2C-3
Proportion of Infant Deaths by Birthweight, Arizona, 2020

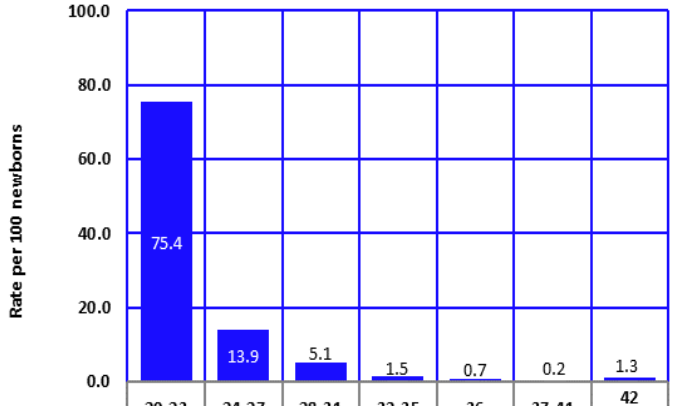


	< 500 grams	500-749 grams	750-999 grams	1000-1499 grams	1500-1999 grams	2000-2499 grams	2500+ grams
Newborns	108	147	186	438	1,073	3,698	71,068
Infant deaths	96	53	15	23	32	35	124
Infant deaths per 100 newborns	88.9	36.1	8.1	5.3	3.0	0.9	0.2

Note: 63 cases in the complete 2020 birth file had missing birthweight estimates.

Similar to low birthweight infants, preterm and very preterm babies contribute greatly to the total infant mortality rate because of their higher risk of mortality. For example, in 2020 births occurring between 20-27 weeks of gestation accounted for only 0.5 percent of all births but 35.9 percent of infant deaths with a matching death record. Births at 20-23 weeks of gestation have a very high infant mortality rate of 75.4 per 100 live births (**Figure 2C-4**). Overall, in 2020 preterm infants (those born before 37 weeks of gestation) accounted for 9.4 percent of all births (**Table 1B-2**) and 60.9 percent of all infant deaths (only those with matching death records).

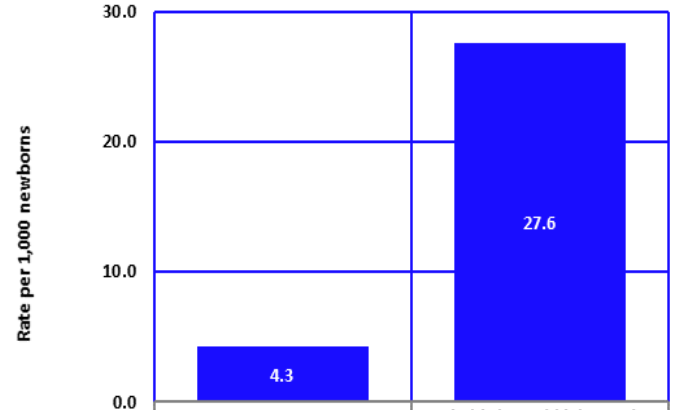
Figure 2C-4.1
Proportion of Infant Deaths by Gestational Age, Arizona, 2020



	20-23 weeks	24-27 weeks	28-31 weeks	32-35 weeks	36 weeks	37-41 weeks	42 weeks or more
Newborns	134	267	546	3,203	3,057	69,234	155
Infant deaths	101	37	28	47	21	123	2
Infant deaths per 100 newborns	75.4	13.9	5.1	1.5	0.7	0.2	1.3

Note: 136 cases in the complete 2020 birth file had missing gestational age; two of which were missing in the linked infant death file.

Figure 2C-4.2
Infant Mortality Rates for Single and Multiple Births, Arizona, 2020



	Singleton births	Twin births and higher order multiples
Newborns	74,501	2,280
Infant deaths	321	63
Infant deaths per 1,000 newborns	4.3	27.6

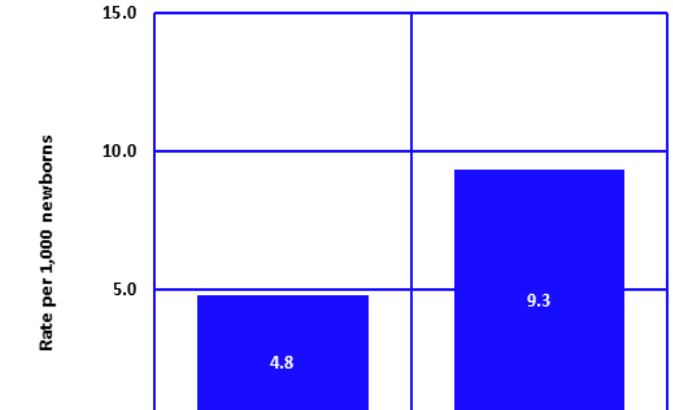
Note: 0 cases in the complete 2020 birth file were missing plurality.

As already noted in Section 1B, infants born in multiple deliveries tend to be born at shorter gestations and smaller than those in singleton deliveries. In 2020, infants born in multiple deliveries were 12.2 times more likely (46.4 vs. 3.8 percent) to be born earlier than expected (at less than 37 completed weeks of gestation) and smaller (at less than 2,500 grams) than singleton births (**Figure 1B-10**).

The infant mortality rate for single births was 4.3/1,000 live births in 2020 (**Figure 2C-4.2**). The infant mortality rate for twin births or higher order multiples (27.6/1,000 live births) was 6.4 times higher than the infant mortality for singleton births.

Babies born in multiple deliveries accounted for 3.0 percent of births (**Table 1B-16**), but 16.4 percent of all infant deaths in Arizona in 2020 (only those with matching birth and death records).

Figure 2C-4.3
Infant Mortality Rates by Mother's Smoking Status during Pregnancy, Arizona, 2020



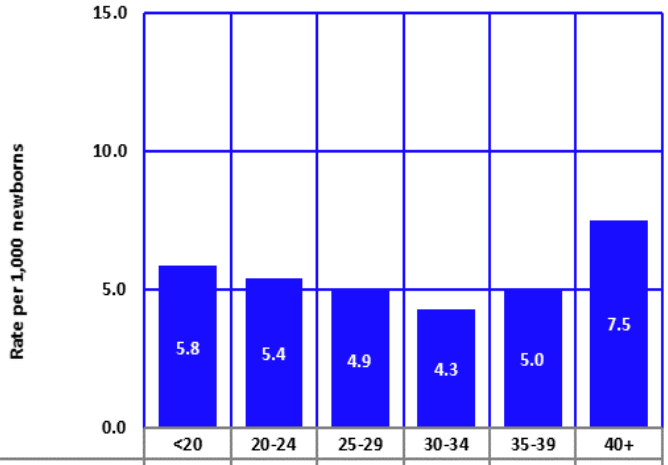
	Nonsmoker	Smoker
Newborn	73,299	2,791
Infant deaths	352	26
Infant deaths per 1,000 newborns	4.8	9.3

Note: 691 cases in the complete 2020 birth file were missing mothers' smoking status.

Smoking during pregnancy has been shown to increase the risk of preterm delivery, low birth weight and infant mortality. In 2020, among the 2,791 mothers who smoked during pregnancy, the risk of infant mortality was 1.9 times higher than among nonsmoker mothers (**Figure 2C-4.3**).

Infant mortality rates vary with maternal age. In 2019, infants born to younger mothers (less than 20 years) and older mothers (40 years or over) had the highest infant mortality rates of all age groups, 5.8/1,000 and 7.5/1,000 respectively (**Figure 2C-4.4**). For mothers aged 20 through 39 years, the infant mortality rates were consistently lower than 6 deaths/1,000.

Figure 2C-4.4
Infant Mortality Rates by Mother's Age Group, Arizona, 2020

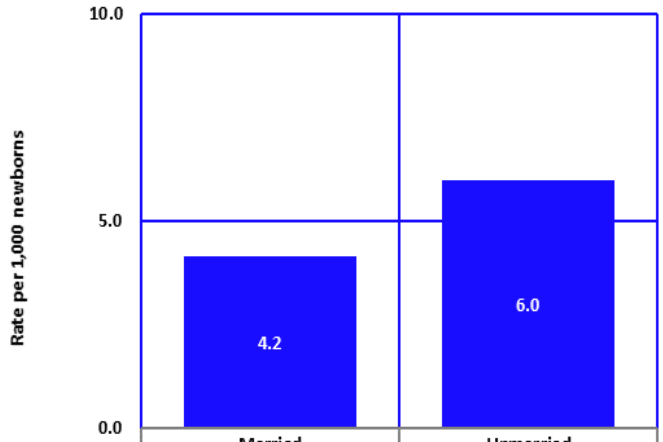


	<20	20-24	25-29	30-34	35-39	40+
Newborns	3,934	16,020	23,135	20,947	10,347	2,396
Infant deaths	23	87	114	90	52	18
Infant deaths per 1,000 newborns	5.8	5.4	4.9	4.3	5.0	7.5

Note: 2 cases in the complete 2020 birth file were missing mother's age.

Infants born to unmarried mothers accounted for the absolute majority of infant deaths in 2020 (207 infant deaths) compared to married mothers (172 infant deaths). In 2020, more children were born to married women (41,375) than their unmarried counterparts (34,527; **Table 1B-25**). Infants of unmarried mothers had an infant mortality rate of 6.0 deaths per 1,000 live births, 1.4 times higher than the rate for infants of married mothers (4.2 infant deaths per 1,000 live births; **Figure 2C-4.5**). The effect of marital status on infant mortality suggests that marital status is a proxy measure of factors traditionally related to infant mortality such as poverty conditions, access to health care and social support. Mother's marital status may signify the presence or absence of emotional, social, and financial resources.

Figure 2C-4.5
Infant Mortality Rates by Mother's Marital Status, Arizona, 2020



	Married	Unmarried
Newborns	41,375	34,527
Infant deaths	172	207
Infant deaths per 1,000 newborns	4.2	6.0

Note: 879 cases in the complete 2020 birth file were missing mother's marital status.

TABLE 2C-1
INFANT, NEONATAL, AND POSTNEONATAL MORTALITY RATES AND PERCENT OF POSTNEONATAL DEATHS, UNITED STATES, ARIZONA AND URBAN/RURAL COUNTIES OF ARIZONA, 2010-2020

UNITED STATES	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Infant mortality[a]	6.1	6.0	6.0	6.0	5.8	5.9	5.8	5.8	5.7	5.7	5.4
Neonatal mortality[a]	4.0	4.0	4.0	4.0	3.9	3.9	3.8	3.8	3.8	3.7	3.6
Postneonatal mortality[a]	2.1	2.0	2.0	2.0	1.8	1.9	2.0	1.9	1.9	1.9	1.9
Percent postneonatal mortality[b]	34.4	33.3	33.3	33.3	31.0	32.2	34.5	32.8	33.3	33.9	34.3
ARIZONA, STATEWIDE TOTAL											
Infant mortality[a]	6.0	5.9	5.8	5.3	6.2	5.6	5.4	5.6	5.6	5.4	5.3
Neonatal mortality[a]	3.8	3.9	3.9	3.4	4.1	3.5	3.6	3.5	3.9	3.4	3.5
Postneonatal mortality[a]	2.2	2.0	1.9	1.9	2.1	2.1	1.8	2.1	1.7	2.1	1.8
Percent postneonatal mortality[b]	36.7	34.3	32.9	35.3	33.4	37.8	33.7	37.7	30.4	38.1	34.4
URBAN COUNTIES											
Infant mortality[a]	5.7	5.8	5.7	5.2	6.1	5.3	**5.2**	**5.4**	5.5	5.2	5.1
Neonatal mortality[a]	3.7	3.9	3.9	3.3	4.0	3.3	**3.5**	**3.4**	3.8	3.3	3.4
Postneonatal mortality[a]	2.0	1.9	1.9	1.8	2.1	2.0	**1.7**	**2.0**	1.6	2.0	1.7
Percent postneonatal mortality[b]	35.1	32.6	32.9	35.1	34.1	37.4	32.5	36.6	29.9	37.8	34.0
RURAL COUNTIES											
Infant mortality[a]	7.4	6.6	5.9	5.8	6.6	7.3	**5.6**	**6.9**	6.2	6.5	6.1
Neonatal mortality[a]	4.5	3.7	3.9	3.7	4.5	4.4	**3.1**	**3.7**	4.1	4.0	3.7
Postneonatal mortality[a]	2.9	2.9	2.0	2.2	2.1	3.0	**2.4**	**3.2**	2.1	2.5	2.3
Percent postneonatal mortality[b]	37.7	43.8	33.8	37.3	31.6	40.5	43.8	46.7	33.3	38.8	38.3

Notes: [a] Rates per 1,000 live births; the U.S. rates are from the National Center for Health Statistics; [b] Total infant mortality = 100 percent; Urban = Maricopa, Pima, Pinal, and Yuma Counties; the remaining counties comprise Arizona's rural areas; records with unknown county of residence are included in the statewide totals, but are not distributed by urban/rural area.

http://www.cdc.gov/nchs/products/vsrr/infant-mortality-dashboard.htm

TABLE 2C-2
NUMBER AND RATES[a] OF INFANT DEATHS BY RACE/ETHNICITY AND GENDER, ARIZONA, 2010-2020
NUMBER OF INFANT DEATHS

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
White non-Hispanic	Total	151	171	154	161	213	181	146	166	160	151	148
	Male	88	98	81	93	122	99	87	93	94	81	88
	Female	63	73	73	68	91	82	59	73	66	70	60
Hispanic or Latino	Total	235	229	236	185	216	189	203	173	187	170	149
	Male	144	122	138	97	108	94	111	98	110	99	84
	Female	91	107	98	88	108	95	92	74	76	71	65
Black or African American	Total	48	32	52	59	53	48	50	49	43	58	59
	Male	20	16	22	30	35	24	23	30	18	33	29
	Female	28	16	30	29	18	24	27	19	25	25	30
American Indian or Alaska Native	Total	47	43	41	36	45	39	42	46	44	31	33
	Male	28	15	22	19	24	21	22	23	20	19	16
	Female	19	28	19	17	21	18	20	23	23	12	17
Asian or Pacific Islander	Total	10†	10†	10†	10†	10†	10†	13	16	10†	20†	10†
	Male	9	8	8	*	6	*	7	10	*	13	7
	Female	*	*	*	*	*	9	6	6	*	*	*
All groups[b]	Total	519	504	495	447	535	473	454	461	447	430	404
	Male	302	267	271	242	295	243	250	262	250	247	228
	Female	217	237	224	205	240	230	204	198	195	183	176

INFANT MORTALITY RATES

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
White non-Hispanic	Total	3.9	4.5	4.0	4.2	5.3	4.7	3.9	4.7	4.6	4.4	4.5
	Male	4.4	5.0	4.1	4.7	5.9	5.0	4.5	5.1	5.2	4.6	5.2
	Female	3.3	3.9	3.9	3.7	4.7	4.4	3.2	4.2	3.9	4.2	3.7
Hispanic or Latino	Total	6.8	7.1	7.1	5.6	6.4	5.5	6.0	5.2	5.7	5.2	4.7
	Male	8.3	7.3	8.1	5.7	6.2	5.4	6.4	5.8	6.5	6.0	5.2
	Female	5.4	6.8	6.1	5.5	6.6	5.6	5.5	4.5	4.7	4.4	4.2
Black or African American	Total	11.1	7.3	11.0	12.5	11.7	11.0	11.4	10.7	9.2	11.9	12.4
	Male	9.1	7.3	9.2	12.3	14.9	10.7	10.3	12.6	7.9	13.1	12.0
	Female	13.1	7.4	12.8	12.7	8.3	11.3	12.5	8.6	10.5	10.6	12.8
American Indian or Alaska Native	Total	8.1	7.4	7.4	6.6	8.7	7.8	8.3	9.5	9.3	6.9	8.1
	Male	9.5	5.1	7.8	6.7	9.4	8.3	8.7	9.2	8.2	8.3	7.6
	Female	6.6	9.7	6.9	6.4	8.1	7.3	8.0	9.8	10.2	5.5	8.6
Asian or Pacific Islander	Total	3.9	2.9	3.3	1.7	2.5	4.0	3.9	4.8	2.8	5.1	2.7
	Male	5.4	4.4	4.2	**	3.7	**	4.0	5.9	**	7.9	4.6
	Female	**	**	**	**	**	5.7	3.7	3.7	**	**	**
All groups[b]	Total	6.0	5.9	5.8	5.3	6.2	5.6	5.4	5.6	5.6	5.4	5.3
	Male	6.8	6.1	6.2	5.5	6.6	5.6	5.8	6.3	6.1	6.1	5.8
	Female	5.1	5.7	5.4	5.0	5.7	5.5	4.9	4.9	5.0	4.7	4.7

Notes: * Cell suppressed due to count less than 6; ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; [a] Number of infant deaths per 1,000 live births in specified ethnic/gender group; infant deaths are by the race/ethnicity of the decedent; For consistency with the national data, the denominators used to calculate infant mortality rates were changed from race/ethnicity of parents to race/ethnicity of mother as stated on the birth certificate; The change in the basis for calculating infant mortality rates results in lower rates for white infants and higher rates for most minority infants than when they are computed by the previous method; [b] Includes records with other and unknown ethnic group.

TABLE 2C-3
NUMBER AND RATES[a] OF INFANT DEATHS BY RACE/ETHNICITY AND AGE GROUP, 2010-2020
NUMBER OF INFANT DEATHS

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
White non-Hispanic	Total	151	171	154	161	213	181	146	166	160	151	148
	Neonatal	96	120	100	97	138	108	92	106	116	92	99
	Postneonatal	55	51	54	64	75	73	54	60	44	59	49
Hispanic or Latino	Total	235	229	236	185	216	189	203	173	187	170	149
	Neonatal	156	152	170	131	149	130	142	115	136	109	108
	Postneonatal	79	77	66	54	67	59	61	58	51	61	41
Black or African American	Total	48	32	52	59	53	48	50	49	43	58	59
	Neonatal	32	20	34	38	34	25	33	30	25	37	36
	Postneonatal	16	12	18	21	19	23	17	19	18	21	23
American Indian or Alaska Native	Total	47	43	41	36	45	39	42	46	44	31	33
	Neonatal	22	19	21	20	26	16	21	20	25	14	13
	Postneonatal	25	24	20	16	19	23	21	26	19	17	20
Asian or Pacific Islander	Total	10†	10	10†	10†	10†	10†	13	16	10†	20†	10†
	Neonatal	11	10	7	*	7	12	13	7	*	11	*
	Postneonatal	*	0	*	*	*	*	0	9	*	*	*
All groups[b]	Total	519	504	495	447	535	473	454	461	447	430	404
	Neonatal	330	331	332	289	354	294	301	287	311	266	265
	Postneonatal	189	173	163	158	181	179	153	174	136	164	139

INFANT MORTALITY RATES

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
White non-Hispanic	Total	3.9	4.5	4.0	4.2	5.3	4.7	3.9	4.7	4.6	4.4	4.5
	Neonatal	2.5	3.1	2.6	2.5	3.4	2.8	2.4	3.0	3.3	2.7	3.0
	Postneonatal	1.4	1.3	1.4	1.7	1.9	1.9	1.4	1.7	1.3	1.7	1.5
Hispanic or Latino	Total	6.8	7.1	7.1	5.6	6.4	5.5	6.0	5.2	5.7	5.2	4.7
	Neonatal	4.5	4.7	5.1	4.0	4.4	3.8	4.2	3.5	4.1	3.3	3.4
	Postneonatal	2.3	2.4	2.0	1.6	2.0	1.7	1.8	1.7	1.5	1.9	1.3
Black or African American	Total	11.1	7.3	11.0	12.5	11.7	11.0	11.4	10.7	9.2	11.9	12.4
	Neonatal	7.4	4.6	7.2	8.0	7.5	5.7	7.5	6.5	5.4	7.6	7.6
	Postneonatal	3.7	2.7	3.8	4.4	4.2	5.3	3.9	4.1	3.9	4.3	4.8
American Indian or Alaska Native	Total	8.1	7.4	7.4	6.6	8.7	7.8	8.3	9.5	9.3	6.9	8.1
	Neonatal	3.8	3.3	3.8	3.7	5.1	3.2	4.2	4.1	5.3	3.1	3.2
	Postneonatal	4.3	4.1	3.6	2.9	3.7	4.6	4.2	5.3	4.0	3.8	4.9
Asian or Pacific Islander	Total	3.9	2.9	3.3	1.7	2.5	4.0	3.9	4.8	2.8	5.1	2.7
	Neonatal	3.3	2.9	1.9	**	2.2	3.7	3.9	2.1	**	3.5	**
	Postneonatal	**	0.0	**	**	**	**	0.0	2.7	**	**	**
All groups[b]	Total	6.0	5.9	5.8	5.3	6.2	5.6	5.4	5.6	5.6	5.4	5.3
	Neonatal	3.8	3.9	3.9	3.4	4.1	3.5	3.6	3.5	3.9	3.4	3.5
	Postneonatal	2.2	2.0	1.9	1.9	2.1	2.1	1.8	2.1	1.7	2.1	1.8

Notes: * Cell suppressed due to count less than 6; ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; [a] Number of infant deaths per 1,000 live births in specified ethnic/gender group; infant deaths are by the race/ethnicity of the decedent; for consistency with the national data, the denominators used to calculate infant mortality rates were changed from race/ethnicity of parents to race/ethnicity of mother as stated on the birth certificate; the change in the basis for calculating infant mortality rates results in lower rates for white infants and higher rates for most minority infants than when they are computed by the previous method; [b] Includes records with other and unknown ethnic group.

TABLE 2C-4
NEONATAL, POSTNEONATAL, AND TOTAL INFANT MORTALITY BY CHILD'S GENDER AND MOTHER'S RACE/ETHNICITY, ARIZONA, 2020

	NUMBER OF DEATHS BY AGE			MORTALITY RATES[a]		
	Total	Neonatal	Postneonatal	Total	Neonatal	Postneonatal
TOTAL, ALL GROUPS	404	265	139	5.3	3.5	1.8
Male	228	149	79	5.8	3.8	2.0
Female	176	116	60	4.7	3.1	1.6
White non-Hispanic	148	99	49	4.5	3.0	1.5
Male	88	57	31	5.2	3.4	1.8
Female	60	42	18	3.7	2.6	1.1
Hispanic or Latino	149	108	41	4.7	3.4	1.3
Male	84	59	25	5.2	3.6	1.5
Female	65	49	16	4.2	3.1	1.0
Black or African American	59	36	23	12.4	7.6	4.8
Male	29	18	11	12.0	7.4	4.6
Female	30	18	12	12.8	7.7	5.1
American Indian or Alaska Native	33	13	20	8.1	3.2	4.9
Male	16	9	7	7.6	4.2	3.3
Female	20†	*	13	8.6	**	6.6
Asian or Pacific Islander	10†	*	*	2.7	**	**
Male	10†	*	*	4.6	**	**
Female	0†	*	0	**	**	0.0

Notes: * Cell suppressed due to count less than 6; ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; [a] Number of deaths per 1,000 live births in specified gender group by mother's race/ethnicity; denominators are from Table 5B-8.

TABLE 2C-5
NUMBER OF DEATHS FOR SELECTED LEADING CAUSES OF INFANT MORTALITY[a] BY YEAR, ARIZONA, 2010-2020

Causes of death	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Congenital malformations, deformations and chromosomal abnormalities	114	107	118	101	121	117	105	92	122	103	87
of brain, spinal cord or nervous system	21	13	19	13	24	20	14	18	17	12	12
of respiratory system	9	*	6	*	*	8	7	*	13	13	6
Short gestation and low birth weight	64	60	62	56	63	53	55	64	73	54	73
Maternal complications	27	33	46	28	39	39	28	31	21	23	20
Accidents (unintentional injuries)	18	23	16	14	27	29	16	23	13	20	17
Sudden infant death syndrome	34	25	13	14	13	15	7	14	14	17	13
Intrauterine hypoxia or birth asphyxia	*	11	*	6	9	*	6	11	*	6	11
Respiratory distress syndrome	7	*	*	*	*	*	*	6	*	*	8
Assault (homicide)	6	6	*	*	6	*	*	10	*	8	*
Influenza and pneumonia	*	*	*	*	*	*	*	*	*	*	*
Total, all causes	519	504	495	447	535	473	454	461	447	430	404

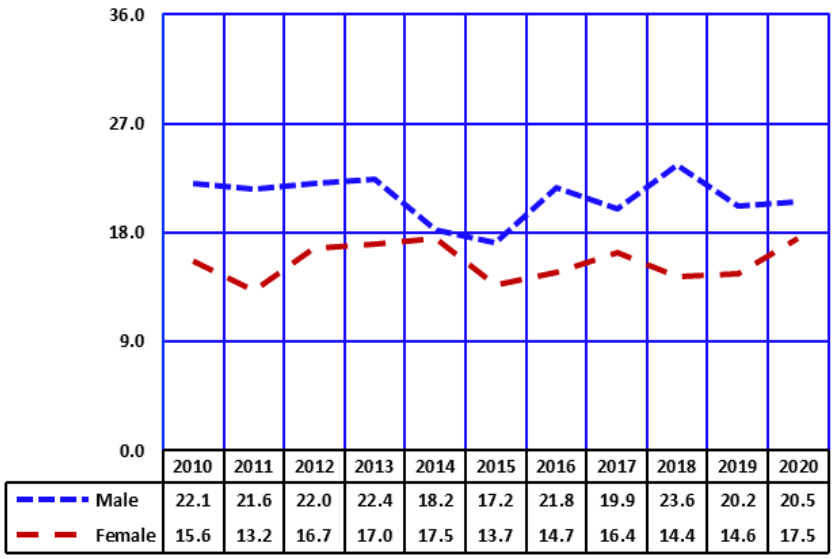
Notes: * Cell suppressed due to count less than 6; [a] Leading causes of infant mortality are based on the list of 130 causes of infant death according to the Tenth Revision, International Classification of Diseases (ICD-10).

TABLE 2C-6
INFANT MORTALITY RATES[a] FOR SELECTED LEADING CAUSES OF DEATH BY YEAR, ARIZONA, 2010-2020

Causes of death	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Congenital malformations, deformations and chromosomal abnormalities	1.3	1.3	1.4	1.2	1.4	1.4	1.2	1.1	1.5	1.3	1.1
of brain, spinal cord or nervous system	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2
of respiratory system	0.1	**	0.1	**	**	0.1	0.1	**	0.2	0.2	0.1
Short gestation and low birth weight	0.7	0.7	0.7	0.7	0.7	0.6	0.7	0.8	0.9	0.7	1.0
Maternal complications	0.3	0.4	0.5	0.3	0.5	0.5	0.3	0.4	0.3	0.3	0.3
Accidents (unintentional injuries)	0.2	0.3	0.2	0.2	0.3	0.3	0.2	0.3	0.2	0.3	0.2
Sudden infant death syndrome	0.4	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2
Intrauterine hypoxia or birth asphyxia	**	0.1	**	0.1	0.1	**	0.1	0.1	**	0.1	0.1
Assault (homicide)	0.1	0.1	**	**	0.1	**	**	0.1	**	0.1	**
Respiratory distress syndrome	0.1	**	**	**	**	**	**	0.1	**	**	0.1
Influenza and pneumonia	**	**	**	**	**	**	**	**	**	**	**
Total, all causes	6.0	5.9	5.8	5.3	6.2	5.6	5.4	5.6	5.6	5.4	5.3

Notes: ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; [a] Number of infant deaths per 1,000 live births; leading causes of infant mortality are based on the list of 130 causes of infant death according to the Tenth Revision, International Classification of Diseases (ICD-10).

Figure 2C-5
Mortality Rates[a] by Gender and Year among Children 1-14 Years, Arizona, 2010-2020



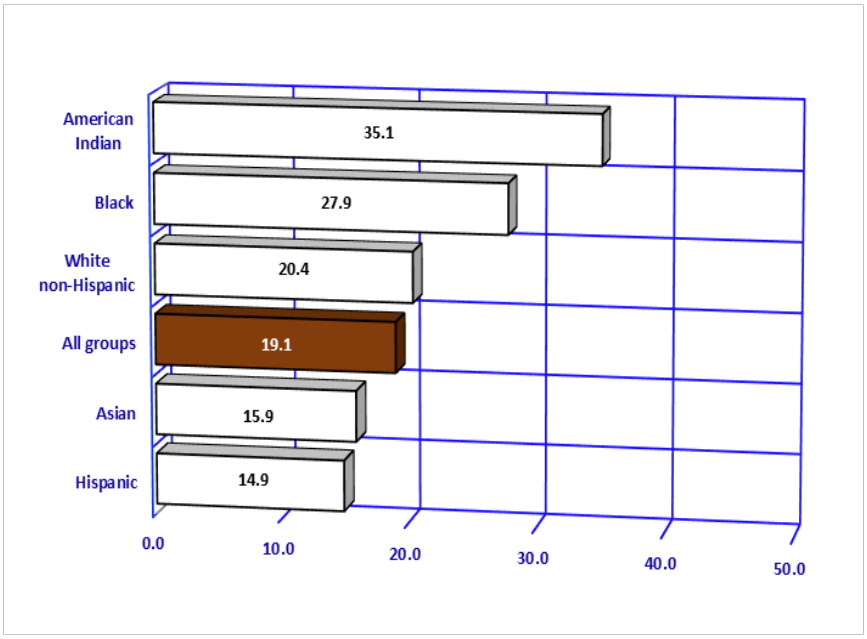
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	22.1	21.6	22.0	22.4	18.2	17.2	21.8	19.9	23.6	20.2	20.5
Female	15.6	13.2	16.7	17.0	17.5	13.7	14.7	16.4	14.4	14.6	17.5

Note: [a] Number of deaths per 100,000 persons, 1-14 years old in specified group.

In 2020, a total of 240 deaths were recorded among 1,259,819 children aged 1-14 years residing in Arizona. The 2020 childhood mortality rate was 19.1 per 100,000, representing an increase from 17.5 the rate recorded in 2019 (**Table 2C-7**). Between 2019 and 2020 the mortality rate for male and female children witnessed a slight increase (**Figure 2C-5**, **Table 2C-7**).

The five causes with the greatest mortality rates in childhood from 2010-2020 were *accidents* (unintentional injuries), *malignant neoplasms*, homicide, *congenital malformations*, and *suicide* (**Table 2C-7**).

Figure 2C-6
Mortality Rates[a] by Race/Ethnicity among Children 1-14 Years, Arizona, 2020



Note: [a] Number of deaths per 100,000 persons, 1-14 years old in specified group.

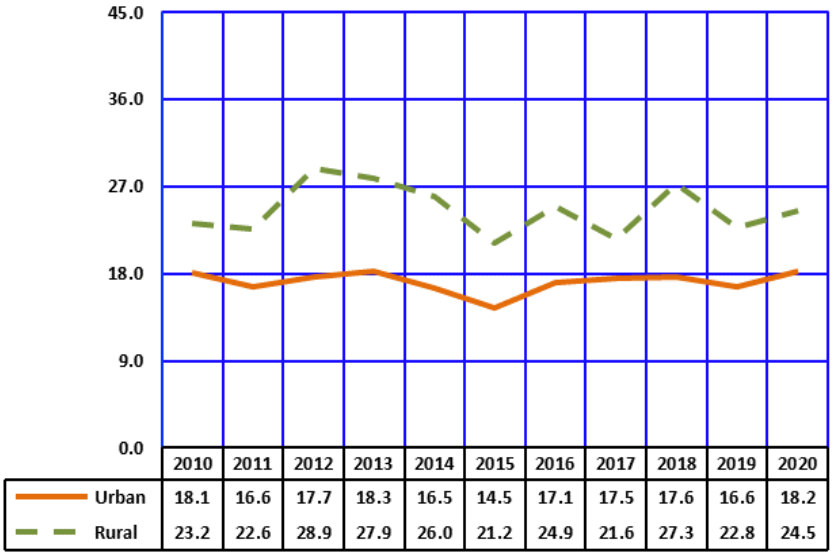
American Indian children had the highest total mortality rate (35.1 deaths per 100,000) in 2020, followed by Black or African American children (27.9/100,000; and White non-Hispanic children (20.4/100,000 **Figure 2C-6**). The mortality rates of Asian and Hispanic or Latino children were lower than the average rate for all groups.

It is important to note that the mortality rate of Asians is based on a very low death count (n=7) (**Table 2C-10**) thus not statistically reliable.

In 2020, there were 18 children who died from congenital anomalies and 17 by means of suicide among this age group (**Table 2C-10**).

From 2019 to 2020, mortality rates increased for both rural and urban children (**Figure 2C-7, Table 2C-8**). Between 2010 and 2020, urban childhood mortality rates have been lower than rural childhood mortality rates in each year during the 11-year period.

Figure 2C-7
Mortality Rates[a] by Urban/Rural Area[b] and Year among Children 1-14 Years, Arizona, 2010-2020

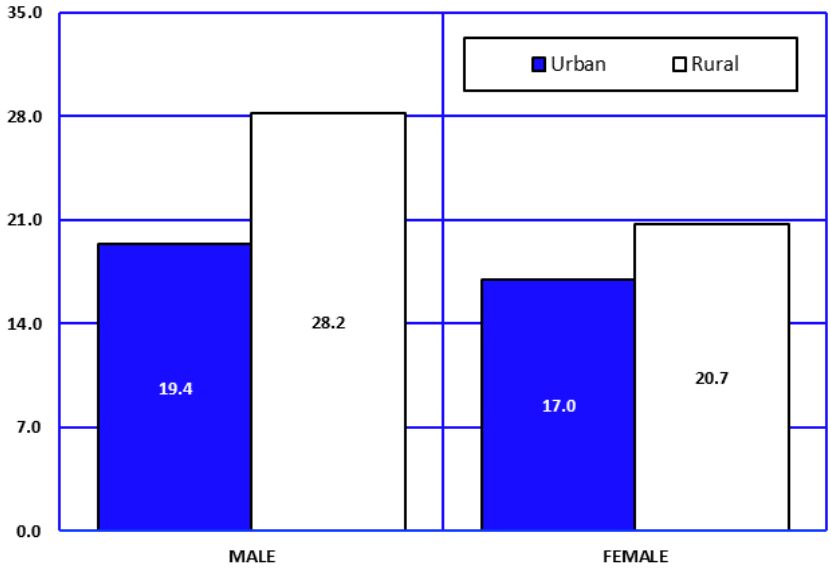


	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Urban	18.1	16.6	17.7	18.3	16.5	14.5	17.1	17.5	17.6	16.6	18.2
Rural	23.2	22.6	28.9	27.9	26.0	21.2	24.9	21.6	27.3	22.8	24.5

Notes: [a] Number of deaths per 100,000 persons, 1-14 years old in specified group; [b] Urban counties are Maricopa, Pima, Pinal, and Yuma Counties. Rural counties are those remaining.

The overall mortality rate among children 1-14 years residing in Arizona was higher for both males and females in rural areas compared to urban with 28.2 deaths per 100,000 persons aged 1-14 years in urban areas versus 19.4 deaths per 100,000 persons aged 1-14 years in urban areas. Similarly, the mortality rate for females 1-14 years was 20.7 deaths per 100,000 persons aged 1-14 years in rural areas compared to 17.0 deaths per 100,000 persons aged 1-14 years in urban areas.

Figure 2C-8
Mortality Rates[a] by Gender in Urban/Rural[b] Areas among Children 1-14 Years, Arizona, 2020



Notes: [a] Number of deaths per 100,000 persons, 1-14 years old in specified group; [b] Urban counties include Maricopa, Pima, Pinal, and Yuma Counties. Rural counties are those remaining.

TABLE 2C-7
MORTALITY RATES[a] FOR THE SELECTED FIVE LEADING CAUSES[b] OF DEATH AMONG CHILDREN (1-14 YEARS) BY GENDER, ARIZONA, 2010-2020

Gender/Cause	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	% change from 2010
MALE												
Accidents (unintentional injuries)	8.2	9.6	7.4	8.6	6.5	5.7	7.0	6.8	8.4	5.0	6.7	-18.3
Motor vehicle accidents	3.1	4.0	3.5	4.5	2.5	2.0	4.0	2.9	3.2	2.9	3.4	9.7
Drowning	2.5	2.6	2.2	1.8	2.2	1.9	2.3	2.3	3.2	0.8	2.2	-12.0
Other	2.6	3.1	1.7	2.3	1.9	1.9	0.6	1.5	2.0	1.4	1.1	-57.7
Malignant neoplasms	1.9	1.7	2.8	2.5	1.7	1.7	1.6	2.3	2.3	3.1	2.0	5.3
Assault (homicide)	2.0	0.9	0.9	1.4	0.9	1.2	0.9	0.6	0.5	1.8	1.7	-15.0
Intentional self-harm (suicide)	1.2	1.1	1.1	0.6	1.1	1.1	0.8	1.7	2.0	1.4	1.7	41.7
Congenital malformations	1.5	1.7	1.8	0.9	0.9	0.9	1.1	0.9	1.2	1.5	1.1	-26.7
ALL CAUSES	22.1	21.6	22.0	22.4	18.2	17.2	21.8	19.9	23.6	20.2	20.5	-7.2
(Number of all deaths)	(143)	(141)	(143)	(146)	(118)	(111)	(140)	(129)	(154)	(132)	(132)	(-7.7)
FEMALE												
Accidents (unintentional injuries)	5.1	3.2	3.7	4.5	3.7	4.3	4.5	5.1	3.3	4.1	5.3	3.9
Motor vehicle accidents	2.4	1.1	1.8	2.6	2.6	1.9	2.7	2.2	2.4	2.1	2.9	20.8
Other	1.4	0.8	1.1	0.6	0.6	1.8	1.0	1.6	0.5	1.4	1.5	7.1
Drowning	1.3	1.3	0.8	1.3	0.5	0.6	0.8	1.3	0.5	0.6	1.0	-23.1
Malignant neoplasms	2.2	2.4	2.4	2.1	2.9	0.5	1.3	2.4	2.6	2.1	1.9	-13.6
Congenital malformations	1.6	1.0	2.3	2.4	1.3	2.1	0.6	1.1	1.3	1.0	1.8	12.5
Assault (homicide)	0.3	1.3	1.1	1.6	1.3	1.3	1.3	1.0	1.3	1.1	1.3	333.3
Influenza and pneumonia	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.0	0.2	-33.3
ALL CAUSES	15.6	13.2	16.7	17.0	17.5	13.7	14.7	16.4	14.4	14.6	17.5	12.2
(Number of all deaths)	(97)	(83)	(104)	(106)	(109)	(85)	(91)	(102)	(90)	(92)	(108)	11.3
TOTAL												
Accidents (unintentional injuries)	6.7	6.5	5.6	6.6	5.1	5.0	5.8	6.0	5.9	4.6	6.0	-10.4
Motor vehicle accidents	2.8	2.6	2.7	3.5	2.5	2.0	3.4	2.6	2.8	2.5	3.2	14.3
Drowning	1.9	2.0	1.5	1.6	1.3	1.3	1.6	1.8	1.9	0.7	1.6	-15.8
Other	2.0	2.0	1.4	1.5	1.3	1.8	0.8	1.6	1.3	1.4	1.3	-35.0
Malignant neoplasms	2.0	2.0	2.6	2.3	2.3	1.1	1.4	2.4	2.4	2.6	2.0	0.0
Assault (homicide)	1.2	1.1	1.0	1.5	1.1	1.3	1.1	0.8	0.9	1.5	1.5	25.0
Congenital malformations	1.6	1.3	2.0	1.6	1.1	1.5	0.9	1.0	1.3	1.2	1.4	-12.5
Intentional self-harm (suicide)	0.7	0.9	0.6	0.6	0.9	0.9	0.7	1.3	1.3	1.2	1.3	85.7
ALL CAUSES	18.9	17.5	19.4	19.8	17.9	15.4	18.3	18.2	19.1	17.5	19.1	1.1
(Number of all deaths)	(240)	(224)	(247)	(252)	(227)	(196)	(231)	(231)	(244)	(224)	(240)	0.0

Notes: [a] Number of deaths per 100,000 children 1-14 years old; [b] The five causes with the greatest number of deaths over the 2010-2020 period; the cause-of-death titles are according to the Tenth Revision of the International Classification of Diseases (ICD-10); the causes of death for 2010-2020 are classified by ICD-10, replacing the Ninth Revision (ICD-9); measures of comparison between ICD-9 and ICD-10 – the "comparability ratios" – for the causes of death shown in this report are provided in the ***Technical Notes;*** although COVID-19 was among the 5 leading causes of death, it has been excluded in this table because the ICD-10 definition had not been identified until 2020, thus there is no data for years 2010-2019 and making it impossible to show a trend and a percent change.

TABLE 2C-8
MORTALITY RATES[a] FOR THE SELECTED FIVE LEADING CAUSES[b] OF DEATH AMONG CHILDREN (1-14 YEARS) IN URBAN AND RURAL AREAS[c], ARIZONA, 2010-2020

Area/Cause	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	% change from 2010
URBAN												
Accidents (unintentional injuries)	6.0	5.7	4.7	5.5	4.5	4.3	5.0	5.8	5.4	4.1	6.0	0.0
Motor vehicle accidents	2.5	1.7	1.9	2.6	2.0	1.7	2.6	2.1	2.1	2.1	2.7	8.0
Drowning	1.8	2.2	1.5	1.8	1.4	1.2	1.8	2.1	2.0	0.7	1.8	0.0
Other	1.7	1.7	1.3	1.1	1.1	1.4	0.6	1.6	1.4	1.3	1.5	-11.8
Malignant neoplasms	2.3	2.1	2.6	2.4	2.3	1.1	1.4	2.5	2.5	2.5	2.0	-13.0
Congenital malformations	1.8	1.3	2.1	1.8	1.0	1.5	0.9	1.0	1.4	1.3	1.6	-11.1
Assault (homicide)	1.3	1.2	0.9	1.5	1.0	1.2	1.1	0.6	0.7	1.6	1.3	0.0
Diseases of heart	0.3	0.4	0.6	0.3	0.3	0.3	0.5	0.2	0.5	0.3	0.5	66.7
ALL CAUSES	18.1	16.6	17.7	18.3	16.5	14.5	17.1	17.5	17.6	16.6	18.2	0.6
(Number of all deaths)	(197)	(182)	(192)	(200)	(180)	(158)	(186)	(192)	(194)	(184)	(199)	1.0
RURAL												
Accidents (unintentional injuries)	10.8	11.3	10.9	12.6	8.9	9.5	10.8	6.8	8.5	8.0	6.0	-44.4
Motor vehicle accidents	4.3	7.5	7.1	8.7	5.5	3.3	8.5	5.1	7.4	5.1	6.0	39.5
Drowning	2.2	0.5	1.6	0.0	1.1	1.7	0.0	0.0	1.1	0.6	0.0	-100.0
Other	4.3	3.2	2.2	3.8	2.2	4.5	2.3	1.7	0.0	2.3	0.0	-100.0
Assault (homicide)	0.5	0.5	1.6	1.6	1.7	1.7	1.1	1.7	1.7	0.6	3.0	500.0
Intentional self-harm (suicide)	1.1	0.5	1.1	1.6	2.2	2.8	1.7	4.0	3.4	2.3	3.0	172.7
Malignant neoplasms	0.5	1.6	2.2	1.6	2.2	1.1	1.7	1.7	1.7	2.8	1.8	260.0
Congenital malformations	0.5	1.6	1.6	0.5	1.7	1.7	0.6	1.1	0.0	1.1	0.6	20.0
ALL CAUSES	23.2	22.6	28.9	27.9	26.0	21.2	24.9	21.6	27.3	22.8	24.5	5.6
(Number of all deaths)	(43)	(42)	(53)	(51)	(47)	(38)	(44)	(38)	(48)	(40)	(41)	(-4.7)
TOTAL												
Accidents (unintentional injuries)	6.7	6.5	5.6	6.6	5.1	5.0	5.8	6.0	5.9	4.6	6.0	-10.4
Motor vehicle accidents	2.8	2.6	2.7	3.5	2.5	2.0	3.4	2.6	2.8	2.5	3.2	14.3
Drowning	1.9	2.0	1.5	1.6	1.3	1.3	1.6	1.8	1.9	0.7	1.6	-15.8
Other	2.0	2.0	1.4	1.5	1.3	1.8	0.8	1.6	1.3	1.4	1.3	-35.0
Malignant neoplasms	2.0	2.0	2.6	2.3	2.3	1.1	1.4	2.4	2.4	2.6	2.0	0.0
Assault (homicide)	1.2	1.1	1.0	1.5	1.1	1.3	1.1	0.8	0.9	1.5	1.5	25.0
Congenital malformations	1.6	1.3	2.0	1.6	1.1	1.5	0.9	1.0	1.3	1.2	1.4	-12.5
Intentional self-harm (suicide)	0.7	0.9	0.6	0.6	0.9	0.9	0.7	1.3	1.3	1.2	1.3	85.7
ALL CAUSES	18.9	17.5	19.4	19.8	17.9	15.4	18.3	18.2	19.1	17.5	19.1	1.1
(Number of all deaths)	(240)	(224)	(247)	(252)	(227)	(196)	(231)	(231)	(244)	(224)	(240)	0.0

Notes: [a] Number of deaths per 100,000 children 1-14 years old; [b] The five causes with the greatest number of deaths over the 2010-2020 period; [c] Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; see ***Technical Notes*** for more information; records with unknown county of residence are included in the statewide totals, but are not distributed by urban/rural area; the cause-of-death titles are according to the Tenth Revision of the International Classification of Diseases (ICD-10); the causes of death for 2010-2020 are classified by ICD-10; measures of comparison between ICD-9 and ICD-10 - the "comparability ratios" - for the causes of death shown in this report are provided in the ***Technical Notes;*** although COVID-19 was among the 5 leading causes of death, it has been excluded in this table because the ICD-10 definition had not been identified until 2020, thus there is no data for years 2010-2019 and making it impossible to show a trend and a percent change.

TABLE 2C-9
MORTALITY RATES[a] FOR THE SELECTED FIVE LEADING CAUSES OF DEATH AMONG CHILDREN (1-14 YEARS) BY GENDER IN URBAN AND RURAL AREAS[b], ARIZONA, 2010-2020

Area/Gender	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	% change from 2010
URBAN												
Male	20.0	20.8	20.0	21.3	16.2	16.2	19.9	18.4	22.2	19.6	19.4	-3.0
Female	16.2	12.3	15.2	15.2	16.8	12.7	14.3	16.6	12.8	13.5	17.0	4.9
TOTAL	18.1	16.6	17.7	18.3	16.5	14.5	17.1	17.5	17.6	16.6	18.2	0.6
RURAL												
Male	33.9	26.4	32.1	29.0	30.5	23.1	33.5	27.9	32.5	23.5	28.2	-16.8
Female	12.1	18.7	25.5	26.6	21.3	19.3	16.1	15.0	21.9	22.1	20.7	71.1
TOTAL	23.2	22.6	28.9	27.9	26.0	21.2	24.9	21.6	27.3	22.8	24.5	5.6
TOTAL												
Male	22.1	21.6	22.0	22.4	18.2	17.2	21.8	19.9	23.6	20.2	20.5	-7.2
Female	15.6	13.2	16.7	17.0	17.5	13.7	14.7	16.4	14.4	14.6	17.5	12.2
TOTAL	18.9	17.5	19.4	19.8	17.9	15.4	18.3	18.2	19.1	17.5	19.1	1.1

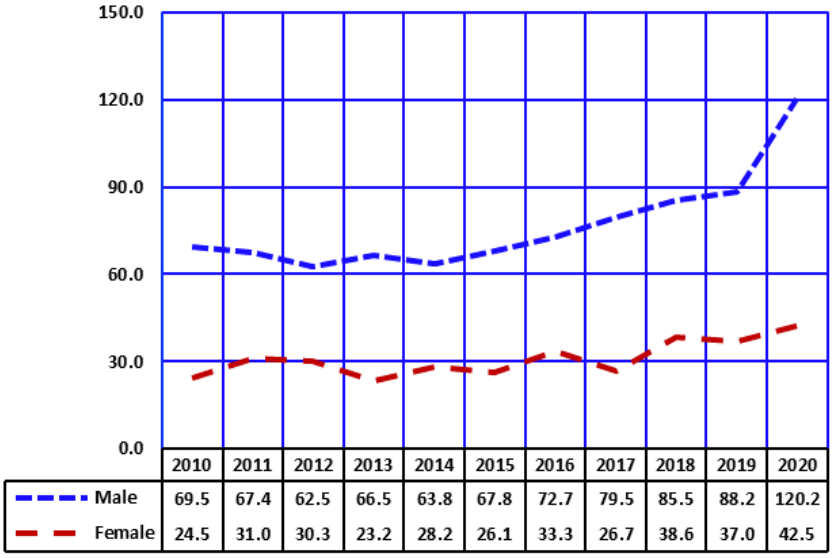
Notes: [a] Rates are presented per 100,000 children 1-14 years old; [b] Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; records with unknown county of residence are included in the statewide totals, but are not distributed by urban/rural area.

TABLE 2C-10
LEADING CAUSES OF DEATH AMONG CHILDREN (1-14 YEARS) BY GENDER, AREA, AND RACE/ETHNICITY, ARIZONA, 2020

Cause of death	Total	Gender		Area[a]		Race/ethnicity				
		Male	Female	Urban	Rural	White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or other Pacific Islander
Accidents (unintentional injury)	80†	43	33	66	10	36	27	*	8	*
Motor vehicle accidents	40†	22	18	30	10	19	14	0	*	*
Accidental drowning and submersion	20†	14	6	20	0	10	8	0	*	*
Malignant neoplasms	30†	13	12	22	*	16	7	*	*	0
Leukemia	10†	6	*	8	*	7	*	*	0	0
Assault (homicide)	20†	11	8	14	*	*	9	*	*	0
By other means	10†	6	6	9	*	*	7	*	0	0
By discharge of firearms	10†	*	*	*	*	*	*	*	*	0
Congenital malformations	20†	7	11	17	*	8	8	0	*	0
Intentional self-harm (suicide)	20†	11	6	12	*	10	*	*	*	0
COVID-19[±]	0†	*	*	*	*	*	*	0	*	0
Influenza and pneumonia	0†	*	*	*	0	0	*	0	0	0
Chronic lower respiratory diseases	0†	*	0	*	0	0	*	0	0	0
Asthma	0†	*	0	*	0	0	*	0	0	0
Total, all causes	240	132	108	199	41	104	84	22	23	7

Notes: * Cell suppressed due to count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; [a] Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; [±] The COVID-19 data collection began in mid-March 2020.

Figure 2C-9
Mortality Rates[a] by Gender and Year among Adolescents 15-19 Years, Arizona, 2010-2020



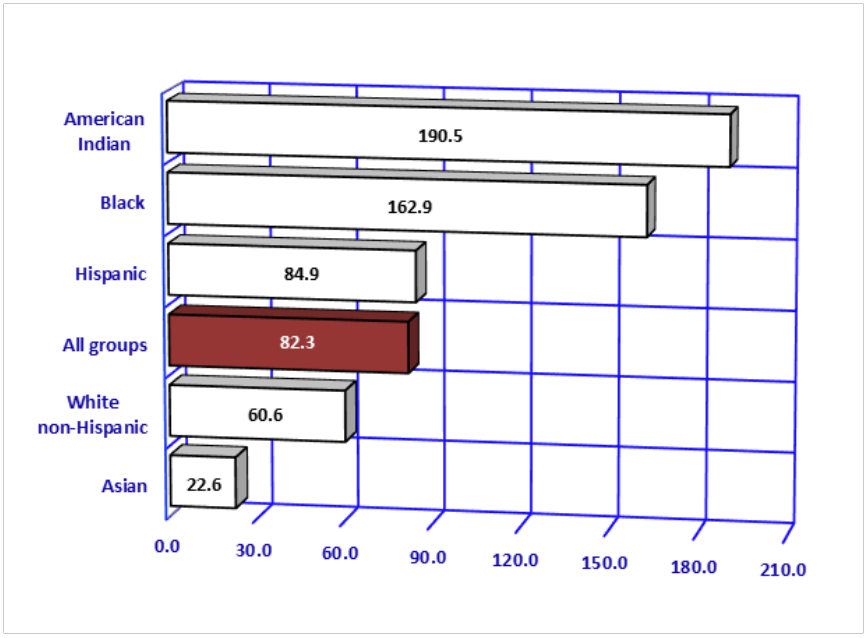
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	69.5	67.4	62.5	66.5	63.8	67.8	72.7	79.5	85.5	88.2	120.2
Female	24.5	31.0	30.3	23.2	28.2	26.1	33.3	26.7	38.6	37.0	42.5

Adolescence refers to individuals between the ages of 15 and 19, an important developmental period marking the transition from childhood to adulthood. In 2020, an estimated 471,519 adolescents resided in Arizona, comprising 6.6 percent of the State's population (**Table 10A-1**). The lives of 388 resident adolescents prematurely ended in 2020, resulting in a total mortality rate of 82.3 deaths per 100,000 adolescents. This mortality rate was 72.5 percent higher than the 2010 rate (**Table 2C-11**).

The likelihood of dying was approximately 283% higher for adolescent boys than for adolescent girls in 2020 (**Figure 2C-9**, **Table 2C-11**).

Notes: [a] Number of deaths per 100,000 persons, 15 - 19 years old in specified group.

Figure 2C-10
Mortality Rates[a] by Race/Ethnicity among Adolescents 15-19 Years, Arizona, 2020



The five causes with the greatest number of deaths over the 2010-2020 period were *unintentional injuries in accidents*, *suicide*, *homicide*, *malignant neoplasms*, and *diseases of heart* (**Table 2C-14**).

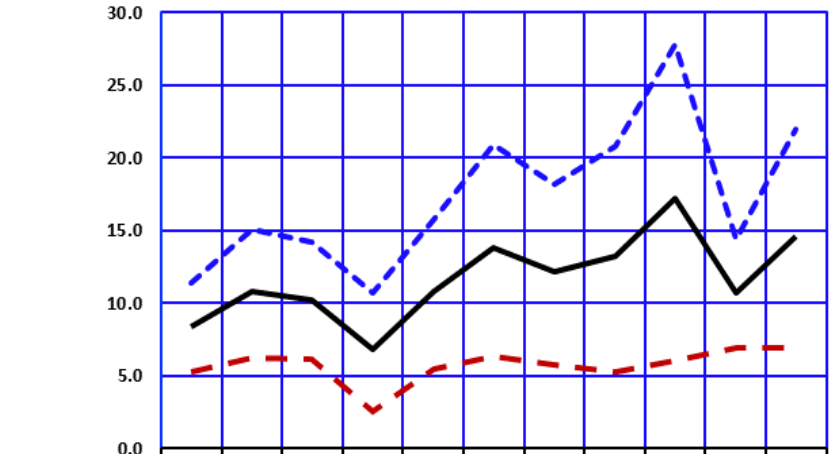
In 2020, adolescents who were Asian or White had greater survival chances than the state average for all adolescents. American Indian had the lowest survival chances of all racial/ethnic groups (**Figure 2C-10**).

Note: [a] Number of deaths per 100,000 persons, 15 - 19 years old in specified group.

In 2020, sixty-nine suicide deaths were recorded among Arizonans age 15-19 years, an increase from 51 recorded in 2019 (**Table 2C-14**). In 2020, as in prior years, male adolescents accounted for the absolute majority (76.8 percent) of completed suicides.

The suicide rate in 2013 was the lowest recorded since at least 1990 (**Figure 2C-11**, **Table 2C-11**). Between 2010 and 2020, the adolescent male suicide rate (22.0/100,000) increased 93.0 percent, while the adolescent female suicide rate (6.9) increased by 30.2 percent. The male to female ratio in suicide mortality rates increased from 2.2:1 in 2010 to 3.2:1 in 2020. In other words, male adolescents were almost 3.2 times more likely to kill themselves than female adolescents in 2020, compared to 2.1 times in 2010.

Figure 2C-11
Suicide Rates[a] by Gender and Year among Adolescents 15-19 Years, Arizona, 2010-2020

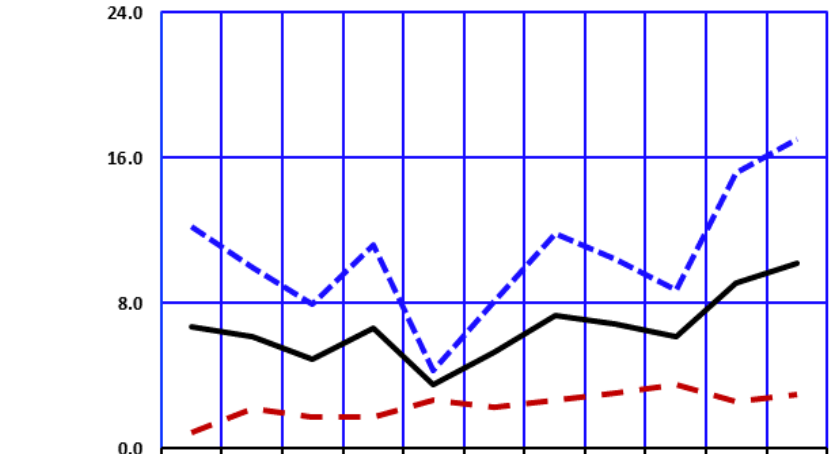


	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	11.4	15.1	14.2	10.7	15.8	20.9	18.2	20.8	27.8	14.4	22.0
Female	5.3	6.2	6.2	2.6	5.5	6.3	5.8	5.2	6.1	6.9	6.9
Both	8.4	10.8	10.3	6.8	10.8	13.8	12.1	13.2	17.2	10.7	14.6

Note: [a] Number of suicide deaths per 100,000 persons, 15 - 19 years old in specified group.

During the 11-year period, from 2010 to 2020, the overall adolescent mortality rate due to homicide increased by 52.2 percent. However, there were some gender differences in homicide rates, marked by an increase of 39.3 percent among adolescent males and 233.3 percent among their female counterparts (**Figure 2C-12**, **Table 2C-11.** From 2019 to 2020, the overall mortality rate of adolescent homicide deaths increased by 12.1 percent. Looking at gender specific homicide mortality, there was a substantial increase of 11.8 percent for males and 15.4 percent for females in the 2019-2020 years.

Figure 2C-12
Homicide Rates[a] by Gender and Year among Adolescents 15-19 Years, Arizona, 2010-2020



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	12.2	10.0	7.9	11.2	4.3	8.1	11.8	10.4	8.7	15.2	17.0
Female	0.9	2.2	1.8	1.7	2.7	2.3	2.7	3.1	3.5	2.6	3.0
Both	6.7	6.2	4.9	6.6	3.5	5.3	7.4	6.8	6.2	9.1	10.2

Note: [a] Number of homicide deaths per 100,000 persons, 15 - 19 years old in specified group.

TABLE 2C-11
MORTALITY RATES[a] FOR THE SELECTED FIVE LEADING CAUSES[b] OF DEATH AMONG ADOLESCENTS (15-19 YEARS) BY GENDER, ARIZONA, 2010-2020

Gender/Cause	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	% change from 2010
MALE												
Accidents (unintentional injuries)	27.0	29.3	28.8	28.1	22.3	20.9	27.9	33.3	32.4	42.0	58.0	114.8
Other	11.8	0.8	10.4	12.8	7.3	8.1	14.8	17.9	19.1	26.0	37.7	219.5
Motor vehicle accidents	15.2	18.8	18.3	15.3	15.0	12.8	13.1	15.4	13.3	16.1	20.3	33.6
Intentional self-harm (suicide)	11.4	15.1	14.2	10.7	15.8	20.9	18.2	20.8	27.8	14.4	22.0	93.0
Assault (homicide)	12.2	10.0	7.9	11.2	4.3	8.1	11.8	10.4	8.7	15.2	17.0	39.3
Malignant neoplasms	2.5	2.1	2.9	2.5	2.6	3.8	2.5	2.1	2.5	4.1	3.7	48.0
Diseases of heart	2.1	1.3	0.0	0.4	1.3	0.4	0.0	0.8	1.7	0.4	2.1	0.0
ALL CAUSES	69.5	67.4	62.5	66.5	63.8	67.8	72.7	79.5	85.5	88.2	120.2	72.9
(Number of all deaths)	(165)	(161)	(150)	(161)	(149)	(159)	(172)	(191)	(206)	(214)	(290)	75.8
FEMALE												
Accidents (unintentional injuries)	9.4	9.7	15.8	7.9	7.7	9.0	15.5	11.8	20.8	18.1	19.1	103.2
Other	4.9	0.9	2.6	1.7	2.7	2.7	4.0	3.5	7.8	7.3	10.0	104.1
Motor vehicle accidents	4.5	5.8	13.2	6.1	5.0	6.3	11.5	8.3	13.0	10.8	9.1	102.2
Intentional self-harm (suicide)	5.3	6.2	6.2	2.6	5.5	6.3	5.8	5.2	6.1	6.9	6.9	30.2
Assault (homicide)	0.9	2.2	1.8	1.7	2.7	2.3	2.7	3.1	3.5	2.6	3.0	233.3
Diseases of heart	0.9	0.9	0.0	0.9	0.9	0.9	1.8	0.9	0.9	0.4	1.7	88.9
Malignant neoplasms	2.7	4.4	1.8	3.5	4.1	2.7	2.2	1.3	0.9	3.9	0.9	-66.7
ALL CAUSES	24.5	31.0	30.3	23.2	28.2	26.1	33.3	26.7	38.6	37.0	42.5	73.5
(Number of all deaths)	(55)	(70)	(69)	(53)	(62)	(58)	(75)	(61)	(89)	(86)	(98)	78.2
TOTAL												
Accidents (unintentional injuries)	18.4	19.8	22.5	18.3	15.2	15.1	21.9	22.8	26.7	30.3	39.0	112.0
Other	8.4	0.9	6.6	7.4	5.1	5.5	9.5	10.9	13.6	16.8	24.2	188.1
Motor vehicle accidents	10.0	12.5	15.8	10.8	10.1	9.6	12.3	11.9	13.2	13.5	14.8	48.0
Intentional self-harm (suicide)	8.4	10.8	10.3	6.8	10.8	13.8	12.1	13.2	17.2	10.7	14.6	73.8
Assault (homicide)	6.7	6.2	4.9	6.6	3.5	5.3	7.4	6.8	6.2	9.1	10.2	52.2
Malignant neoplasms	2.6	3.2	2.4	3.0	3.3	3.3	2.4	1.7	1.7	4.0	2.3	-11.5
Diseases of heart	1.5	1.1	0.0	0.6	1.1	0.7	0.9	0.9	1.3	0.4	1.9	26.7
ALL CAUSES	47.7	49.7	47.1	45.5	46.5	47.5	53.5	53.7	62.6	63.2	82.3	72.5
(Number of all deaths)	(220)	(231)	(220)	(214)	(211)	(217)	(247)	(252)	(295)	(300)	(388)	76.4

Notes: [a] Number of deaths per 100,000 adolescents 15-19 years old; [b] The five causes with the greatest number of deaths over the 2010-2020 period; the cause-of-death titles are according to the Tenth Revision of the International Classification of Diseases (ICD-10); the causes of death for 2010-2020 are classified by ICD-10, replacing the Ninth Revision (ICD-9); measures of comparison between ICD-9 and ICD-10 – the "comparability ratios" – for the causes of death shown in this report are provided in the ***Technical Notes;*** although COVID-19 was among the 5 leading causes of death, it has been excluded in this table because the ICD-10 definition had not been identified until 2020, thus there is no data for years 2010-2019 and making it impossible to show a trend and a percent change.

TABLE 2C-12
MORTALITY RATES[a] FOR THE SELECTED FIVE LEADING CAUSES[b] OF DEATH AMONG ADOLESCENTS (15-19 YEARS) IN URBAN AND RURAL AREAS[c], ARIZONA, 2010-2020

Area/Cause	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	% change from 2010
URBAN												
Accidents (unintentional injuries)	17.0	18.4	17.0	15.8	12.5	13.4	20.4	19.6	25.9	31.1	39.0	129.4
Other	7.7	1.0	5.1	6.5	3.7	4.9	8.2	10.3	13.7	18.2	25.4	229.9
Motor vehicle accidents	9.3	10.8	11.9	9.3	8.9	8.5	12.2	9.3	12.2	12.8	13.6	46.2
Intentional self-harm (suicide)	7.2	8.5	8.1	5.0	9.6	12.7	11.2	11.5	12.4	9.9	12.3	70.8
Assault (homicide)	6.7	6.4	4.8	6.8	3.7	5.9	7.9	7.8	6.5	10.1	10.9	62.7
Malignant neoplasms	2.3	2.8	2.8	3.5	3.7	2.8	2.8	1.8	1.7	4.4	2.7	17.4
Diseases of heart	1.5	1.3	0.0	0.5	1.3	0.5	0.8	1.0	1.0	0.5	2.2	46.7
ALL CAUSES	43.6	45.3	38.8	42.4	42.5	44.2	50.7	49.9	57.2	65.6	80.0	83.5
(Number of all deaths)	(169)	(177)	(153)	(169)	(163)	(171)	(199)	(199)	(230)	(266)	(324)	91.7
RURAL												
Accidents (unintentional injuries)	25.5	26.9	52.1	31.8	29.9	24.5	30.3	39.9	30.2	24.5	37.7	47.8
Motor vehicle accidents	13.4	21.5	37.0	19.3	17.1	15.8	13.0	25.6	18.7	17.3	22.6	68.7
Other	12.1	0.0	15.1	12.4	12.8	8.6	17.3	14.2	11.5	7.2	15.1	24.8
Intentional self-harm (suicide)	14.8	22.9	21.9	16.6	17.1	20.2	17.3	22.8	44.5	15.9	28.6	93.2
Assault (homicide)	6.7	5.4	5.5	5.5	2.9	1.4	2.9	1.4	4.3	2.9	6.0	-10.4
Malignant neoplasms	4.0	5.4	0.0	0.0	1.4	5.8	0.0	1.4	1.4	1.4	0.0	-100.0
Diseases of heart	1.3	0.0	0.0	0.0	0.0	1.4	1.4	0.0	2.9	0.0	0.0	-100.0
ALL CAUSES	68.6	72.7	90.5	62.1	68.4	66.2	66.4	74.1	91.9	47.6	93.5	36.3
(Number of all deaths)	(51)	(54)	(66)	(45)	(48)	(46)	(46)	(52)	(64)	(33)	(62)	21.6
TOTAL												
Accidents (unintentional injuries)	18.4	19.8	22.5	18.3	15.2	15.1	21.9	22.8	26.7	30.3	39.0	112.0
Other	8.4	0.9	6.6	7.4	5.1	5.5	9.5	10.9	13.6	16.8	24.2	188.1
Motor vehicle accidents	10.0	12.5	15.8	10.8	10.1	9.6	12.3	11.9	13.2	13.5	14.8	48.0
Intentional self-harm (suicide)	8.4	10.8	10.3	6.8	10.8	13.8	12.1	13.2	17.2	10.7	14.6	73.8
Assault (homicide)	6.7	6.2	4.9	6.6	3.5	5.3	7.4	6.8	6.2	9.1	10.2	52.2
Malignant neoplasms	2.6	3.2	2.4	3.0	3.3	3.3	2.4	1.7	1.7	4.0	2.3	-11.5
Diseases of heart	1.5	1.1	0.0	0.6	1.1	0.7	0.9	0.9	1.3	0.4	1.9	26.7
ALL CAUSES	47.7	49.7	47.1	45.5	46.5	47.5	53.5	53.7	62.6	63.2	82.3	72.5
(Number of all deaths)	(220)	(231)	(220)	(214)	(211)	(217)	(247)	(252)	(295)	(300)	(388)	76.4

Notes: [a] Number of deaths per 100,000 adolescents 15-19 years old; [b] The five causes with the greatest number of deaths over the 2010-2020 period; [c] Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; see ***Technical Notes*** for more information; records with unknown county of residence are included in the statewide totals, but are not distributed by urban/rural area; the cause-of-death titles are according to the Tenth Revision of the International Classification of Diseases (ICD-10); the causes of death for 2010-2020 are classified by ICD-10; measures of comparison between ICD-9 and ICD-10 - the "comparability ratios" - for the causes of death shown in this report are provided in the ***Technical Notes;*** although COVID-19 was among the 5 leading causes of death, it has been excluded in this table because the ICD-10 definition had not been identified until 2020, thus there is no data for years 2010-2019 and making it impossible to show a trend and a percent change.

TABLE 2C-13
MORTALITY RATES[a] FOR THE SELECTED FIVE LEADING CAUSES OF DEATH AMONG ADOLESCENTS (15-19 YEARS) BY GENDER IN URBAN AND RURAL AREAS[b], ARIZONA, 2010-2020

Area/Gender	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	% change from 2010
URBAN												
Male	62.8	62.2	50.8	62.0	59.8	60.8	69.6	73.9	78.3	93.0	118.1	88.1
Female	23.4	27.4	26.1	21.7	24.2	26.6	30.9	24.7	35.2	36.9	40.0	70.9
TOTAL	43.6	45.3	38.8	42.4	42.5	44.2	50.7	49.9	57.2	65.6	80.0	83.5
RURAL												
Male	104.9	94.6	123.3	91.4	85.8	106.8	84.9	111.6	124.4	56.9	130.8	24.7
Female	30.3	49.6	53.3	31.2	50.0	23.6	47.1	34.9	58.4	38.0	55.0	81.5
TOTAL	68.6	72.7	90.5	62.1	68.4	66.2	66.4	74.1	91.9	47.6	93.5	36.3
TOTAL												
Male	69.5	67.4	62.5	66.5	63.8	67.8	72.7	79.5	85.5	88.2	120.2	72.9
Female	24.5	31.0	30.3	23.2	28.2	26.1	33.3	26.7	38.6	37.0	42.5	73.5
TOTAL	47.7	49.7	47.1	45.5	46.5	47.5	53.5	53.7	62.6	63.2	82.3	72.5

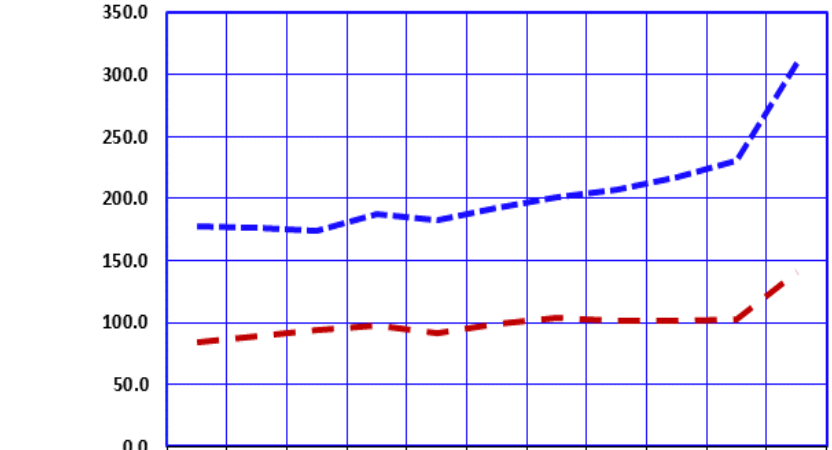
Notes: [a] Rates are presented per 100,000 children 15-19 years old; [b] Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; see ***Technical Notes*** for more information; records with unknown county of residence are included in the statewide totals, but are not distributed by urban/rural area.

TABLE 2C-14
LEADING CAUSES OF DEATH AMONG ADOLESCENTS (15-19 YEARS) BY GENDER, AREA, AND RACE/ETHNICITY, ARIZONA, 2020

Cause of death	Total	Gender		Area[a]			Race/ethnicity					
		Male	Female	Urban	Rural	Unknown	White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander	Unknown
Accidents (unintentional injury)	180†	140	44	158	25	*	59	91	16	14	*	*
Accidental poisoning	100†	83	20	96	6	*	35	47	10	7	*	*
Motor vehicle accidents	70†	49	21	55	15	0	21	39	*	*	0	0
Accidental drowning and submersion	0†	*	0	0	*	0	*	0	0	0	0	0
Intentional self-harm (suicide)	70†	53	16	50	19	0	30	23	*	12	*	0
By discharge of firearms	40†	35	*	28	12	0	17	13	*	6	*	0
By other means	29	18	11	22	7	0	13	10	0	6	0	0
Assault (homicide)	50†	41	7	44	*	0	*	21	17	6	0	0
By discharge of firearms	40†	37	*	38	*	0	*	19	13	*	0	0
By other means	10†	*	*	6	*	0	0	*	*	*	0	0
Malignant neoplasms	10†	9	*	11	0	0	*	7	0	0	0	0
Diseases of the heart	10†	*	*	9	0	0	*	*	*	0	0	0
Events of undetermined intent	10†	*	*	*	*	0	*	*	*	0	0	0
COVID-19[±]	0†	*	*	*	*	0	0	*	0	*	0	0
Total, all causes[b]	388	290	98	324	62	2	121	173	45	43	4	2

Notes: * Cell suppressed due to count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; [a] May include death records where the county of residence could not be classified as urban or rural; Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; [b] May include other causes of death not shown above; [±] The COVID-19 data collection began in mid-March 2020.

Figure 2C-13
Mortality Rates[a] by Gender and Year among Young Adults 20-44 Years, Arizona, 2010-2020



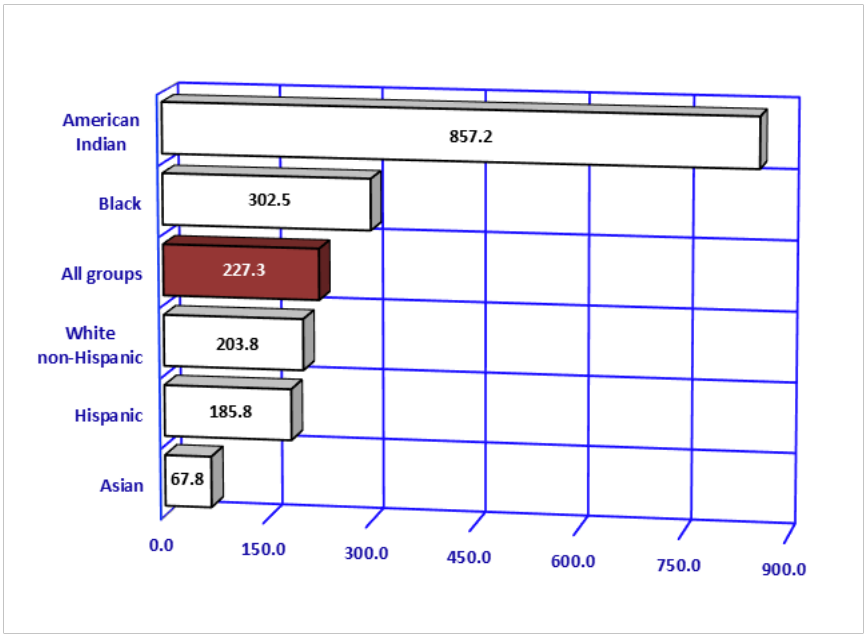
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	177.2	176.1	173.6	187.2	183.0	192.0	200.6	207.7	217.2	230.3	309.6
Female	84.4	89.2	94.5	97.7	91.9	99.0	103.8	101.4	101.2	102.4	140.4

In 2020, 33.0 percent of Arizona residents were between 20 and 44 years of age. Among the six developmental periods examined in the life span, young adulthood, with an estimated 2.4 million individuals, easily represented the largest segment of the population. However, only 7.1 percent of all deaths occurred during young adulthood.

In each year from 2010 to 2020 period, males aged 20-44 years died at a higher rate than females. During the same period, the mortality rate for this age group increased by 74.7 percent for males and 66.4 percent for females. Compared to 2019, the young adult mortality rate increased both for males (34.4 percent) and females (37.1 percent; **Figure 2C-13, Table 2C-15).**

Note: [a] Number of deaths per 100,000 persons, 20-44 years old in specified group.

Figure 2C-14
Mortality Rates[a] by Race/Ethnicity among Young Adults 20-44 Years, Arizona, 2020



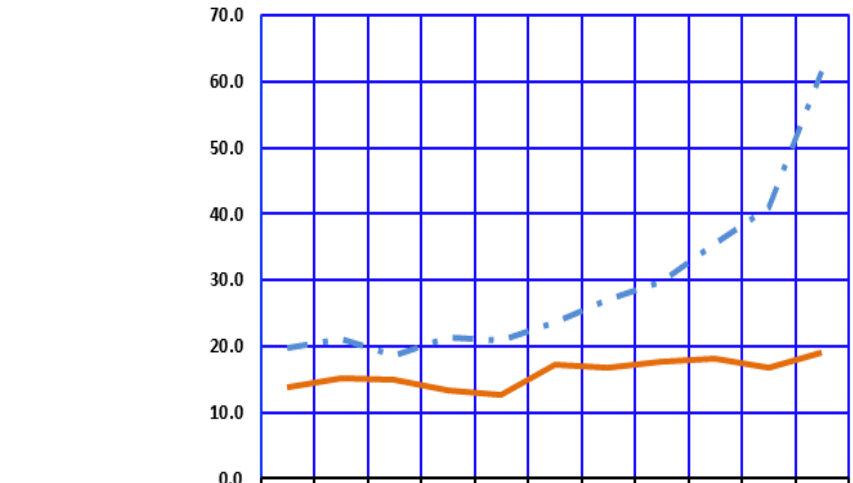
The 2020 mortality among young adults shows racial/ethnic disparities. American Indians aged 20-44 years had the highest mortality rates while Asians of the same age group recorded the lowest mortality rate across all groups.

American Indian young adults had a mortality rate 2.8 times greater than Black or African American adults, the racial/ethnic group with the second highest young adult mortality rate. The American Indian young adult mortality rate was 3.8 times higher than the state average for young adults and 12.6 times greater than Asian young adults.

Note: [a] Number of deaths per 100,000 persons, 20-44 years old in specified group.

In 2020, 1,456 deaths of young adults were attributed to accidental poisoning (**Table 2C-18**), an increase of 50.7 percent from 2019. The mortality rate for accidental poisoning among young adults (61.6/100,000) exceeded the mortality rate for motor vehicle-related injuries. In the past decade, excess of mortality due to accidental poisoning has been consistently recorded in each year since 2010 (**Figure 2C-15**). Among the young adults 20-44 years, 1,373 accidental poisoning deaths were due to drug overdose (ICD-10 X40-44) and 67 deaths were due to alcohol poisoning (ICD-10 X45).

Figure 2C-15
Mortality Rates[a] for Motor Vehicle-Related Injuries and Accidental Poisoning by Year among Young Adults 20-44 Years, Arizona, 2010-2020



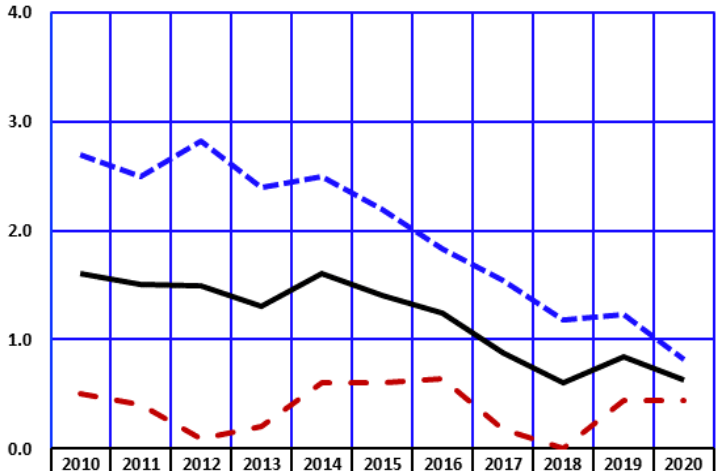
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Accidental poisoning	19.8	21.2	18.5	21.3	20.9	23.7	27.1	29.9	35.5	40.9	61.6
MV accident	13.7	15.2	14.9	13.3	12.6	17.1	16.8	17.6	18.1	16.7	19.1

Note: [a] Number of motor vehicle and accidental poisoning deaths per 100,000 persons, 20-44 years old in specified group.

In 2020, of the 73 deaths from *HIV disease* about 20.5 percent occurred among Arizonans 20-44 years old (**Table 2C-27**), a decrease from 29.4 percent in 2019. Males accounted for the majority of the young adult deaths from *HIV disease* in 2020 (**Table 2C-18**).

An analysis of HIV mortality rates by gender for the 2010-2020 period revealed a decrease of 70.4 percent in mortality among young males and 20.0 in mortality rate among their female counterparts.

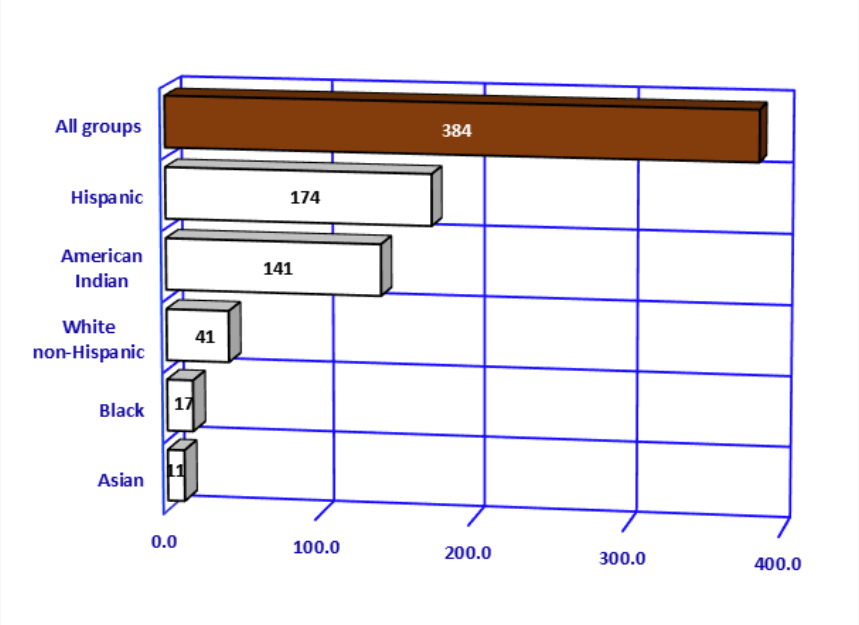
Figure 2C-16
Mortality Rates[a] for HIV Disease by Gender and Year among Young Adults 20-44 Years, Arizona, 2010-2020



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	2.7	2.5	2.8	2.4	2.5	2.2	1.8	1.5	1.2	1.2	0.8
Female	0.5	0.4	0.1	0.2	0.6	0.6	0.6	0.2	0.0	0.4	0.4
Both	1.6	1.5	1.5	1.3	1.6	1.4	1.2	0.9	0.6	0.8	0.6

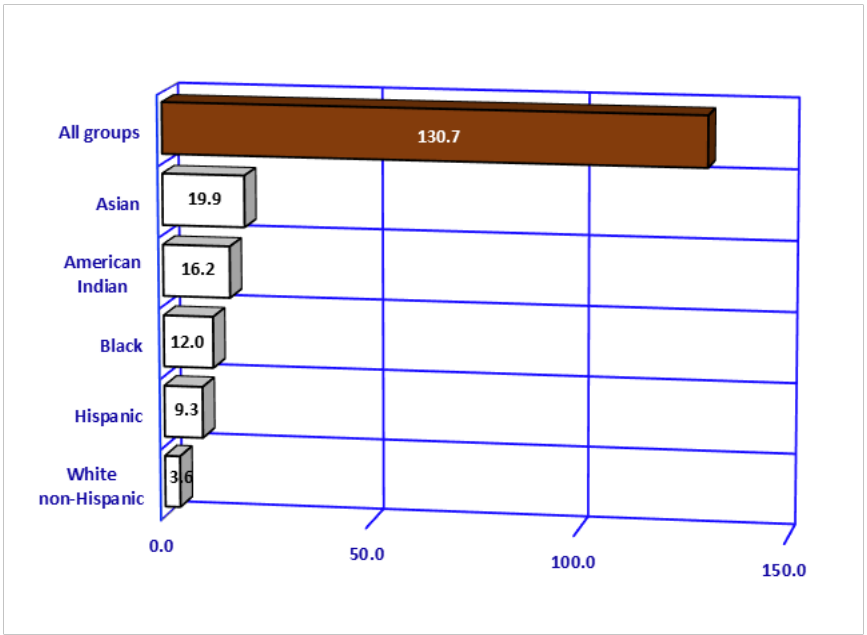
Note: [a] Number of HIV deaths per 100,000 persons, 20-44 years old in specified group.

Figure 2C-17
Mortality for COVID-19 by Race/Ethnicity among Young Adults 20-44 Years, Arizona, 2020



In 2020, 384 Arizona resident young adults age 20-44 died from COVID-19. Among the deaths, people who identified as Hispanic or Latino represented the largest amount of deaths compared to other race and ethnicities with 45.3% (n=174) of deaths in this age group. The least impacted race were Asians with 2.9% (n= 11) of deaths in this age group (**Figure 2C-17, Table 2C-18**).

Figure 2C-18
Mortality Rates[a] for COVID-19 by Race/Ethnicity among Young Adults 20-44 Years, Arizona, 2020



Note: [a] Number of deaths due to COVID-19 per 100,000 persons, 20-44 years old in specified group.

The age-specific mortality rate of Arizona resident young adults aged 20-44 years found the highest risk among American Indians with a rate of 130.7 deaths per 100,000 people aged 20-44. This was approximately eight times the rate among all race/ethnicity groups (16.2 deaths per 100,000 people aged 20-44). People who identified as Hispanic or Latino represented the second highest group with 19.9 deaths per 100,000 people aged 20-44 and was above the average of all groups (**Figure 2C-18**).

TABLE 2C-15
MORTALITY RATES[a] FOR THE SELECTED FIVE LEADING CAUSES[b] OF DEATH AMONG YOUNG ADULTS (20-44 YEARS) BY GENDER, ARIZONA, 2010-2020

Gender/Cause	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	% change from 2010
MALE												
Accidents (unintentional injuries)	52.6	57.9	52.8	56.7	54.3	63.3	71.2	76.7	86.0	94.3	128.5	144.3
Other	27.5	8.7	31.2	38.0	35.9	38.6	46.9	52.6	59.9	70.2	100.9	266.9
Motor vehicle accidents	19.8	20.6	21.6	18.7	18.4	24.7	24.3	24.1	26.1	24.1	27.6	39.4
Intentional self-harm (suicide)	31.5	32.4	29.0	30.8	28.7	30.8	30.9	33.5	36.9	37.2	35.1	11.4
Assault (homicide)	20.1	18.2	16.1	16.1	13.3	16.6	17.8	19.4	17.9	15.0	20.3	1.0
Diseases of heart	11.7	14.7	13.5	14.2	14.0	13.6	12.0	14.7	13.3	14.8	18.9	61.5
Malignant neoplasms	12.8	11.0	12.3	13.4	11.2	13.0	11.3	12.0	10.9	12.0	12.6	-1.6
ALL CAUSES	177.2	176.1	173.6	187.2	183.0	192.0	200.6	207.7	217.2	230.3	309.6	74.7
(Number of all deaths)	(1,920)	(1,923)	(1,910)	(2,082)	(2,071)	(2,191)	(2,304)	(2,421)	(2,588)	(2,799)	(3,763)	96.0
FEMALE												
Accidents (unintentional injuries)	22.4	25.2	22.8	24.5	21.3	28.2	26.6	29.3	30.5	32.0	44.6	99.1
Other	15.0	2.1	15.1	16.9	14.7	19.1	17.5	18.6	20.8	23.1	34.5	130.0
Motor vehicle accidents	7.4	9.7	7.7	7.6	6.6	9.1	9.0	10.7	9.7	8.9	10.1	36.5
Malignant neoplasms	14.0	15.7	17.6	17.4	14.0	13.5	16.7	14.5	16.2	14.1	14.5	3.6
Intentional self-harm (suicide)	6.8	8.9	8.7	9.6	9.0	10.5	9.9	11.2	9.6	8.1	10.9	60.3
Diseases of heart	4.6	6.4	7.0	5.6	6.6	7.2	5.1	7.0	6.3	6.1	7.6	65.2
Assault (homicide)	3.5	2.4	4.3	3.4	2.9	3.2	3.7	3.8	3.7	4.0	4.7	34.3
ALL CAUSES	84.4	89.2	94.5	97.7	91.9	99.0	103.8	101.4	101.2	102.4	140.4	66.4
(Number of all deaths)	(876)	(933)	(990)	(1,033)	(991)	(1,080)	(1,137)	(1,123)	(1,139)	(1,174)	(1,614)	84.2
TOTAL												
Accidents (unintentional injuries)	37.8	41.9	38.2	41.0	38.2	46.1	49.4	53.6	59.0	64.0	87.7	132.0
Other	24.1	5.5	23.3	27.7	25.6	29.0	32.6	36.0	40.9	47.3	68.7	185.1
Motor vehicle accidents	13.7	15.2	14.9	13.3	12.6	17.1	16.8	17.6	18.1	16.7	19.1	39.4
Intentional self-harm (suicide)	19.4	20.9	19.1	20.5	19.1	20.9	20.6	22.6	23.6	23.1	23.3	20.1
Malignant neoplasms	13.4	13.3	14.9	15.3	12.6	13.2	13.9	13.2	13.5	13.0	13.5	0.7
Diseases of heart	8.2	10.6	10.3	10.0	10.4	10.5	8.6	10.9	9.9	10.6	13.4	63.4
Assault (homicide)	12.0	10.5	10.3	9.9	8.2	10.0	11.0	11.8	11.0	9.7	12.7	5.8
ALL CAUSES	131.8	133.6	135.0	143.5	138.6	146.6	153.3	155.9	160.9	168.2	227.3	72.5
(Number of all deaths)	(2,796)	(2,856)	(2,900)	(3,115)	(3,062)	(3,271)	(3,441)	(3,544)	(3,727)	(3,973)	(5,377)	92.3

Notes: [a] Rates are presented per 100,000 persons 20-44 years old; [b] The five causes with the greatest number of deaths over the 2010-2020 period; the cause-of-death titles are according to the Tenth Revision of the International Classification of Diseases (ICD-10); the causes of death for 2010-2020 are classified by ICD-10, replacing the Ninth Revision (ICD-9); measures of comparison between ICD-9 and ICD-10 – the "comparability ratios" – for the causes of death shown in this report are provided in the ***Technical Notes;*** although COVID-19 was among the 5 leading causes of death, it has been excluded in this table because the ICD-10 definition had not been identified until 2020, thus there is no data for years 2010-2019 and making it impossible to show a trend and a percent change.

TABLE 2C-16
MORTALITY RATES[a] FOR THE SELECTED FIVE LEADING CAUSES[b] OF DEATH AMONG YOUNG ADULTS (20-44 YEARS) IN URBAN AND RURAL AREAS[c], ARIZONA, 2010-2020

Area/Cause	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	% change from 2010
URBAN												
Accidents (unintentional injuries)	33.5	36.6	32.3	35.4	33.8	40.1	43.9	49.0	55.2	60.6	82.6	146.6
Other	22.0	4.3	20.2	23.9	22.7	25.4	28.9	34.3	39.5	46.1	65.9	199.5
Motor vehicle accidents	11.5	12.4	12.1	11.5	11.1	14.7	15.1	14.8	15.7	14.5	16.7	45.2
Intentional self-harm (suicide)	17.7	18.1	17.0	18.3	16.8	19.0	18.4	19.7	20.6	21.3	20.5	15.8
Malignant neoplasms	13.3	13.5	14.1	15.3	12.7	13.1	13.5	13.0	13.5	12.6	13.7	3.0
Diseases of heart	8.0	9.6	9.5	9.3	9.7	10.1	8.3	10.3	9.2	10.2	13.3	66.3
Assault (homicide)	11.0	10.0	9.5	9.4	8.1	9.6	10.7	11.3	11.1	9.8	12.1	10.0
ALL CAUSES	119.7	120.3	118.8	130.1	126.2	131.9	137.1	140.7	148.0	156.5	206.2	72.3
(Number of all deaths)	(2,203)	(2,232)	(2,215)	(2,451)	(2,422)	(2,557)	(2,676)	(2,783)	(2,986)	(3,224)	(4,270)	93.8
RURAL												
Accidents (unintentional injuries)	63.9	71.9	74.4	74.9	61.2	78.6	77.9	75.3	81.3	80.9	116.3	82.0
Other	36.9	10.3	42.7	50.8	39.6	47.9	51.3	39.4	48.5	52.8	81.6	121.1
Motor vehicle accidents	27.0	33.0	31.7	24.2	21.7	30.8	26.7	36.0	32.8	28.1	34.7	28.5
Intentional self-harm (suicide)	30.2	37.6	32.4	33.6	32.3	32.1	33.5	40.1	43.5	35.0	42.5	40.7
Assault (homicide)	16.0	12.8	14.8	13.0	7.2	10.6	10.6	10.9	10.4	7.9	16.7	4.4
Diseases of heart	9.6	16.7	14.5	14.0	14.4	13.0	10.3	14.3	14.0	12.5	13.6	41.7
Malignant neoplasms	13.8	12.0	19.0	15.4	11.4	13.3	16.7	13.6	12.4	16.2	12.6	-8.7
ALL CAUSES	203.7	210.2	233.4	226.5	207.1	224.7	240.9	236.6	238.1	237.7	361.3	77.4
(Number of all deaths)	(574)	(593)	(662)	(647)	(602)	(657)	(705)	(697)	(712)	(720)	(1,063)	85.2
TOTAL												
Accidents (unintentional injuries)	37.8	41.9	38.2	41.0	38.2	46.1	49.4	53.6	59.0	64.0	87.7	132.0
Other	24.1	5.5	23.3	27.7	25.6	29.0	32.6	36.0	40.9	47.3	68.7	185.1
Motor vehicle accidents	13.7	15.2	14.9	13.3	12.6	17.1	16.8	17.6	18.1	16.7	19.1	39.4
Intentional self-harm (suicide)	19.4	20.9	19.1	20.5	19.1	20.9	20.6	22.6	23.6	23.1	23.3	20.1
Malignant neoplasms	13.4	13.3	14.9	15.3	12.6	13.2	13.9	13.2	13.5	13.0	13.5	0.7
Diseases of heart	8.2	10.6	10.3	10.0	10.4	10.5	8.6	10.9	9.9	10.6	13.4	63.4
Assault (homicide)	12.0	10.5	10.3	9.9	8.2	10.0	11.0	11.8	11.0	9.7	12.7	5.8
ALL CAUSES	131.8	133.6	135.0	143.5	138.6	146.6	153.3	155.9	160.9	168.2	227.3	72.5
(Number of all deaths)	(2,796)	(2,856)	(2,900)	(3,115)	(3,062)	(3,271)	(3,441)	(3,544)	(3,727)	(3,973)	(5,377)	92.3

Notes: [a] Rates are presented per 100,000 young adults 20-44 years old; [b] The five causes with the greatest number of deaths statewide over the 2010-2020 period; [c] Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; see ***Technical Notes*** for more information; records with unknown county of residence are included in the statewide totals, but are not distributed by urban/rural area; the cause-of-death titles are according to the Tenth Revision of the International Classification of Diseases (ICD-10); the causes of death for 2010-2020 are classified by ICD-10, replacing the Ninth Revision (ICD-9); measures of comparison between ICD-9 and ICD-10 – the "comparability ratios" - for the causes of death shown in this report are provided in the ***Technical Notes;*** although COVID-19 was among the 5 leading causes of death, it has been excluded in this table because the ICD-10 definition had not been identified until 2020, thus there is no data for years 2010-2019 and making it impossible to show a trend and a percent change.

TABLE 2C-17
MORTALITY RATES[a] FOR THE SELECTED FIVE LEADING CAUSES OF DEATH AMONG YOUNG ADULTS (20-44 YEARS) BY GENDER IN URBAN AND RURAL AREAS[b], ARIZONA, 2010-2020

Area/Gender	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	% change from 2010
URBAN												
Male	159.4	158.7	154.0	169.0	165.6	171.9	178.4	187.7	198.0	216	282.9	77.5
Female	78.4	80.3	81.9	89.2	85.1	90.1	94.0	91.4	95.2	93.8	125.4	59.9
TOTAL	119.7	120.3	118.8	130.1	126.2	131.9	137.1	140.7	148.0	156.5	206.2	72.3
RURAL												
Male	281.0	271.6	288.4	296.4	278.8	294.2	315.6	307.7	332.7	309.8	475.6	69.3
Female	121.6	144.8	174.6	151.6	130.0	149.8	160.1	159.3	135.0	158.9	236.7	94.7
TOTAL	203.7	210.2	233.4	226.5	207.1	224.7	240.9	236.6	238.1	237.7	361.3	77.4
TOTAL												
Male	177.2	176.1	173.6	187.2	183.0	192.0	200.6	207.7	217.2	230.3	309.6	74.7
Female	84.4	89.2	94.5	97.7	91.9	99.0	103.8	101.4	101.2	102.4	140.4	66.4
TOTAL	131.8	133.6	135.0	143.5	138.6	146.6	153.3	155.9	160.9	168.2	227.3	72.5

Notes: [a] Rates are presented per 100,000 persons 20-44 years old; [b] Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; see ***Technical Notes*** for more information; records with unknown county of residence are included in the statewide totals, but are not distributed by urban/rural area.

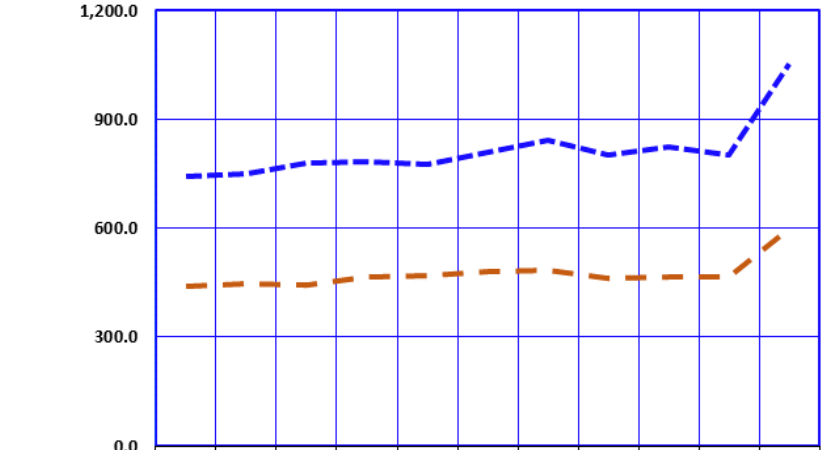
TABLE 2C-18
LEADING CAUSES OF DEATH AMONG YOUNG ADULTS (20-44 YEARS) BY GENDER, AREA, AND RACE/ETHNICITY, ARIZONA, 2020

Cause of death	Total	Gender		Area[a]			Race/ethnicity					
		Male	Female	Urban	Rural	Unknown	White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander	Refused/Unknown
Accidents (unintentional injury)	2,075	1,562	513	1,710	342	23	929	682	144	293	17	10
Accidental poisoning	1,456	1,090	366	1,247	193	16	687	474	102	176	9	8
Motor vehicle accidents	450†	335	116	346	102	*	169	164	28	84	*	*
Intentional self-harm (suicide)	550†	427	125	424	125	*	319	121	35	63	13	*
By discharge of firearms	305	255	50	248	56	*	186	71	22	18	8	0
By other means	250†	172	75	176	69	*	133	50	13	45	*	*
COVID-19[±]	384	246	138	280	102	*	41	174	17	141	11	0
Malignant neoplasms	320†	153	167	283	37	0	149	115	24	24	7	*
Malignant neoplasm of lymphoid, hematopoietic and related tissue	50†	32	14	42	*	0	19	21	*	*	*	0
Malignant neoplasm of breast	50†	0	45	38	7	0	22	10	7	*	*	*
Malignant neoplasm of meninges, brain and other parts of central nervous system	40†	22	13	32	*	0	20	12	*	*	0	0
Diseases of heart	320†	230	87	275	40	*	147	84	41	32	12	*
Assault (homicide)	300†	247	54	250	49	*	74	105	61	54	*	*
By discharge of firearms	240†	208	36	214	29	*	64	88	55	31	*	*
By other means	60†	39	18	36	20	*	10	17	6	23	0	*
Chronic liver disease and cirrhosis	260†	165	99	166	96	*	99	52	0	112	*	0
Diabetes	110†	70	35	87	18	0	45	31	6	21	*	0
Cerebrovascular diseases	50†	34	17	43	7	*	24	18	*	*	*	0
Influenza and pneumonia	50†	33	17	34	15	*	21	16	*	11	0	0
Obesity	40†	31	11	36	6	0	20	12	*	6	0	0
Human immunodeficiency virus (HIV) disease	20†	10	*	13	*	0	7	*	*	0	*	0
Total, all causes	5,377	3,763	1,614	4,270	1,063	44	2,290	1,625	427	925	80	30

Notes: * Cell suppressed due to count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; [a] Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; [±] The COVID-19 data collection began in mid-March 2020.

Middle-aged adult mortality (ages 45-64 years)

Figure 2C-19
Mortality Rates[a] by Gender and Year among Middle-Aged Adults 45-64 Years, Arizona, 2010-2020



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	744.1	752.2	778.8	784.8	775.3	809.1	841.8	802.8	824.4	801.5	1052.8
Female	439.6	447.1	445.8	465.2	468.9	482.3	484.1	460.8	464.7	467.3	597.9

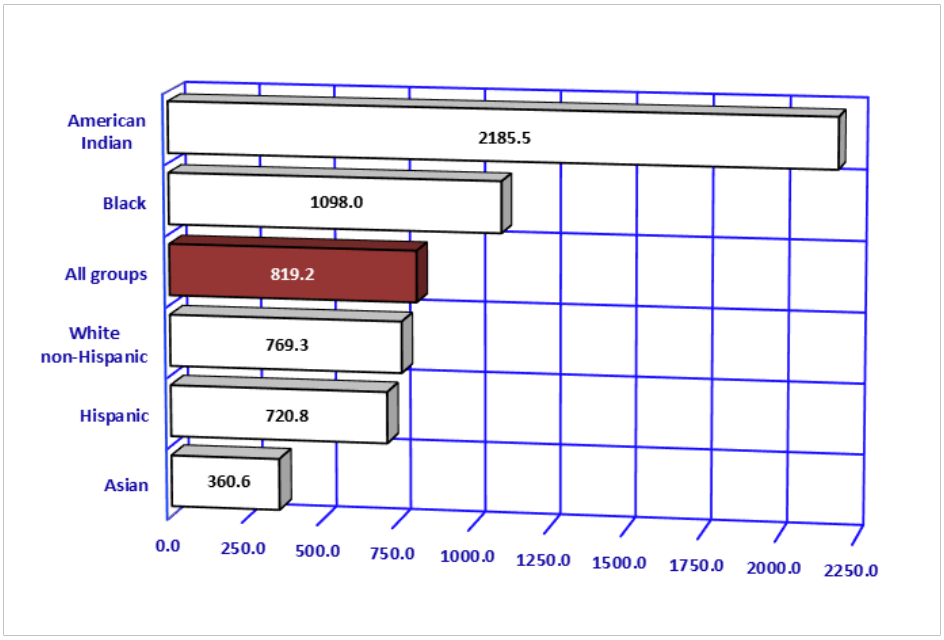
Note: [a] Number of deaths per 100,000 persons, 45-64 years old in specified group.

In 2020, the 1,709,336 middle-aged adult residents aged 45 to 64 experienced 14,003 deaths, or an average of 38 deaths per day. The total number of deaths among 45–64 years old Arizona residents in 2020 (14,003) is higher than the 2019 count (10,834) and 2018, (10,920). Overall, 2020 had the highest number of deaths for the age group of middle-aged adult residents 45-64 years recorded over the time period of 2010-2020 (**Table 2C-19**).

The 2020 total mortality rate among middle-age females was 36.0 percent higher, and among middle-aged males, 41.5 percent higher than their respective rates in 2010 (**Figure 2C-19**, **Table 2C-19**). In 2020, the mortality rate for males age 45 - 64 was 76.1 percent higher than the female mortality of the same age group.

The five causes with the greatest number of deaths in 2010-2020 were *malignant neoplasms*, *diseases of heart*, *accidents*, *chronic liver disease and cirrhosis*, and *chronic lower respiratory diseases* (**Table 2C-19**).

Figure 2C-20
Mortality Rates[a] by Race/Ethnicity among Middle-Aged Adults 45-64 Years, Arizona, 2020



Note: [a] Number of deaths per 100,000 persons, 45-64 years old in specified group.

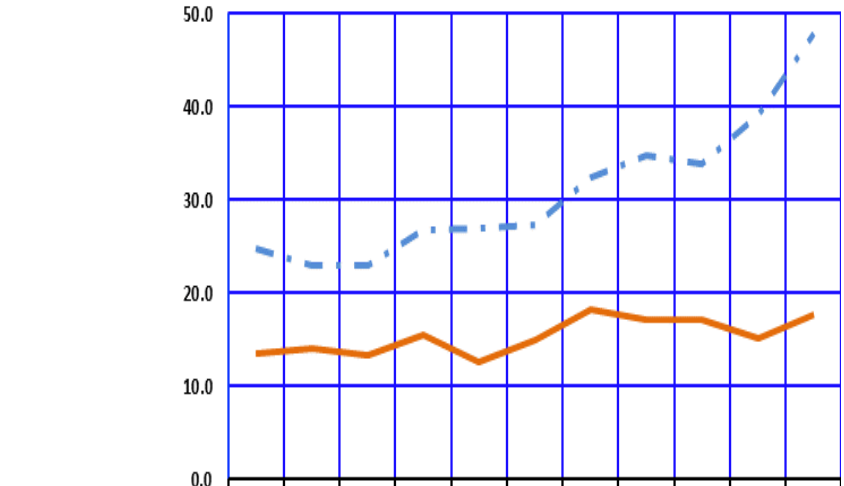
American Indian and Black or African American middle-aged adults had the two highest mortality rates (2185.5/100,000 and 1098.0/100,000, respectively) among the racial/ethnic groups.

If the 2020 total mortality rate for Asian middle-aged adults applied to all Arizona residents 45-64 years old, 6,164 middle-aged adults would have died rather than the 14,003 who actually did.

The 2020 mortality rate due to accidental poisoning was 47.8 per 100,000 adults aged 45-64 years, an increase of 22.3 percent from 2019. In 2020, about 817 deaths were attributed to accidental poisoning (**Table 2C-22**). Of the accidental poisoning deaths in this age group, 739 were drug overdoses (ICD-10 X40-X44) and 71 were alcohol poisoning (ICD-10 X45).

Since 2010, the mortality rate for accidental poisoning exceeded the mortality rate for motor vehicle-related injuries among the middle-aged (**Figure 2C-21**). In 2020, accidental poisoning mortality rate of 47.8 per 100,000 middle-aged adults was 2.7 times higher than the mortality rate of 17.7 per 100,000 for motor vehicle accidents. White non-Hispanics accounted for about 60.6 percent of all accidental poisoning deaths (**Table 2C-22**).

Figure 2C-21
Mortality Rates[a] for Accidental Poisoning and Motor Vehicle-related Injuries by Year among Middle-Aged Adults 45-64 Years, Arizona, 2010-2020

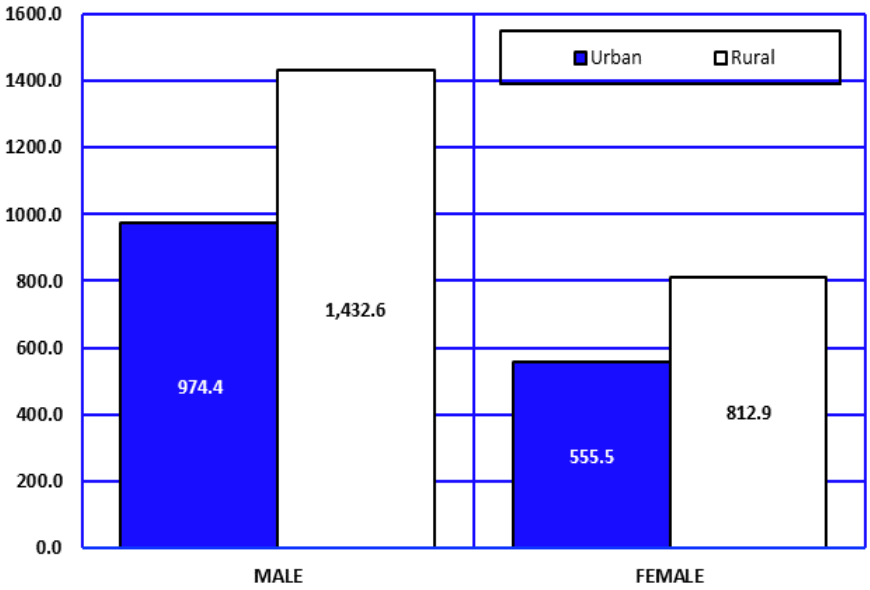


	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Accidental poisoning	24.8	22.9	23.0	26.7	27.0	27.4	32.4	34.7	33.9	39.1	47.8
MV accident	13.6	14.1	13.3	15.6	12.6	14.9	18.2	17.2	17.1	15.2	17.7

Note: [a] Number of motor vehicle and accidental poisoning deaths per 100,000 persons, 45-64 years old in specified group.

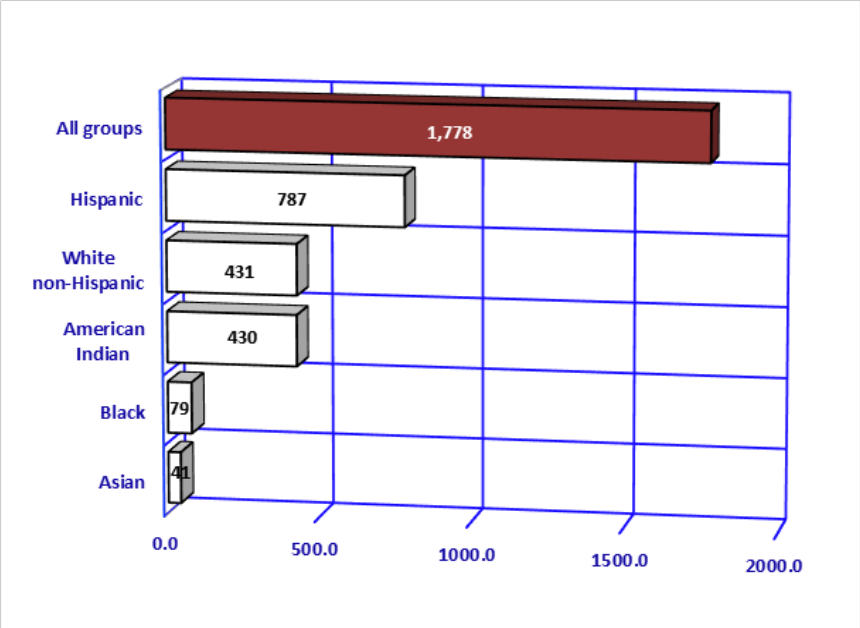
In 2020, as in the past, rural middle-aged males had the worse survival chances than the remaining of the sub-groups (**Figure 2C-22, Table 2C-21**). The mortality rate for rural middle-aged males in 2020 was 1.5 times greater than for urban males, 1.8-fold greater than rural females, and 2.6-fold greater than urban females.

Figure 2C-22
Mortality Rates by Gender in Urban[a] and Rural Areas among Middle-Aged Adults 45-64 Years, Arizona, 2020



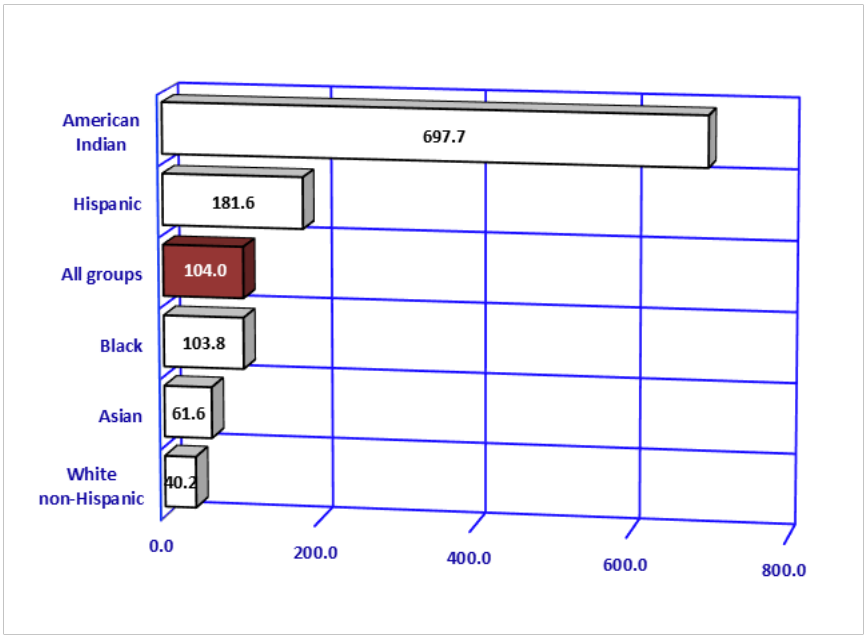
Note: [a] Urban counties include Maricopa, Pima, Pinal, and Yuma counties.

Figure 2C-23
Mortality for COVID-19 by Race/Ethnicity among Middle-Aged Adults 45-64 Years, Arizona, 2020



In 2020, 1,778 Arizona resident middle-aged adults age 45-64 died from COVID-19. Among the deaths, people who identified as Hispanic or Latino represented the largest amount of deaths compared to other race and ethnicities with 44.3% (n= 787) of deaths in this age group. The least impacted race were Asians with 2.3% (n= 41) of deaths in this age group (**Figure 2C-23, Table 2C-22**).

Figure 2C-24
Mortality Rates[a] for COVID-19 by Race/Ethnicity among Middle-Aged Adults 45-64 Years, Arizona, 2020



Note: [a] Number of deaths due to COVID-19 per 100,000 persons, 45-64 years old in specified group.

The age-specific mortality rate of Arizona resident middle aged adults 45-64 years found the highest risk among American Indians with a rate of 697.7 deaths per 100,000 people aged 45-64. This was nearly seven times the rate among all race/ethnicity groups (104.0 deaths per 100,000 people aged 45-64). People who identified as Hispanic or Latino represented the second highest group with 181.6 deaths per 100,000 people aged 45-64 and was above the average of all groups.

TABLE 2C-19
MORTALITY RATES[a] FOR THE SELECTED FIVE LEADING CAUSES[b] OF DEATH AMONG MIDDLE-AGED ADULTS (45-64 YEARS) BY GENDER, ARIZONA, 2010-2020

Gender/Cause	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	% change from 2010
MALE												
Diseases of heart	160.7	165.3	155.1	159.3	143.2	166.6	170.1	164.7	162.5	160.8	186.3	15.9
Malignant neoplasms	188.3	186.3	196.6	191.4	171.5	186.4	184.1	180.7	177.8	175.1	164.9	-12.4
Accidents (unintentional injuries)	69.2	68.9	68.0	77.9	73.5	76.8	100.4	98.8	95.5	105.7	128.1	85.1
Other	54.6	19.8	47.9	54.5	54.0	54.5	71.5	72.1	70.5	82.6	101.0	85.0
Motor vehicle accidents	19.9	21.4	20.1	23.3	19.4	22.3	28.9	26.8	25.0	23.1	27.1	36.2
Chronic liver disease and cirrhosis	42.1	49.6	50.2	46.7	43.1	48.1	47.8	45.5	45.7	43.8	49.7	18.1
Intentional self-harm (suicide)	40.9	41.3	41.8	38.3	37.7	40.3	41.2	37.4	43.3	39.7	38.7	-5.4
ALL CAUSES	744.1	752.2	778.8	784.8	775.3	809.1	841.8	802.8	824.4	801.5	1052.8	41.5
(Number of all deaths)	(5,659)	(5,760)	(5,999)	(6,088)	(6,111)	(6,444)	(6,781)	(6,570)	(6,839)	(6,702)	(8,755)	54.7
FEMALE												
Malignant neoplasms	153.9	156.9	155.1	160.7	145.0	155.6	150.9	143.9	146.3	147.5	147.9	-3.9
Diseases of heart	55.9	61.8	60.5	54.6	54.0	60.8	66.7	58.2	62.7	61.9	68.0	21.6
Accidents (unintentional injuries)	36.6	32.8	33.0	38.0	33.7	35.8	38.4	42.2	37.3	38.7	46.7	27.6
Other	29.0	7.4	26.1	29.8	27.4	27.9	30.4	18.6	27.7	31.0	37.8	30.3
Motor vehicle accidents	7.7	7.1	6.9	8.2	6.2	7.9	8.1	8.2	9.7	7.7	8.9	15.6
Diabetes	17.0	21.3	22.3	23.6	22.8	27.4	24.6	22.6	22.1	23.4	30.2	77.6
Chronic lower respiratory diseases	19.3	21.6	24.2	24.8	24.8	23.0	25.8	26.4	27.6	21.3	24.0	24.4
ALL CAUSES	439.6	447.1	445.8	465.2	468.9	482.3	484.1	460.8	464.7	467.3	597.9	36.0
(Number of all deaths)	(3,553)	(3,638)	(3,631)	(3,810)	(3,914)	(4,066)	(4,130)	(3,997)	(4,081)	(4,132)	(5,248)	47.4
TOTAL												
Malignant neoplasms	170.6	171.2	175.2	175.6	157.9	170.6	167.0	161.8	161.6	160.9	156.1	-8.5
Diseases of heart	106.7	112.0	106.5	105.5	97.4	112.2	116.9	109.9	111.2	110.0	125.5	17.6
Accidents (unintentional injuries)	52.4	50.3	50.0	57.4	53.0	55.7	68.5	69.7	65.6	71.3	86.3	64.7
Other	38.8	13.4	36.7	41.8	40.4	40.8	50.3	52.5	48.5	56.1	68.6	76.8
Motor vehicle accidents	13.6	14.1	13.3	15.6	12.6	14.9	18.2	17.2	17.1	15.2	17.7	30.1
Chronic liver disease and cirrhosis	30.2	34.3	35.0	34.7	33.6	37.7	36.3	35.1	34.0	33.6	40.0	32.5
Chronic lower respiratory diseases	20.0	23.6	25.1	24.7	25.4	26.6	28.2	27.3	28.4	23.5	25.8	29.0
ALL CAUSES	587.2	595.0	607.6	620.7	617.7	641.0	657.8	626.8	639.4	629.7	819.2	39.5
(Number of all deaths)	(9,212)	(9,398)	(9,630)	(9,898)	(10,025)	(10,510)	(10,911)	(10,567)	(10,920)	(10,834)	(14,003)	52.0

Notes: [a] Rates are presented per 100,000 middle-aged adults 45-64 years old; [b] The five causes with the greatest number of deaths over the 2010-2020 period; the cause-of-death titles are according to the Tenth Revision of the International Classification of Diseases (ICD-10); the causes of death for 2010-2020 are classified by ICD-10; measures of comparison between ICD-9 and ICD-10 – the "comparability ratios" - for the causes of death shown in this report are provided in the ***Technical Notes;*** although COVID-19 was among the 5 leading causes of death, it has been excluded in this table because the ICD-10 definition had not been identified until 2020, thus there is no data for years 2010-2019 and making it impossible to show a trend and a percent change.

TABLE 2C-20
MORTALITY RATES[a] FOR THE SELECTED FIVE LEADING CAUSES[b] OF DEATH AMONG MIDDLE-AGED ADULTS (45-64 YEARS) IN URBAN AND RURAL AREAS[c], ARIZONA, 2010-2020

Area/Cause	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	% change from 2010
URBAN												
Malignant neoplasms	164.6	166.5	171.8	169.1	153.8	164.8	162.1	156.3	156.4	153.7	150.9	-8.3
Diseases of heart	98.6	103.9	95.9	96.5	89.5	100.3	106.3	101.7	100.2	103.9	115.5	17.1
Accidents (unintentional injuries)	47.5	45.4	47.6	51.5	47.3	50.2	61.3	61.3	60.0	66.1	82.0	72.6
Other	36.5	12.4	35.7	38.5	36.7	37.8	45.3	46.6	46.0	52.4	65.7	80.0
Motor vehicle accidents	11.1	11.9	11.9	13.0	10.6	12.4	16.0	14.7	14.0	13.6	16.3	46.8
Chronic liver disease and cirrhosis	27.2	30.8	31.5	29.9	31.5	32.6	30.3	30.1	29.9	28.5	33.8	24.3
Chronic lower respiratory diseases	19.2	20.6	22.9	22.6	23.4	25.0	25.9	24.0	24.4	21.0	22.1	15.1
ALL CAUSES	552.4	561.5	575.8	579.8	584.2	596.5	613.0	583.1	595.1	586.3	759.7	37.5
(Number of all deaths)	(7,098)	(7,274)	(7,513)	(7,631)	(7,855)	(8,128)	(8,485)	(8,223)	(8,527)	(8,485)	(10,988)	54.8
RURAL												
Malignant neoplasms	193.1	186.3	187.8	204.7	175.4	196.4	184.3	182.9	186.2	196.3	182.9	-5.3
Diseases of heart	137.4	143.7	152.5	142.2	133.3	163.5	159.6	140.1	162.6	139.1	176.9	28.7
Accidents (unintentional injuries)	66.2	67.6	55.3	75.8	73.3	72.6	83.8	91.5	86.9	94.1	100.0	51.1
Other	42.6	16.5	36.4	51.7	52.8	46.6	58.3	64.2	55.6	71.4	78.0	83.1
Motor vehicle accidents	23.6	22.5	18.9	24.1	20.5	26.0	25.5	27.2	31.3	22.7	22.1	-6.4
Chronic liver disease and cirrhosis	41.9	49.3	47.5	57.1	41.7	59.2	61.9	56.6	53.5	59.7	71.9	71.6
Chronic lower respiratory diseases	22.2	36.3	33.2	32.3	34.1	33.9	37.9	41.7	49.1	35.5	44.5	100.5
ALL CAUSES	708.3	716.6	720.2	786.8	751.4	821.2	808.3	781.1	842.7	839.6	1111.4	56.9
(Number of all deaths)	(2,010)	(2,035)	(2,017)	(2,191)	(2,091)	(2,275)	(2,219)	(2,152)	(2,317)	(2,293)	(2,922)	45.4
TOTAL												
Malignant neoplasms	170.6	171.2	175.2	175.6	157.9	170.6	167.0	161.8	161.6	160.9	156.1	-8.5
Diseases of heart	106.7	112.0	106.5	105.5	97.4	112.2	116.9	109.9	111.2	110.0	125.5	17.6
Accidents (unintentional injuries)	52.4	50.3	50.0	57.4	53.0	55.7	68.5	69.7	65.6	71.3	86.3	64.7
Other	38.8	13.4	36.7	41.8	40.4	40.8	50.3	52.5	48.5	56.1	68.6	76.8
Motor vehicle accidents	13.6	14.1	13.3	15.6	12.6	14.9	18.2	17.2	17.1	15.2	17.7	30.1
Chronic liver disease and cirrhosis	30.2	34.3	35.0	34.7	33.6	37.7	36.3	35.1	34.0	33.6	40.0	32.5
Chronic lower respiratory diseases	20.0	23.6	25.1	24.7	25.4	26.6	28.2	27.3	28.4	23.5	25.8	29.0
ALL CAUSES	587.2	595.0	607.6	620.7	617.7	641.0	657.8	626.8	639.4	629.7	819.2	39.5
(Number of all deaths)	(9,212)	(9,398)	(9,630)	(9,898)	(10,025)	(10,510)	(10,911)	(10,567)	(10,920)	(10,834)	(14,003)	52.0

Notes: [a] Rates are presented per 100,000 middle-aged adults 45-64 years old; [b] The five causes with the greatest number of deaths over the 2010-2020 period; [c] Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; see ***Technical Notes*** for more information; records with unknown county of residence are included in the statewide totals, but are not distributed by urban/rural area; the cause-of-death titles are according to the Tenth Revision of the International Classification of Diseases (ICD-10); the causes of death for 2010-2020 are classified by ICD-10; measures of comparison between ICD-9 and ICD-10 – the "comparability ratios" - for the causes of death shown in this report are provided in the ***Technical Notes;*** although COVID-19 was among the 5 leading causes of death, it has been excluded in this table because the ICD-10 definition had not been identified until 2020, thus there is no data for years 2010-2019 and making it impossible to show a trend and a percent change.

TABLE 2C-21
MORTALITY RATES[a] FOR THE SELECED FIVE LEADING CAUSES OF DEATH AMONG MIDDLE-AGED ADULTS (45-64 YEARS) BY GENDER IN URBAN AND RURAL AREAS[b], ARIZONA, 2010-2020

Area/Gender	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	% change from 2010
URBAN												
Male	690.0	703.5	724.9	726.0	728.1	746.1	769.7	736.7	762.1	743.8	974.4	41.2
Female	423.0	427.8	434.7	441.0	448.0	454.8	464.5	437.4	436.6	436.6	555.5	31.3
TOTAL	552.4	561.5	575.8	579.8	584.2	596.5	613.0	583.1	595.1	586.3	759.7	37.5
RURAL												
Male	924.9	918.6	968.7	1018.5	953.9	1054.9	1079.2	1025.4	1110.2	1080.1	1432.6	54.9
Female	504.0	526.1	486.1	568.8	561.6	603.7	557.3	556.0	596.9	617.8	812.9	61.3
TOTAL	708.3	716.6	720.2	786.8	751.4	821.2	808.3	781.1	842.7	839.6	1111.4	56.9
TOTAL												
Male	744.1	752.2	778.8	784.8	775.3	809.1	841.8	802.8	824.4	801.5	1052.8	41.5
Female	439.6	447.1	445.8	465.2	468.9	482.3	484.1	460.8	464.7	467.3	597.9	36.0
TOTAL	587.2	595.0	607.6	620.7	617.7	641.0	657.8	626.8	639.4	629.7	819.2	39.5

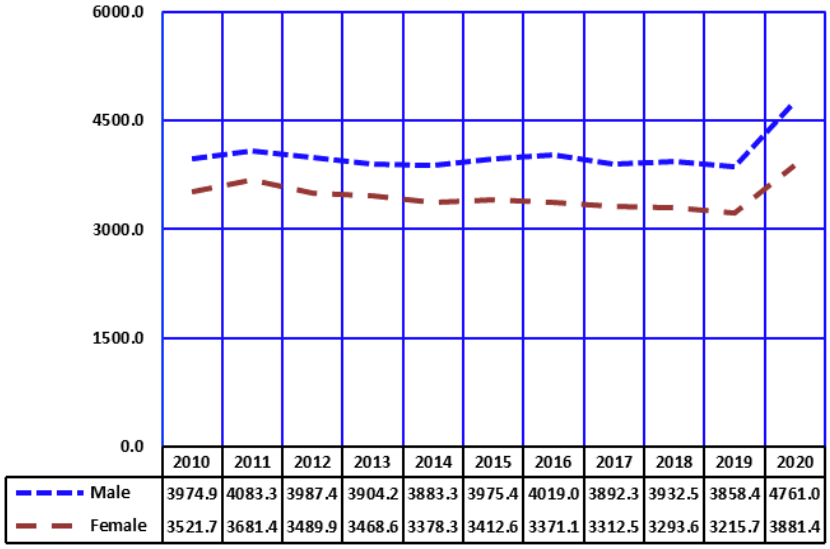
Notes: [a] Rates are presented per 100,000 persons 45-64 years old; [b] Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; see ***Technical Notes*** for more information.

TABLE 2C-22
LEADING CAUSES OF DEATH AMONG MIDDLE-AGED ADULTS (45-64 YEARS) BY GENDER, AREA, AND RACE/ETHNICITY, ARIZONA, 2020

Cause of death	Total	Gender		Area[a]			Race/ethnicity					
		Male	Female	Urban	Rural	Unknown	White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander	Unknown
Malignant neoplasms	2,669	1,371	1,298	2,183	481	*	1,836	511	152	78	72	20
Malignant neoplasm of trachea, bronchus and lung	460†	230	226	358	96	*	357	46	31	6	13	*
Malignant neoplasm of colon, rectum, and anus	330†	195	138	281	52	0	214	77	18	11	9	*
Malignant neoplasm of breast	270†	*	267	223	48	0	195	48	16	*	7	*
Malignant neoplasm of pancreas	210†	119	92	169	40	*	148	38	11	7	*	*
Diseases of heart	2,146	1,549	597	1,670	465	11	1,422	361	182	99	45	37
COVID-19[‡]	1,778	1,153	625	1,350	418	10	431	787	79	430	41	10
Accidents (unintentional injury)	1,475	1,065	410	1,186	263	26	902	300	90	123	9	51
Accidental poisoning	820†	586	231	683	122	12	495	168	64	59	*	29
Motor vehicle accidents	300†	225	78	236	58	9	181	78	10	22	*	8
Falls	110†	65	42	76	31	0	69	18	*	15	*	0
Diabetes	739	474	265	606	132	*	357	199	60	97	15	11
Chronic liver disease and cirrhosis	680†	413	270	489	189	*	395	142	12	124	*	8
Chronic lower respiratory diseases	440†	230	211	319	117	*	361	38	16	15	*	8
Intentional self-harm (suicide)	420†	322	95	318	97	*	348	44	9	6	6	*
By discharge of firearms	250†	202	43	182	63	0	215	16	6	*	*	*
By other means	170†	120	52	136	34	*	133	28	*	*	*	*
Cerebrovascular diseases	388	218	170	310	72	6	225	85	32	28	10	8
Influenza and pneumonia	210†	136	74	177	33	0	120	50	10	27	*	*
Essential (primary) hypertension and hypertensive renal disease	180†	134	48	159	23	0	103	33	26	18	*	0
Nephritis, nephrotic syndrome and nephrosis	150†	81	64	107	37	*	78	40	8	16	*	0
Assault (homicide)	120†	90	29	93	25	*	56	24	18	14	*	*
By discharge of firearms	80†	58	17	60	15	0	33	16	15	7	*	*
By other means	40†	32	12	33	10	*	23	8	*	7	*	*
Septicemia	110†	49	59	83	22	*	63	17	6	19	*	*
Viral hepatitis	50†	35	18	46	6	*	31	18	*	0	*	*
Human immunodeficiency virus (HIV) disease	40†	34	*	33	*	*	19	10	*	*	0	*
Total, all causes[b]	14,003	8,755	5,248	10,988	2,922	93	8,245	3,123	836	1,347	240	212

Note: * Cell suppressed due to count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; [a] Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; [b] May include other causes of death not shown above; [‡] The COVID-19 data collection began in mid-March 2020.

Figure 2C-25
Mortality Rates[a] by Gender and Year among Elderly 65 Years and Older, Arizona, 2010-2020



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	3974.9	4083.3	3987.4	3904.2	3883.3	3975.4	4019.0	3892.3	3932.5	3858.4	4761.0
Female	3521.7	3681.4	3489.9	3468.6	3378.3	3412.6	3371.1	3312.5	3293.6	3215.7	3881.4

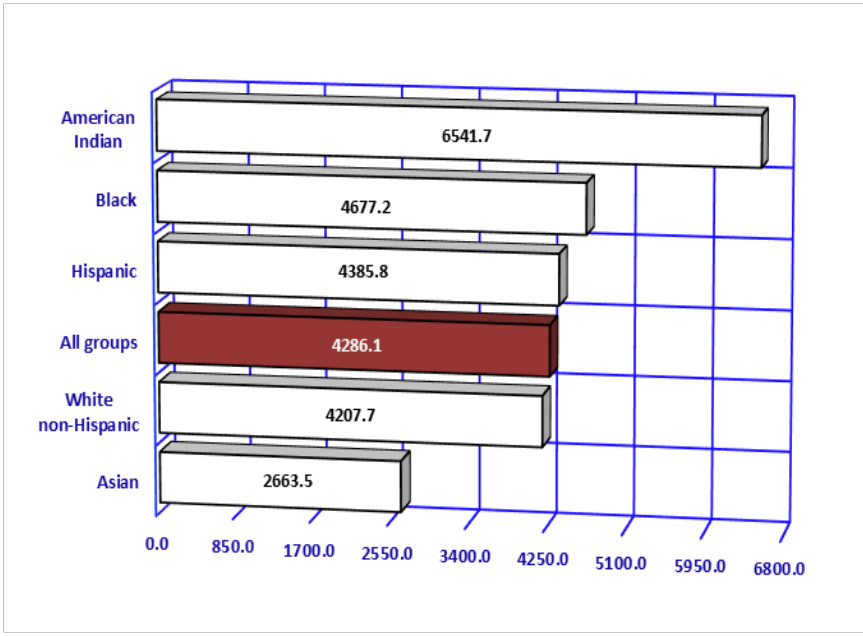
Note: [a] Number of deaths per 100,000 persons, 65+ years old in specified group.

In 2020, an estimated 1,289,810 residents age 65 years and older resided in the state (**Table 10A-1**). No other age group has as great of a disproportionate gender distribution as the elderly. As a result of the higher total mortality rates for males at earlier ages, more elderly women than men were alive in 2020.

The 2020 elderly mortality rate of 4286.1 per 100,000 was 15.0 percent higher than the 2010 rate of 3,728.2 (**Table 2C-23**).

The 2020 total mortality rate among elderly females was 10.2 percent higher than their rate in 2010. The mortality rate among elderly males increased 19.8 percent during the same period (**Figure 2C-25, Table 2C-23**).

Figure 2C-26
Mortality Rates[a] by Race/Ethnicity among Elderly 65 Years and Older, Arizona, 2020



Note: [a] Number of deaths per 100,000 persons, 65+ years old in specified group.

In 2020 the mortality rate for Arizona's American Indian elderly residents was 2.5 times that of the Asian elderly population. The mortality rate of 2,663.5 /100,000 among elderly Asians was the lowest rate among the racial/ethnic groups (**Figure 2C-26**). White non-Hispanic elderly had the second lowest mortality rate in 2020 at 4,207.7/100,000.

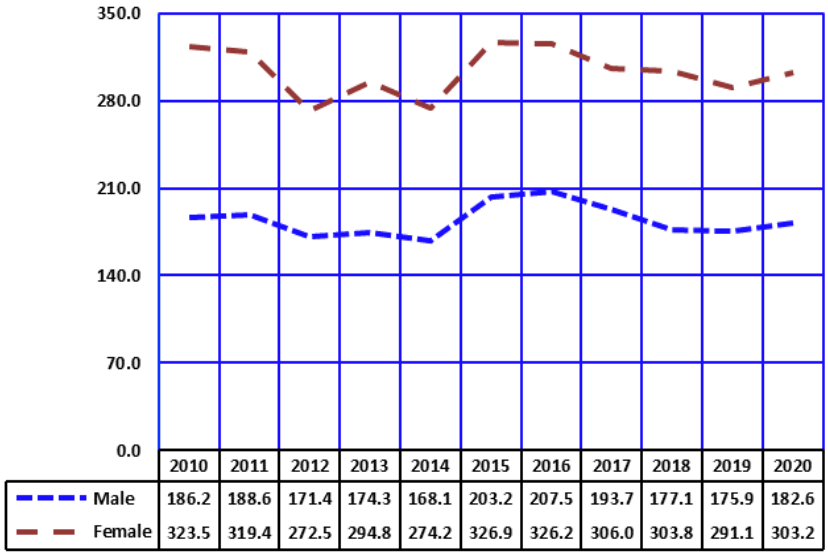
Tables 2C-23 and 2C-24 provide mortality rates for the five causes with the greatest number of deaths over the 2010-2020 period.

In 2020, Alzheimer's disease (3,195 deaths; **Table 2C-26**) accounted for 5.8 percent of elderly mortality. From 2019 to 2020, the mortality rate due to Alzheimer's disease increased for both genders **(Figure 2C-27).**

There were 2,111 deaths from Alzheimer's disease among elderly females in 2020, approximately twice the number of deaths from this cause among males (1,084; **Table 2C-26**).

White non-Hispanic elderly accounted for 82.1 percent of the 2020 deaths from Alzheimer's disease (based on data in **Table 2C-26**).

Figure 2C-27
Trends in Mortality Rates for Alzheimer's Disease[a] by Gender and Year among Elderly 65 Years and Older, Arizona, 2010-2020



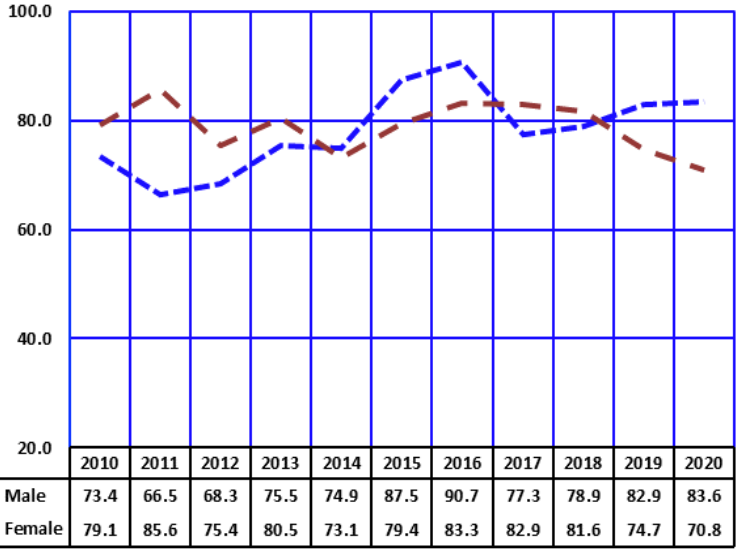
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	186.2	188.6	171.4	174.3	168.1	203.2	207.5	193.7	177.1	175.9	182.6
Female	323.5	319.4	272.5	294.8	274.2	326.9	326.2	306.0	303.8	291.1	303.2

Note: [a] Number of deaths due to Alzheimer's disease per 100,000 persons, 65+ years old in specified group.

Among unintentional injury deaths unrelated to motor vehicles, Arizona's elderly experienced high mortality from *fall-related injuries* (**Figure 2C-28**). In 2020, 989 elderly Arizonans 65 years or older died from *fall-related injuries,* compared to 992 in 2019, representing a 0.3 percent decrease between these two years (**Table 2C-26**).

In 2020, Arizonans aged 85 years old or older experienced the largest number of *fall-related deaths* (505), followed by Arizonans 75-84 years old (314), and those aged 65-74 years old (170).

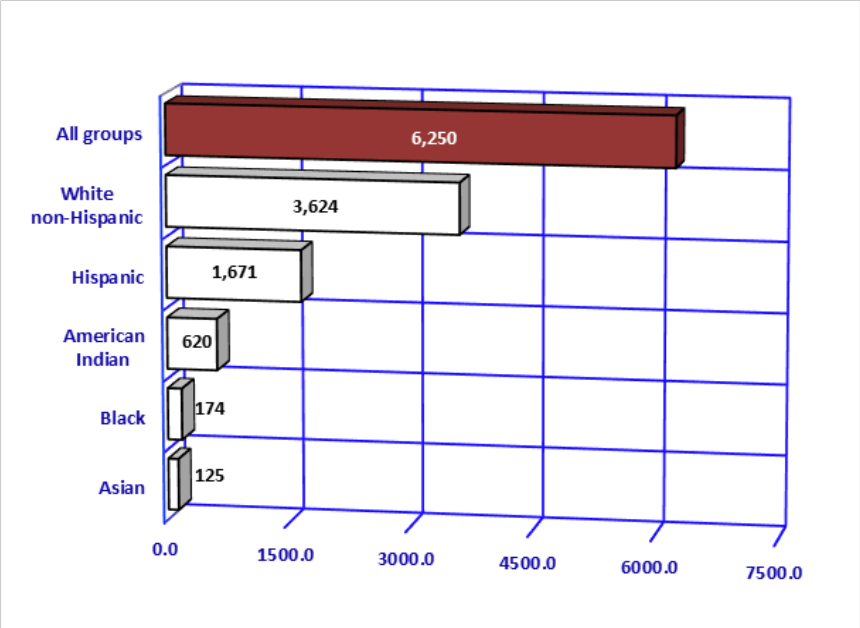
Figure 2C-28
Trends in Mortality Rates for Falls and Fall-related Injuries[a] by Gender and Year among Elderly 65 Years and Older, Arizona, 2010-2020



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	73.4	66.5	68.3	75.5	74.9	87.5	90.7	77.3	78.9	82.9	83.6
Female	79.1	85.6	75.4	80.5	73.1	79.4	83.3	82.9	81.6	74.7	70.8

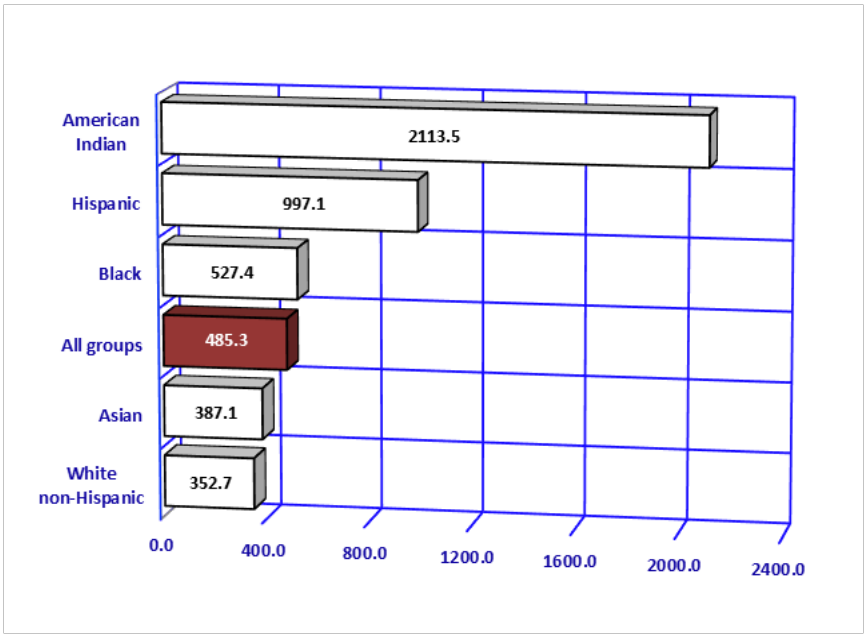
Note: [a] Number of deaths due to falls and fall-related injuries per 100,000 persons, 65+ years old in specified group.

Figure 2C-29
Mortality for COVID-19 by Race/Ethnicity among Elderly 65 Years and Older, Arizona, 2020



In 2020, 6,250 Arizona resident elderly adults 65 years of age and older died from COVID-19. Among the deaths, people who identified as White, non-Hispanic represented the largest amount of deaths compared to other race and ethnicities with 58.0% (n=3,624) of deaths in this age group. The least impacted race were Asians with 2.0% (n=125) of deaths in this age group (**Figure 2C-29, Table 2C-26**).

Figure 2C-30
Mortality Rates[a] for COVID-19 by Race/Ethnicity among Elderly 65 Years and Older, Arizona, 2020



The age-specific mortality rate of Arizona resident elderly adults 65 years of age and older found the highest risk among American Indians with a rate of 2,113.5 deaths per 100,000 people aged 65 years and older. This was approximately 4.4 times the rate among all race/ethnicity groups (485.3 deaths per 100,000 people aged 65+). People who identified as Hispanic or Latino represented the second highest group with 997.1 deaths per 100,000 people aged 65 years and older **(Figure 2C-30)** and approximately 2.1 times the rate among all race/ethnicity groups.

Note: [a] Number of deaths due to COVID-19 per 100,000 persons, 65 years and older in specified group.

TABLE 2C-23
MORTALITY RATES[a] FOR THE SELECTED FIVE LEADING CAUSES[b] OF DEATH AMONG ELDERLY (65 YEARS AND OLDER) BY GENDER, ARIZONA, 2010-2020

Gender/Cause	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	% change from 2010
MALE												
Diseases of heart	992.8	1065.5	1022.2	1007.0	908.6	970.0	1003.2	1002.5	984.3	961.0	1062.8	7.1
Malignant neoplasms	1007.7	1007.4	992.6	958.6	899.1	931.7	927.9	893.5	901.1	875.4	888.7	-11.8
Chronic lower respiratory diseases	310.9	318.4	319.9	302.7	290.2	308.7	298.2	288.3	280.8	265.2	260.6	-16.2
Cerebrovascular diseases	169.3	164.4	165.5	151.8	144.4	183.0	176.8	178.6	187.1	181.4	205.2	21.2
Alzheimer's disease	186.2	188.6	171.4	174.3	168.1	203.2	207.5	193.7	177.1	175.9	182.6	-1.9
ALL CAUSES	3974.9	4083.3	3987.4	3904.2	3883.3	3975.4	4019.0	3892.3	3932.5	3858.4	4761.0	19.8
(Number of all deaths)	(15,967)	(16,517)	(17,101)	(17,489)	(18,292)	(19,665)	(20,781)	(21,144)	(22,030)	(22,480)	(28,258)	77.0
FEMALE												
Diseases of heart	804.8	847.2	794.5	763.7	694.9	756.2	741.0	743.4	726.4	705.3	774.3	-3.8
Malignant neoplasms	702.5	710.9	678.6	697.9	628.1	670.5	642.2	628.7	601.8	624.4	627.5	-10.7
Alzheimer's disease	323.5	319.4	272.5	294.8	274.2	326.9	326.2	306.0	303.8	291.1	303.2	-6.3
Chronic lower respiratory diseases	272.6	301.4	268.6	283.6	248.3	286.8	288.1	271.7	265.6	248.2	240.3	-11.8
Cerebrovascular diseases	229.9	231.0	208.0	198.1	191.1	210.5	218.4	208.0	215.3	207.8	224.3	-2.4
ALL CAUSES	3521.7	3681.4	3489.9	3468.6	3378.3	3412.6	3371.1	3312.5	3293.6	3215.7	3881.4	10.2
(Number of all deaths)	(16,909)	(17,798)	(17,855)	(18,494)	(18,718)	(19,815)	(20,408)	(21,055)	(21,542)	(21,918)	(27,025)	59.8
TOTAL												
Diseases of heart	890.4	946.8	898.3	874.8	793.1	854.5	861.8	862.8	845.4	823.1	907.0	1.9
Malignant neoplasms	841.5	846.1	821.8	816.9	752.6	790.7	773.8	750.7	739.9	740.1	747.7	-11.1
Chronic lower respiratory diseases	290.1	309.1	292.0	292.3	267.6	296.8	292.8	279.3	272.6	256.0	249.6	-14.0
Alzheimer's disease	260.9	259.8	226.4	239.8	225.4	270.0	271.5	254.2	245.3	238.0	247.7	-5.1
Cerebrovascular diseases	202.3	200.7	188.6	176.9	169.6	197.8	199.2	194.4	202.3	195.6	215.5	6.5
ALL CAUSES	3728.2	3864.8	3716.9	3667.5	3610.4	3671.5	3669.5	3579.6	3588.4	3511.9	4286.1	15.0
(Number of all deaths)	(32,876)	(34,318)	*(34,958)	(35,983)	(37,010)	(39,480)	(41,189)	(42,199)	(43,572)	(44,398)	(55,283)	68.2

Notes: [a] Rates are presented per 100,000 elderly persons 65 years and older; [b] The five causes with the greatest number of deaths over the 2010-2020 period; the cause-of-death titles are according to the Tenth Revision of the International Classification of Diseases (ICD-10); the causes of death for 2010-2020 are classified by ICD-10, replacing the Ninth Revision (ICD-9); although COVID-19 was among the 5 leading causes of death, it has been excluded in this table because the ICD-10 definition had not been identified until 2020, thus there is no data for years 2010-2019 and making it impossible to show a trend and a percent change.

TABLE 2C-24
MORTALITY RATES[a] FOR THE SELECTED FIVE LEADING CAUSES[b] OF DEATH AMONG ELDERLY (65 YEARS AND OLDER) IN URBAN AND RURAL AREAS[c], ARIZONA, 2010-2020

Area/Cause	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	% change from 2010
URBAN												
Diseases of heart	888.5	932.0	891.8	862.3	781.0	830.2	835.5	839.1	829.2	822.4	893.4	0.6
Malignant neoplasms	834.0	846.2	825.5	807.6	748.7	783.6	756.6	737.1	724.0	726.2	732.2	-12.2
Alzheimer's disease	284.9	288.9	251.5	272.0	252.6	291.9	286.0	262.6	253.4	249.6	254.7	-10.6
Chronic lower respiratory diseases	288.7	311.3	288.9	286.3	267.8	292.0	285.8	265.3	257.5	238.0	235.6	-18.4
Cerebrovascular diseases	201.5	202.0	192.8	180.1	172.6	198.1	197.5	193.8	203.2	197.2	218.6	8.5
ALL CAUSES	3738.3	3886.0	3740.3	3663.4	3615.6	3650.2	3624.7	3531.0	3568.4	3488.5	4238.3	13.4
(Number of all deaths)	(26,043)	(27,302)	(27,824)	(28,442)	(29,416)	(31,179)	(32,370)	(33,146)	(34,397)	(35,062)	(43,652)	67.6
RURAL												
Diseases of heart	889.9	990.4	912.5	919.1	834.0	935.2	947.2	940.3	900.8	819.6	950.5	6.8
Malignant neoplasms	864.6	840.5	802.6	847.8	764.5	810.8	828.2	792.5	794.6	788.7	803.9	-7.0
Chronic lower respiratory diseases	291.6	298.9	299.6	314.0	264.3	311.1	311.2	328.6	327.6	323.4	304.0	4.3
Alzheimer's disease	169.6	145.1	130.2	117.2	118.7	184.1	211.9	218.2	211.3	190.6	218.6	28.9
Cerebrovascular diseases	204.1	193.1	171.9	164.1	157.9	195.8	204.0	193.6	196.1	187.2	202.0	-1.0
ALL CAUSES	3657.5	3741.1	3590.0	3665.4	3558.1	3706.3	3771.9	3708.2	3634.9	3566.0	4435.0	21.3
(Number of all deaths)	(6,773)	(6,935)	(7,058)	(7,505)	(7,526)	(8,196)	(8,653)	(8,905)	(9,099)	(9,241)	(11,525)	70.2
TOTAL												
Diseases of heart	890.4	946.8	898.3	874.8	793.1	854.5	861.8	862.8	845.4	823.1	907.0	1.9
Malignant neoplasms	841.5	846.1	821.8	816.9	752.6	790.7	773.8	750.7	739.9	740.1	747.7	-11.1
Chronic lower respiratory diseases	290.1	309.1	292.0	292.3	267.6	296.8	292.8	279.3	272.6	256.0	249.6	-14.0
Alzheimer's disease	260.9	259.8	226.4	239.8	225.4	270.0	271.5	254.2	245.3	238.0	247.7	-5.1
Cerebrovascular diseases	202.3	200.7	188.6	176.9	169.6	197.8	199.2	194.4	202.3	195.6	215.5	6.5
ALL CAUSES	3728.2	3864.8	3716.9	3667.5	3610.4	3671.5	3669.5	3579.6	3588.4	3511.9	4286.1	15.0
(Number of all deaths)	(32,876)	(34,318)	(34,958)	(35,983)	(37,010)	(39,480)	(41,189)	(42,199)	(43,572)	(44,398)	(55,283)	68.2

Notes: [a] Rates are presented per 100,000 elderly persons 65 years and older; [b] The five causes with the greatest number of deaths over the 2010-2020 period; [c] Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; see ***Technical Notes*** for more information; records with unknown county of residence are included in the statewide totals, but are not distributed by urban/rural area; the cause-of-death titles are according to the Tenth Revision of the International Classification of Diseases (ICD-10); the causes of death for 2010-2020 are classified by ICD-10, replacing the Ninth Revision (ICD-9); measures of comparison between ICD-9 and ICD-10 – the "comparability ratios" - for the causes of death shown in this report are provided in the ***Technical Notes;*** although COVID-19 was among the 5 leading causes of death, it has been excluded in this table because the ICD-10 definition had not been identified until 2020, thus there is no data for years 2010-2019 and making it impossible to show a trend and a percent change.

TABLE 2C-25
MORTALITY RATES[a] FOR THE FIVE LEADING CAUSES OF DEATH AMONG ELDERLY (65 YEARS AND OLDER) BY GENDER IN URBAN AND RURAL AREAS[b], ARIZONA, 2010-2020

Area/Gender	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	% change from 2010
URBAN												
Male	3976.9	4107.6	3980.1	3898.2	3888.6	3944.3	3960.2	3799.2	3891.3	3816.2	4695.5	18.1
Female	3543.8	3705.0	3543.8	3470.8	3388.5	3405.1	3344.3	3306.7	3297.9	3214.4	3856.4	8.8
TOTAL	3738.3	3886.0	3740.3	3663.4	3615.6	3650.2	3624.7	3531.0	3568.4	3488.5	4238.3	13.4
RURAL												
Male	3917.1	3948.9	3952.6	3895.3	3826.7	4027.0	4133.9	4142.9	4043.4	3971.6	4952.7	26.4
Female	3418.2	3547.4	3256.0	3454.5	3309.8	3409.1	3435.2	3304.1	3253.6	3188.9	3956.9	15.8
TOTAL	3657.5	3741.1	3590.0	3665.4	3558.1	3706.3	3771.9	3708.2	3634.9	3566.0	4435.0	21.3
TOTAL												
Male	3974.9	4083.3	3987.4	3904.2	3883.3	3975.4	4019.0	3892.3	3932.5	3858.4	4761.0	19.8
Female	3521.7	3681.4	3489.9	3468.6	3378.3	3412.6	3371.1	3312.5	3293.6	3215.7	3881.4	10.2
TOTAL	3728.2	3864.8	3716.9	3667.5	3610.4	3671.5	3669.5	3579.6	3588.4	3511.9	4286.1	15.0

Notes: [a] Rates are presented per 100,000 persons 65 years and older; [b] Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; see ***Technical Notes*** for more information.

TABLE 2C-26
LEADING CAUSES OF DEATH AMONG ELDERLY (65 YEARS AND OLDER) BY GENDER, AREA, AND RACE/ETHNICITY, ARIZONA, 2020

Cause of death	Total	Gender		Area[a]			Race/ethnicity					
		Male	Female	Urban	Rural	Unknown	White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander	Refused/Unknown
Diseases of heart	11,699	6,308	5,391	9,202	2,470	27	9,704	1,177	330	244	153	91
Malignant neoplasms	9,644	5,275	4,369	7,541	2,089	14	7,976	1,016	292	171	143	46
Malignant neoplasm of trachea, bronchus and lung	2,119	1,095	1,024	1,628	490	*	1,843	157	66	16	24	13
Malignant neoplasm of lymphoid, hematopoietic and related tissue	1,020†	605	416	836	184	*	849	111	24	16	16	*
Malignant neoplasm of colon, rectum, and anus	800†	387	417	625	176	*	648	85	32	19	15	*
Malignant neoplasm of pancreas	790†	422	365	634	151	*	641	79	20	24	18	*
Malignant neoplasm of prostate	720†	722	0	558	164	0	584	85	31	12	7	*
Malignant neoplasm of breast	580†	7	571	450	127	*	467	73	21	*	11	*
COVID-19[±]	6,260	3,576	2,684	4,851	1,395	14	3,624	1,671	174	620	125	46
Chronic lower respiratory diseases	3,220	1,547	1,673	2,427	790	*	2,857	221	52	30	28	32
Alzheimer's disease	3,195	1,084	2,111	2,623	568	*	2,623	378	84	39	57	14
Cerebrovascular diseases	2,780	1,218	1,562	2,251	525	*	2,184	375	84	65	59	13
Diabetes	1,716	1,003	713	1,370	343	*	1,048	389	80	141	40	18
Accidents (unintentional injury)	1,550	857	693	1,215	334	*	1,279	148	36	49	19	19
Falls	990†	496	493	806	182	*	853	91	11	23	9	*
Motor vehicle accidents	170†	115	53	125	43	0	130	17	*	6	7	*
Parkinson's disease	990†	638	348	843	142	*	839	89	17	20	19	*
Essential (primary) hypertension and hypertensive disease	931	419	512	787	144	0	698	138	38	34	16	7
Influenza and pneumonia	840†	452	387	674	158	7	612	128	23	56	15	*
Nephritis, nephrotic syndrome and nephrosis	600†	316	287	448	152	*	431	111	20	28	9	*
Septicemia	280†	138	146	217	66	*	190	52	11	24	*	*
Total, all causes[b]	55,283	28,258	27,025	43,652	11,525	106	43,239	7,350	1,543	1,919	860	372

Notes: * Cell suppressed due to count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; [a] Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; [b] May include other causes of death not shown above; [±] The COVID-19 data collection began in mid-March 2020.

COMPARATIVE CAUSE-SPECIFIC MORTALITY BY AGE GROUP

TABLE 2C-27
COMPARISON OF CAUSES OF MORTALITY BY AGE GROUP, ARIZONA, 2020

	All ages	Infants <1	Children 1-14	Adoles-cents 15-19	Young adults 20-44	Middle-aged adults 45-64	Elderly 65+	Un-known
Total, all causes	75,700	404	240	388	5,377	14,003	55,283	5
Salmonella infections	0†	0	0	0	0	0	*	0
Shigellosis and amebiasis	0	0	0	0	0	0	0	0
Certain other intestinal infections	210†	7	*	0	*	40	160	0
Enterocolitis due to Clostridium difficile	120†	0	0	0	*	19	96	0
Tuberculosis	20†	0	0	0	*	6	7	0
Respiratory tuberculosis	10†	0	0	0	*	*	*	0
Other tuberculosis	0†	0	0	0	0	*	*	0
Whooping cough	0	0	0	0	0	0	0	0
Scarlet fever and erysipelas	0	0	0	0	0	0	0	0
Meningococcal infection	0	0	0	0	0	0	0	0
Septicemia	430†	*	*	*	26	108	284	0
Syphilis	0	0	0	0	0	0	0	0
Acute poliomyelitis	0	0	0	0	0	0	0	0
Arthropod-borne encephalitis	0†	0	0	0	0	0	*	0
Measles	0	0	0	0	0	0	0	0
Viral hepatitis	100†	0	0	*	*	53	42	0
Human immunodeficiency virus (HIV) disease	73	0	0	0	15	39	19	0
Malaria	0	0	0	0	0	0	0	0
Other and unspecified infectious and parasitic diseases	400†	*	*	*	38	78	278	0
Malignant neoplasms	12,670†	*	25	11	320	2,669	9,644	0
Malignant neoplasm of lip, oral cavity and pharynx	220†	0	0	0	*	68	144	0
Malignant neoplasm of esophagus	310†	0	0	0	*	69	241	0
Malignant neoplasm of stomach	215	0	0	0	11	55	149	0
Malignant neoplasm of colon, rectum, and anus	1,173	0	0	0	36	333	804	0
Malignant neoplasm of liver and intrahepatic bile ducts	630†	0	0	0	*	179	446	0
Malignant neoplasm of pancreas	1,005	0	0	0	7	211	787	0
Malignant neoplasm of larynx	70†	0	0	0	*	17	53	0
Malignant neoplasm of trachea, bronchus and lung	2,592	0	0	0	17	456	2,119	0
Malignant melanoma of skin	212	0	0	0	11	49	152	0
Malignant neoplasm of breast	894	0	0	0	45	271	578	0
Malignant neoplasm of cervix uteri	74	0	0	0	12	28	34	0
Malignant neoplasm of corpus uteri and uterus, part unspecified	210†	0	0	0	*	64	146	0
Malignant neoplasm of ovary	298	0	0	0	15	74	209	0
Malignant neoplasm of prostate	800†	0	0	0	*	72	722	0
Malignant neoplasm of kidney and renal pelvis	340†	0	*	0	6	81	249	0
Malignant neoplasm of bladder	420†	0	0	0	*	30	383	0

TABLE 2C-27 (continued)
COMPARISON OF CAUSES OF MORTALITY BY AGE GROUP, ARIZONA, 2020

	All ages	Infants <1	Children 1-14	Adoles-cents 15-19	Young adults 20-44	Middle-aged adults 45-64	Elderly 65+	Un-known
Malignant neoplasm of meninges, brain and other parts of central nervous system	390†	*	*	*	35	122	224	0
Malignant neoplasm of lymphoid, hematopoietic and related tissue	1,260†	*	10	*	46	181	1,021	0
Hodgkin's disease	20†	0	0	0	*	6	9	0
Non-Hodgkin's lymphoma	452	0	0	0	18	66	368	0
Leukemia	500†	*	10	*	25	63	396	0
Multiple myeloma and immunoproliferative neoplasms	290†	0	0	0	*	45	246	0
Other and unspecified malignant neoplasms of lymphoid tissue	0†	0	0	0	0	*	*	0
All other and unspecified malignant neoplasm	1,560†	0	9	*	59	309	1,183	0
In situ neoplasms	420†	*	*	*	8	45	359	0
Anemias	50†	0	0	0	*	7	42	0
Diabetes	2,560†	0	*	*	105	739	1,716	0
Nutritional deficiencies	620†	0	*	0	*	34	586	0
Malnutrition	600†	0	*	0	*	30	568	0
Other nutritional deficiencies	20†	0	0	0	0	*	18	0
Obesity	240†	0	*	*	42	113	85	0
Meningitis	20†	0	0	*	*	7	10	0
Parkinson's disease	1,016	0	0	0	0	30	986	0
Alzheimer's disease	3,235	0	0	0	0	40	3,195	0
Major cardiovascular diseases	19,063	12	10	11	401	2,809	15,820	0
Diseases of heart	14,185	8	6	9	317	2,146	11,699	0
Acute rheumatic fever and chronic rheumatic heart disease	90†	0	0	*	*	13	68	0
Hypertensive heart disease	1,619	0	0	0	49	274	1,296	0
Hypertensive heart and renal disease	180†	0	0	0	*	15	160	0
Ischemic heart disease	8,590†	*	0	*	115	1,337	7,132	0
Acute myocardial infarction	1,899	0	0	0	43	388	1,468	0
Other acute ischemic heart disease	100†	0	0	0	*	31	65	0
Other forms of chronic ischemic heart disease	6,590†	*	0	*	71	918	5,599	0
Atherosclerotic cardiovascular disease	1,742	0	0	0	45	465	1,232	0
All other forms of chronic ischemic heart disease	4,850†	*	0	*	26	453	4,367	0
Other heart diseases	3,714	7	6	7	144	507	3,043	0
Acute and subacute endocarditis	44	0	0	0	8	16	20	0
Diseases of pericardium and acute myocarditis	20†	0	0	0	*	*	14	0
Heart failure	990†	*	0	0	10	86	896	0
All other forms of heart disease	2,658	6	6	7	124	402	2,113	0
Essential (primary) hypertension and hypertensive renal disease	1,130†	*	0	0	17	182	931	0
Cerebrovascular diseases	3,230†	*	*	*	51	388	2,780	0
Atherosclerosis	110	0	0	0	0	9	101	0

TABLE 2C-27 (continued)
COMPARISON OF CAUSES OF MORTALITY BY AGE GROUP, ARIZONA, 2020

	All ages	Infants <1	Children 1-14	Adoles-cents 15-19	Young adults 20-44	Middle-aged adults 45-64	Elderly 65+	Un-known
Other diseases of circulatory system	410†	*	*	0	16	84	309	0
Aortic aneurysm and dissection	200†	0	*	0	8	52	142	0
Other disease of arteries, arterioles and capillaries	210†	*	0	0	8	32	167	0
Other disorders of circulatory system	150†	*	0	0	21	42	81	0
Influenza and pneumonia	1,110†	*	*	*	50	210	839	0
Influenza	100†	*	*	0	9	29	59	0
Pneumonia	1,010†	*	*	*	41	181	780	0
COVID-19[±]	8,430†	0	*	*	384	1,778	6,260	0
Other acute lower respiratory infections	10†	0	0	0	0	*	*	0
Acute bronchiolitis	0†	0	0	0	0	*	*	0
Unspecified acute lower respiratory infection	0†	0	0	0	0	*	0	0
Chronic lower respiratory diseases	3,700†	0	*	*	34	441	3,220	0
Bronchitis, chronic and unspecified	10†	0	0	0	*	*	9	0
Emphysema	181	0	0	0	0	25	156	0
Asthma	120†	0	*	*	28	43	47	0
Other chronic lower respiratory diseases	3,390†	0	0	0	*	372	3,008	0
Pneumoconioses and chemical effects	10†	0	0	0	0	*	7	0
Pneumonitis due to solids and liquids	187	0	0	0	6	32	149	0
Other disease of respiratory system	1,090†	6	*	*	28	181	876	0
Peptic ulcer	110†	0	0	0	*	27	83	0
Diseases of appendix	10†	*	0	0	*	*	7	0
Hernia	40†	0	0	0	*	*	37	0
Chronic liver disease and cirrhosis	1,426	0	0	0	264	683	479	0
Alcoholic liver disease	906	0	0	0	228	458	220	0
Other chronic liver disease and cirrhosis	520	0	0	0	36	225	259	0
Cholelithiasis and other disorders of gallbladder	100†	0	0	0	*	10	87	0
Nephritis, nephrotic syndrome and nephrosis	770†	*	0	0	22	145	603	0
Acute and rapidly progressive nephritic and nephrotic syndrome	10†	0	0	0	0	*	6	0
Chronic glomerulonephritis	10†	0	0	0	*	*	6	0
Renal failure	750†	*	0	0	19	142	591	0
Others disorders of kidney	0†	0	0	0	*	0	0	0
Infections of kidney	30†	0	0	0	*	6	19	0
Hyperplasia of prostate	14	0	0	0	0	0	14	0
Inflammatory diseases of female pelvic organs	0†	0	0	0	*	*	*	0
Pregnancy, childbirth and the puerperium	40†	0	0	*	37	0	0	0
Pregnancy with abortive outcome	0	0	0	0	0	0	0	0
Other complications of pregnancy, childbirth and the puerperium	40†	0	0	*	37	0	0	0

TABLE 2C-27 (continued)
COMPARISON OF CAUSES OF MORTALITY BY AGE GROUP, ARIZONA, 2020

	All ages	Infants <1	Children 1-14	Adoles-cents 15-19	Young adults 20-44	Middle-aged adults 45-64	Elderly 65+	Un-known
Perinatal conditions	190†	187	6	0	*	0	0	0
Congenital anomalies, deformations and chromosomal abnormalities	220†	87	18	*	21	50	35	0
Symptoms, signs, abnormal findings	1,040†	42	8	*	70	142	766	*
Total accidents	5,377	17	76	184	2,075	1,475	1,550	0
Transport accidents	1,040†	*	40	70	451	303	168	0
Motor vehicle accidents	1,130†	*	43	72	477	330	200	0
Other land transport accidents	40†	0	*	0	17	8	14	0
Water, air, space	50†	0	*	*	9	19	18	0
Nontransport accidents	4,252	14	33	112	1,598	1,145	1,350	0
Falls	1,127	0	0	0	31	107	989	0
Accidental discharge of firearms	10†	0	0	*	*	0	0	0
Accidental drowning and submersion	100†	0	20	*	20	29	29	0
Accidental exposure to smoke, fire and flames	50†	0	0	*	10	19	17	0
Accidental poisoning	2,483	0	8	103	1,456	817	99	0
Other and unspecified nontransport accidents	490†	14	*	*	77	173	216	0
Intentional self-harm (suicide)	1,359	0	17	69	552	417	304	0
By discharge of firearms	830†	0	*	40	305	245	234	0
By other means	531	0	13	29	247	172	70	0
Assault (homicide)	530†	*	19	48	301	119	35	0
By discharge of firearms	384	0	7	41	244	75	17	0
By other means	140†	*	12	7	57	44	18	0
Legal intervention	30†	0	0	*	17	9	*	0
Events of undetermined intent	186	9	11	7	78	56	25	0
Discharge of firearms	20†	0	*	*	7	*	*	0
Other and unspecified events of undetermined intent	170†	9	8	*	71	55	21	0
Operations of war	0	0	0	0	0	0	0	0
Complications of medical and surgical care	130†	0	*	*	*	33	88	0
Injury by firearms	1,263	0	14	86	577	330	256	0
Drug-induced deaths	2,670†	*	15	112	1,502	882	153	0
Opioid-induced deaths	1,880†	*	14	105	1,227	473	64	0
Alcohol-induced deaths	1,570†	0	0	*	429	792	352	0

Notes: * Cell suppressed due to count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; the causes of death in this table are classified by the Tenth Revision of the International Classification of Diseases (ICD-10); ‡ The COVID-19 data collection began in mid-March 2020.

TABLE 2C-28
COMPARISON OF CAUSE-SPECIFIC MORTALITY RATES[a] BY AGE GROUP, ARIZONA, 2020

	All ages	Infants <1	Children 1-14	Adoles-cents 15-19	Young adults 20-44	Middle-aged adults 45-64	Elderly 65+
Total, all causes	1054.8	526.2	19.1	82.3	227.3	819.2	4286.1
Salmonella infections	0.0	0.0	0.0	0.0	0.0	0.0	**
Shigellosis and amebiasis	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Certain other intestinal infections	2.9	9.1	**	0.0	**	2.3	12.4
Enterocolitis due to Clostridium difficile	1.6	0.0	0.0	0.0	**	1.1	7.4
Tuberculosis	0.2	0.0	0.0	0.0	**	0.4	0.5
Respiratory tuberculosis	0.2	0.0	0.0	0.0	**	**	**
Other tuberculosis	0.1	0.0	0.0	0.0	0.0	**	**
Whooping cough	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Scarlet fever and erysipelas	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Meningococcal infection	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Septicemia	5.9	**	**	**	1.1	6.3	22.0
Syphilis	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Acute poliomyelitis	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Arthropod-borne encephalitis	0.0	0.0	0.0	0.0	0.0	0.0	**
Measles	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Viral hepatitis	1.4	0.0	0.0	**	**	3.1	3.3
Human immunodeficiency virus (HIV) disease	1.0	0.0	0.0	0.0	0.6	2.3	1.5
Malaria	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other and unspecified infectious and parasitic diseases	5.6	**	**	**	1.6	4.6	21.6
Malignant neoplasms	176.6	**	2.0	2.3	13.5	156.1	747.7
Malignant neoplasm of lip, oral cavity and pharynx	3.0	0.0	0.0	0.0	**	4.0	11.2
Malignant neoplasm of esophagus	4.4	0.0	0.0	0.0	**	4.0	18.7
Malignant neoplasm of stomach	3.0	0.0	0.0	0.0	0.5	3.2	11.6
Malignant neoplasm of colon, rectum, and anus	16.3	0.0	0.0	0.0	1.5	19.5	62.3
Malignant neoplasm of liver and intrahepatic bile ducts	8.8	0.0	0.0	0.0	**	10.5	34.6
Malignant neoplasm of pancreas	14.0	0.0	0.0	0.0	0.3	12.3	61.0
Malignant neoplasm of larynx	1.0	0.0	0.0	0.0	**	1.0	4.1
Malignant neoplasm of trachea, bronchus and lung	36.1	0.0	0.0	0.0	0.7	26.7	164.3
Malignant melanoma of skin	3.0	0.0	0.0	0.0	0.5	2.9	11.8
Malignant neoplasm of breast	12.5	0.0	0.0	0.0	1.9	15.9	44.8
Malignant neoplasm of cervix uteri	2.0	0.0	0.0	0.0	1.0	3.2	4.9
Malignant neoplasm of corpus uteri and uterus, part unspecified	5.9	0.0	0.0	0.0	**	7.3	21.0
Malignant neoplasm of ovary	8.3	0.0	0.0	0.0	1.3	8.4	30.0
Malignant neoplasm of prostate	22.3	0.0	0.0	0.0	**	8.7	121.6
Malignant neoplasm of kidney and renal pelvis	4.7	0.0	**	0.0	0.3	4.7	19.3
Malignant neoplasm of bladder	5.8	0.0	0.0	0.0	**	1.8	29.7

TABLE 2C-28 (continued)
COMPARISON OF CAUSE-SPECIFIC MORTALITY RATES[a] BY AGE GROUP, ARIZONA, 2020

	All ages	Infants <1	Children 1-14	Adoles-cents 15-19	Young adults 20-44	Middle-aged adults 45-64	Elderly 65+
Malignant neoplasm of meninges, brain and other parts of central nervous system	5.4	**	**	**	1.5	7.1	17.4
Malignant neoplasm of lymphoid, hematopoietic and related tissue	17.6	**	0.8	**	1.9	10.6	79.2
Hodgkin's disease	0.2	0.0	0.0	0.0	**	0.4	0.7
Non-Hodgkin's lymphoma	6.3	0.0	0.0	0.0	0.8	3.9	28.5
Leukemia	7.0	**	0.8	**	1.1	3.7	30.7
Multiple myeloma and immunoproliferative neoplasms	4.1	0.0	0.0	0.0	**	2.6	19.1
Other and unspecified malignant neoplasms of lymphoid tissue	0.0	0.0	0.0	0.0	0.0	**	**
All other and unspecified malignant neoplasm	21.8	0.0	0.7	**	2.5	18.1	91.7
In situ neoplasms	5.8	**	**	**	0.3	2.6	27.8
Anemias	0.8	0.0	0.0	0.0	**	0.4	3.3
Diabetes	35.7	0.0	**	**	4.4	43.2	133.0
Nutritional deficiencies	8.7	0.0	**	0.0	**	2.0	45.4
Malnutrition	8.4	0.0	**	0.0	**	1.8	44.0
Other nutritional deficiencies	0.3	0.0	0.0	0.0	0.0	**	1.4
Obesity	3.4	0.0	**	**	1.8	6.6	6.6
Meningitis	0.3	0.0	0.0	**	**	0.4	0.8
Parkinson's disease	14.2	0.0	0.0	0.0	0.0	1.8	76.4
Alzheimer's disease	45.1	0.0	0.0	0.0	0.0	2.3	247.7
Major cardiovascular diseases	265.6	15.6	0.8	2.3	17.0	164.3	1226.5
Diseases of heart	197.7	10.4	0.5	1.9	13.4	125.5	907.0
Acute rheumatic fever and chronic rheumatic heart disease	1.2	0.0	0.0	**	**	0.8	5.3
Hypertensive heart disease	22.6	0.0	0.0	0.0	2.1	16.0	100.5
Hypertensive heart and renal disease	2.5	0.0	0.0	0.0	**	0.9	12.4
Ischemic heart disease	119.6	**	0.0	**	4.9	78.2	552.9
Acute myocardial infarction	26.5	0.0	0.0	0.0	1.8	22.7	113.8
Other acute ischemic heart disease	1.4	0.0	0.0	0.0	**	1.8	5.0
Other forms of chronic ischemic heart disease	91.8	**	0.0	**	3.0	53.7	434.1
Atherosclerotic cardiovascular disease	24.3	0.0	0.0	0.0	1.9	27.2	95.5
All other forms of chronic ischemic heart disease	67.6	**	0.0	**	1.1	26.5	338.6
Other heart diseases	51.8	9.1	0.5	1.5	6.1	29.7	235.9
Acute and subacute endocarditis	0.6	0.0	0.0	0.0	0.3	0.9	1.6
Diseases of pericardium and acute myocarditis	0.3	0.0	0.0	0.0	**	**	1.1
Heart failure	13.8	**	0.0	0.0	0.4	5.0	69.5
All other forms of heart disease	37.0	7.8	0.5	1.5	5.2	23.5	163.8
Essential (primary) hypertension and hypertensive renal disease	15.8	**	0.0	0.0	0.7	10.6	72.2
Cerebrovascular diseases	44.9	**	**	**	2.2	22.7	215.5
Atherosclerosis	1.5	0.0	0.0	0.0	0.0	0.5	7.8

TABLE 2C-28 (continued)
COMPARISON OF CAUSE-SPECIFIC MORTALITY RATES[a] BY AGE GROUP, ARIZONA, 2020

	All ages	Infants <1	Children 1-14	Adoles-cents 15-19	Young adults 20-44	Middle-aged adults 45-64	Elderly 65+
Other diseases of circulatory system	5.7	**	**	0.0	0.7	4.9	24.0
Aortic aneurysm and dissection	2.8	0.0	**	0.0	0.3	3.0	11.0
Other disease of arteries, arterioles and capillaries	2.9	**	0.0	0.0	0.3	1.9	12.9
Other disorders of circulatory system	2.0	**	0.0	0.0	0.9	2.5	6.3
Influenza and pneumonia	15.5	**	**	**	2.1	12.3	65.0
Influenza	1.4	**	**	0.0	0.4	1.7	4.6
Pneumonia	14.1	**	**	**	1.7	10.6	60.5
COVID-19[±]	117.5	0.0	**	**	16.2	104.0	485.3
Other acute lower respiratory infections	0.1	0.0	0.0	0.0	0.0	**	**
Acute bronchiolitis	0.0	0.0	0.0	0.0	0.0	**	**
Unspecified acute lower respiratory infection	0.0	0.0	0.0	0.0	0.0	**	0.0
Chronic lower respiratory diseases	51.5	0.0	**	**	1.4	25.8	249.6
Bronchitis, chronic and unspecified	0.2	0.0	0.0	0.0	**	**	0.7
Emphysema	2.5	0.0	0.0	0.0	0.0	1.5	12.1
Asthma	1.7	0.0	**	**	1.2	2.5	3.6
Other chronic lower respiratory diseases	47.2	0.0	0.0	0.0	**	21.8	233.2
Pneumoconioses and chemical effects	0.1	0.0	0.0	0.0	0.0	**	0.5
Pneumonitis due to solids and liquids	2.6	0.0	0.0	0.0	0.3	1.9	11.6
Other disease of respiratory system	15.2	7.8	**	**	1.2	10.6	67.9
Peptic ulcer	1.6	0.0	0.0	0.0	**	1.6	6.4
Diseases of appendix	0.2	**	0.0	0.0	**	**	0.5
Hernia	0.6	0.0	0.0	0.0	**	**	2.9
Chronic liver disease and cirrhosis	19.9	0.0	0.0	0.0	11.2	40.0	37.1
Alcoholic liver disease	12.6	0.0	0.0	0.0	9.6	26.8	17.1
Other chronic liver disease and cirrhosis	7.2	0.0	0.0	0.0	1.5	13.2	20.1
Cholelithiasis and other disorders of gallbladder	1.4	0.0	0.0	0.0	**	0.6	6.7
Nephritis, nephrotic syndrome and nephrosis	10.8	**	0.0	0.0	0.9	8.5	46.8
Acute and rapidly progressive nephritic and nephrotic syndrome	0.1	0.0	0.0	0.0	0.0	**	0.5
Chronic glomerulonephritis	0.1	0.0	0.0	0.0	**	**	0.5
Renal failure	10.5	**	0.0	0.0	0.8	8.3	45.8
Others disorders of kidney	0.0	0.0	0.0	0.0	**	0.0	0.0
Infections of kidney	0.4	0.0	0.0	0.0	**	0.4	1.5
Hyperplasia of prostate	0.4	0.0	0.0	0.0	0.0	0.0	2.4
Inflammatory diseases of female pelvic organs	0.1	0.0	0.0	0.0	**	**	**
Pregnancy, childbirth and the puerperium	1.1	0.0	0.0	**	3.2	0.0	0.0
Pregnancy with abortive outcome	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other complications of pregnancy, childbirth and the puerperium	1.1	0.0	0.0	**	3.2	0.0	0.0

TABLE 2C-28 (continued)
COMPARISON OF CAUSE-SPECIFIC MORTALITY RATES[a] BY AGE GROUP, ARIZONA, 2020

	All ages	Infants <1	Children 1-14	Adolescents 15-19	Young adults 20-44	Middle-aged adults 45-64	Elderly 65+
Perinatal conditions	2.7	243.5	0.5	0.0	**	0.0	0.0
Congenital anomalies, deformations and chromosomal abnormalities	3.0	113.3	1.4	**	0.9	2.9	2.7
Symptoms, signs, abnormal findings	14.4	54.7	0.6	**	3.0	8.3	59.4
Total accidents	74.9	22.1	6.0	39.0	87.7	86.3	120.2
Transport accidents	15.7	**	3.4	15.3	20.2	19.3	15.5
Motor vehicle accidents	14.4	**	3.2	14.8	19.1	17.7	13.0
Other land transport accidents	0.6	0.0	**	0.0	0.7	0.5	1.1
Water, air, space	0.7	0.0	**	**	0.4	1.1	1.4
Nontransport accidents	59.2	18.2	2.6	23.8	67.6	67.0	104.7
Falls	15.7	0.0	0.0	0.0	1.3	6.3	76.7
Accidental discharge of firearms	0.1	0.0	0.0	**	**	0.0	0.0
Accidental drowning and submersion	1.4	0.0	1.6	**	0.8	1.7	2.2
Accidental exposure to smoke, fire and flames	0.7	0.0	0.0	**	0.4	1.1	1.3
Accidental poisoning	34.6	0.0	0.6	21.8	61.6	47.8	7.7
Other and unspecified nontransport accidents	6.8	18.2	**	**	3.3	10.1	16.7
Intentional self-harm (suicide)	18.9	0.0	1.3	14.6	23.3	24.4	23.6
By discharge of firearms	11.5	0.0	**	8.5	12.9	14.3	18.1
By other means	7.4	0.0	1.0	6.2	10.4	10.1	5.4
Assault (homicide)	7.3	**	1.5	10.2	12.7	7.0	2.7
By discharge of firearms	5.4	0.0	0.6	8.7	10.3	4.4	1.3
By other means	2.0	**	1.0	1.5	2.4	2.6	1.4
Legal intervention	0.4	0.0	0.0	**	0.7	0.5	**
Events of undetermined intent	2.6	11.7	0.9	1.5	3.3	3.3	1.9
Discharge of firearms	0.2	0.0	**	**	0.3	**	**
Other and unspecified events of undetermined intent	2.4	11.7	0.6	**	3.0	3.2	1.6
Operations of war	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Complications of medical and surgical care	1.8	0.0	**	**	**	1.9	6.8
Injury by firearms[b]	17.6	0.0	1.1	18.2	24.4	19.3	19.8
Drug-induced deaths[b]	37.2	**	1.2	23.8	63.5	51.6	11.9
Opioid-induced deaths	26.3	**	1.1	22.3	51.9	27.7	5.0
Alcohol-induced deaths[b]	21.9	0.0	0.0	**	18.1	46.3	27.3

Notes: ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; [a] The rates for infants <1 year of age are per 100,000 births; all other rates are per 100,000 population in specified group; the rates for malignant neoplasm of cervix uteri, corpus uteri, ovary, inflammatory disease of female pelvic organs and complications of pregnancy are per 100,000 females; the rates for prostate cancer and hyperplasia of prostate are per 100,000 males; [b] Included in selected categories above; [±] The COVID-19 data collection began in mid-March 2020.

2D.

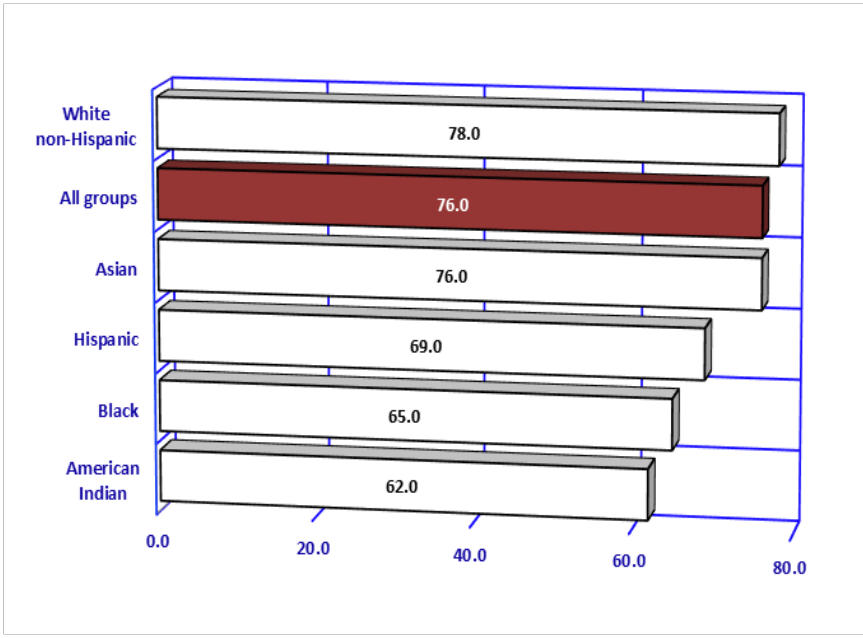
PATTERNS OF PREMATURE MORTALITY

In 2020, among the race/ethnic minority groups (Hispanic or Latino, Black or African American, American Indian or Alaska Native, Asian or Pacific Islander), people younger than 25 years represented 41.9 percent of the group total (n= 3,211,632), while among White non-Hispanics the same age demographic accounted for 24.1 percent of the group total (n= 3,964,769). In contrast, people aged 65 years and older accounted for 25.9 percent of White non-Hispanics, but only 8.2 percent of all ethnic minority groups combined (percentages based on race-and-age-specific population denominators in **Table 10C-1**).

Arizona's population distribution by age and race/ethnicity is related to patterns of mortality among these subgroups. In 2020, of all deaths among the elderly (65 years and older), 78.2 percent were White non-Hispanics, 13.3 percent were Hispanic or Latino, with the remaining three racial/ethnic groups comprising only 7.8 percent of all deaths in this age group (**Table 2C-26**). Looking at younger ages, Native American children comprised only 5.2 percent of Arizona's population age 1–14, but accounted for 9.6 percent of all childhood deaths. Native American adolescents (ages 15-19) represented only 4.8 percent of all adolescents, but accounted for 11.1 percent of all adolescent deaths. Finally, Native American young adults (ages 20–44) represented 4.6 percent of all young adults but comprised 17.2 percent of all young adult deaths. In summary, Arizona's racial/ethnic minority groups tend to experience mortality earlier in life than Arizona's White non-Hispanics.

Beginning with the 2005 edition of the report, information about the arithmetic mean age at death was supplemented with information about the median age, or the age in the center of the distribution when sorted by age (see **Table 2D-1**). The median age is higher than the arithmetic mean age in negatively skewed distributions.

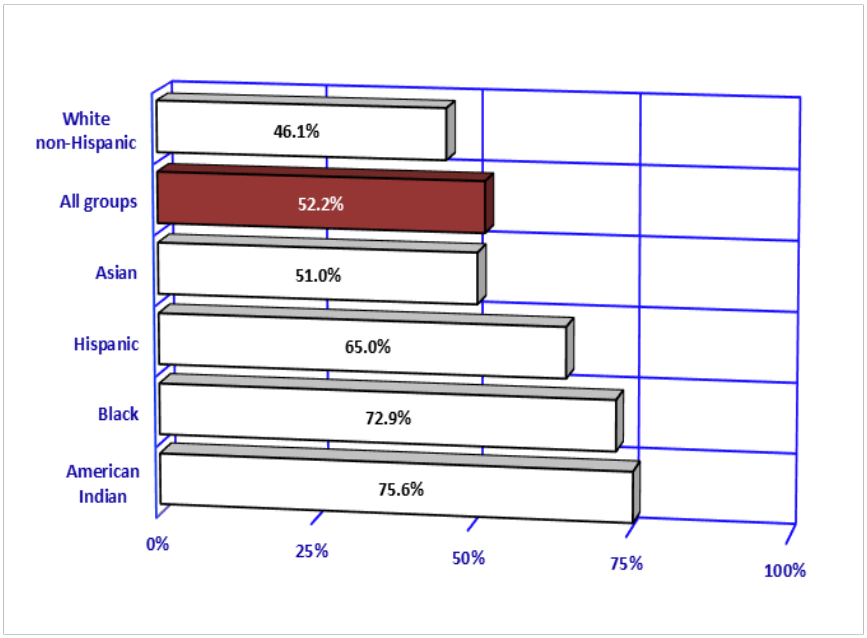
Figure 2D-1
Median Age at Death by Race/Ethnicity, Arizona, 2020



The median age at death remained at 76 years from 2014 to 2020 (**Table 2D-1**). In other words, one of every two Arizonans who died in 2020 was older than 76 years of age. Among Arizona females, the median age at death was 79 years old when they died in 2020. Among males, the median age at death was 73 years in 2020. **Table 2D-1** shows both the median age at death by race/ethnicity and gender from 2010-2020.

In 2020, compared to White non-Hispanics, on average Asians were 2 years younger at time of death, Hispanics were 9 years younger, Blacks were 13 years younger, and American Indian residents of Arizona were 16 years younger (based on the median age at death).

Figure 2D-2
Percent of Deaths before Expected[a] Years of Life Reached by Race/Ethnicity, Arizona, 2020



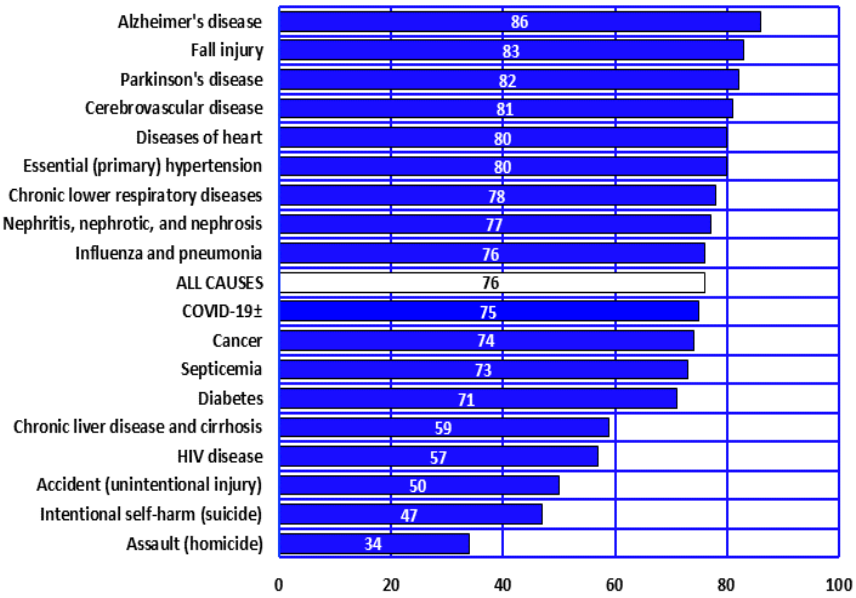
Note: [a] Expected years of life at birth for all U.S. residents (77.0 years).

In 2020, the percent of deaths before expected years of life reached (a premature death ratio) was 52.2 percent, a level that changed from prior years (55.6 in 2019 and 55.1 for both 2018 and 2017 (**Figure 2D-2**).

As expected, based on the findings for average and median age at death, White non-Hispanics were the only group with about 50 percent of all deaths (46.1 percent) occurring before the expected years of life were reached (**Figure 2D-2**). On average, 66.1 percent of the deaths among racial/ethnic minority groups occurred prematurely.

Among American Indians, nearly eight out of ten deaths (75.6 percent) were premature (**Table 2D-2**).

Figure 2D-3
Median Age at Death for Selected Leading Causes of Death, Arizona, 2020



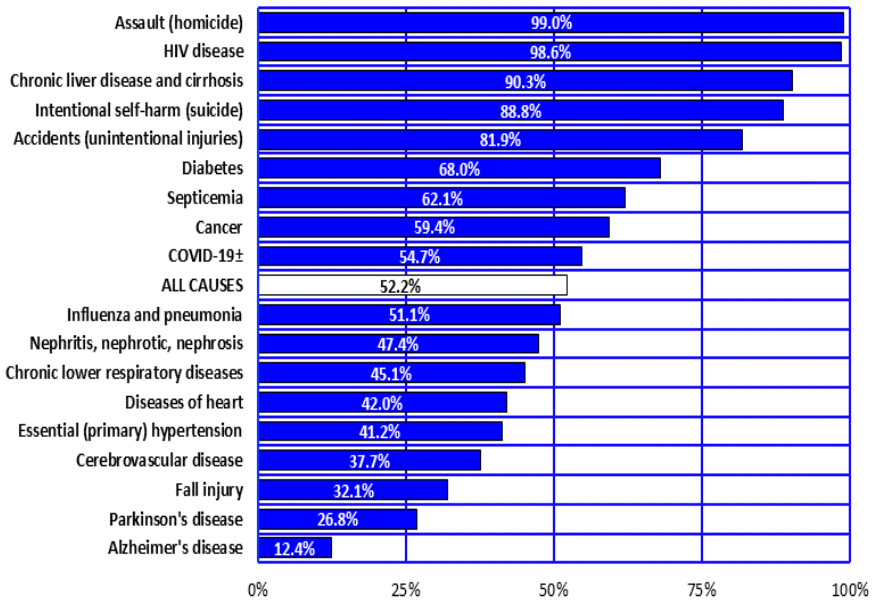
Note: ± The COVID-19 data collection began in mid-March 2020.

In 2020, *Alzheimer's disease* had the highest median age of death at 86 years (**Figure 2D-3**), exceeding by 10 years the median age at death for all causes (**Figure 2D-3**, **Table 2D-3**).

Among the leading causes of death, *homicide* had the lowest median age at death of 34 years.

From 2010-2015, *cancer* replaced *diseases of the heart* as the leading cause of death (based on the number of deaths). This epidemiologic transition in mortality risks is likely to have long lasting implications for the life expectancy of Arizonans, because the median age at death from *cancer* (74 years) is substantially lower than the median age at death from *diseases of the heart* (80 years).

Figure 2D-4
Percent of Deaths before Expected Years of Life[a] Reached for Selected Leading Causes of Death, Arizona, 2020



Notes: [a] Expected years of life at birth for all U.S. residents (77.0 years);
± The COVID-19 data collection began in mid-March 2020.

Only 12.4 percent of deaths from *Alzheimer's disease* occurred before the age of 77.0 years, i.e., before the expected years of life were reached. In contrast, almost all deaths from *homicide* were premature (99.0 percent; **Figure 2D-4**, **Table 2D-4**). The median age at death from *homicide* was 34 years in 2020, showing an increase from 33 years recorded in 2019 (**Figure 2D-3**, **Table 2D-3**).

A minority of deaths from *diseases of heart* were premature (42.0 percent). In contrast 59.4 percent of deaths from *cancer* occurred before the expected years of life were reached.

TABLE 2D-1
AVERAGE AND MEDIAN AGE AT DEATH FROM ALL CAUSES BY GENDER AND RACE/ETHNICITY, ARIZONA, 2010-2020

Year	Gender	All ethnic groups		Race/ethnicity									
		Mean	Median	White non-Hispanic		Hispanic or Latino		Black or African American		American Indian or Alaska Native		Asian or Pacific Islander	
				Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
2010	**Total**	72.1	77.0	74.8	79.0	62.4	68.0	62.6	65.0	57.0	58.0	65.7	71.0
	Male	69.1	73.0	72.1	75.0	58.3	63.0	60.5	63.0	52.7	53.0	64.2	70.0
	Female	75.4	80.0	77.7	82.0	67.4	74.0	65.3	69.0	62.6	65.0	67.4	74.0
2011	**Total**	72.8	77.0	75.3	79.0	63.6	68.0	63.6	66.0	58.4	60.0	68.2	72.0
	Male	69.7	73.0	72.5	76.0	59.8	63.0	61.0	64.0	54.4	54.0	65.6	69.0
	Female	76.2	81.0	78.3	82.0	68.5	75.0	66.6	69.0	63.2	67.0	70.8	75.0
2012	**Total**	72.7	77.0	75.2	78.8	63.8	68.8	62.6	65.9	57.8	59.8	68.6	73.1
	Male	69.9	73.7	72.6	75.9	60.7	64.3	59.6	63.2	54.3	55.5	64.2	68.7
	Female	75.9	80.6	78.1	82.1	67.8	74.7	66.0	69.6	62.0	65.0	72.3	78.5
2013	**Total**	72.5	77.0	75.2	79.0	64.3	69.0	63.1	66.0	58.3	60.0	70.9	76.0
	Male	69.6	74.0	72.6	76.0	60.6	64.0	59.5	63.0	54.7	55.0	68.4	73.0
	Female	75.8	81.0	78.0	82.0	68.6	75.0	67.7	73.0	63.1	67.0	73.3	78.0
2014	**Total**	72.7	76.0	75.1	78.0	64.7	69.0	62.7	65.0	59.3	61.0	70.3	74.0
	Male	70.0	73.0	72.6	75.0	61.7	65.0	60.5	63.0	55.7	57.0	66.2	71.0
	Female	75.8	80.0	77.9	81.0	68.4	74.0	65.3	67.0	63.8	66.0	74.1	79.0
2015	**Total**	72.5	76.0	74.9	78.0	64.8	69.0	62.8	66.0	58.5	60.0	70.0	75.0
	Male	69.9	73.0	72.5	75.0	61.7	66.0	60.4	64.0	55.0	56.0	67.3	71.0
	Female	75.5	79.0	77.5	81.0	68.7	74.0	65.9	69.0	62.9	66.0	72.6	77.0
2016	**Total**	72.9	76.0	75.4	78.0	65.0	69.0	63.4	66.0	58.9	60.0	69.2	74.0
	Male	70.3	73.0	73.2	75.0	61.9	65.0	60.3	63.0	55.8	56.0	65.1	69.5
	Female	75.9	79.0	78.0	81.0	69.1	75.0	67.6	71.0	63.3	66.0	72.9	78.0
2017	**Total**	72.6	76.0	75.2	78.0	64.9	69.0	62.7	65.0	58.9	61.0	70.3	75.0
	Male	69.9	73.0	72.8	76.0	61.5	65.0	58.7	62.0	55.7	57.0	67.6	72.0
	Female	75.8	79.0	77.9	81.0	69.3	75.0	67.8	69.0	63.1	67.0	72.7	77.0
2018	**Total**	72.5	76.0	75.2	78.0	65.2	70.0	63.5	67.0	58.2	60.0	71.2	75.0
	Male	69.7	73.0	72.8	76.0	61.4	65.0	60.2	63.0	54.7	56.0	68.3	72.0
	Female	75.9	80.0	77.9	81.0	70.2	76.0	67.3	70.0	62.9	66.0	73.8	78.0
2019	**Total**	72.5	76.0	75.3	78.0	65.0	70.0	62.3	66.0	59.7	62.0	69.9	74.0
	Male	69.8	74.0	72.9	76.0	61.1	65.0	59.9	65.0	56.5	58.0	66.5	71.0
	Female	75.7	79.0	78.0	81.0	70.0	75.0	65.1	68.0	63.8	67.0	73.5	77.0
2020	**Total**	72.1	76.0	75.3	78.0	65.4	69.0	62.1	65.0	60.2	62.0	72.0	76.0
	Male	69.5	73.0	73.0	76.0	62.1	66.0	59.3	63.0	57.4	59.0	68.0	72.0
	Female	75.4	79.0	77.8	80.0	70.0	74.0	66.2	69.0	63.7	66.0	75.9	79.0

Notes: Average age at death = the arithmetic mean of the ages of Arizonans who died in a given year; Median age at death = the middle of the age distribution: half died at age greater than the median and half at age below the median; The mean is lower than the median in negatively skewed distributions.

TABLE 2D-2
PERCENT OF DEATHS BEFORE EXPECTED YEARS OF LIFE REACHED
BY GENDER AND RACE/ETHNICITY, ARIZONA, 2010-2020

Year/gender	All racial/ethnic groups	White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander
2010 Total	54.5	49.9	68.7	73.4	79.6	65.1
Male	62.4	57.8	76.2	78.4	85.3	69.0
Female	45.8	41.5	59.5	67.4	71.9	60.7
2011 Total	53.8	49.6	67.4	74.4	77.7	66.3
Male	61.8	57.5	75.4	80.7	84.3	71.3
Female	45.1	41.2	57.3	67.1	70.0	61.5
2012 Total	55.0	50.9	68.4	74.4	78.7	62.3
Male	62.3	58.1	75.7	81.6	83.9	74.2
Female	46.7	43.0	59.1	66.1	72.2	51.9
2013 Total	54.6	50.1	67.1	72.8	76.7	58.9
Male	62.0	57.5	75.0	80.8	82.7	65.0
Female	46.2	42.1	57.7	62.4	68.9	53.2
2014[a] Total	54.8	50.9	66.7	75.2	77.8	58.9
Male	62.0	58.0	74.1	79.7	84.1	68.9
Female	46.7	43.1	57.7	69.8	69.8	49.7
2015[a] Total	54.9	50.9	67.4	74.1	77.4	59.9
Male	61.6	57.6	73.9	78.5	83.2	66.8
Female	47.2	43.4	59.1	68.6	70.2	53.1
2016 Total	55.3	51.4	66.7	73.5	77.1	58.5
Male	62.1	57.9	73.4	79.9	82.4	67.3
Female	47.5	44.1	57.9	64.9	69.7	50.6
2017 Total	55.1	50.6	67.0	75.1	77.9	58.7
Male	61.8	57.0	74.1	82.0	84.0	63.1
Female	47.3	43.3	58.0	66.1	69.9	54.7
2018 Total	55.1	50.8	65.6	73.3	78.8	57.7
Male	62.1	57.4	73.4	80.3	83.9	64.9
Female	46.9	43.2	55.1	65.2	71.9	51.2
2019 Total	55.6	50.8	67.3	75.3	77.8	60.2
Male	61.9	56.9	74.7	78.8	82.8	67.7
Female	48.2	43.9	57.9	71.0	71.5	52.3
2020 Total	52.2	46.1	65.0	72.9	75.6	51.0
Male	58.6	52.0	72.1	78.1	80.7	58.2
Female	44.5	39.3	55.0	65.3	69.1	44.2

Note: [a] Based on updated expected years of life at birth for all U.S. residents (77.0 years in 2020).

TABLE 2D-3
MEDIAN AGE AT DEATH FOR LEADING CAUSES OF MORTALITY BY GENDER, RACE/ETHNICITY, AND URBAN/RURAL AREAS[a], ARIZONA, 2020

	ARIZONA			Area/gender						Race/ethnicity				
	Total	Male	Female	Total Urban	Urban Male	Urban Female	Total Rural	Rural Male	Rural Female	White Non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander
Total, all causes	76.0	73.0	79.0	76.0	73.0	79.0	75.0	73.0	78.0	78.0	69.0	65.0	62.0	76.0
Major cardiovascular diseases	80.0	77.0	83.0	80.0	77.0	84.0	79.0	76.0	81.0	81.0	76.0	69.0	70.0	78.0
Diseases of heart	80.0	77.0	84.0	80.0	77.0	84.0	78.0	76.0	81.0	81.0	75.0	68.0	70.0	78.0
Coronary heart disease	79.0	76.0	84.0	80.0	76.0	84.0	78.0	76.0	81.0	80.0	76.0	68.0	71.0	77.0
Malignant neoplasms	74.0	74.0	73.0	73.0	73.0	73.0	74.0	74.0	74.0	75.0	69.0	68.0	70.0	71.0
Lung cancer	74.0	74.0	75.0	74.0	74.0	75.0	74.0	74.0	75.0	75.0	73.0	70.0	70.0	71.0
Prostate cancer	79.0	79.0	0.0	79.0	79.0	0.0	79.0	79.0	0.0	80.0	75.0	73.0	82.0	77.0
Breast cancer	71.0	70.0	71.0	71.0	64.5	71.0	72.5	77.0	72.0	73.0	68.0	63.5	46.0	70.5
Colorectal cancer	72.0	70.0	73.0	71.0	69.0	73.0	73.0	72.5	74.0	73.0	64.0	66.0	69.5	66.5
Malignant melanoma of skin	71.5	71.0	75.0	72.0	71.0	76.0	71.0	72.5	70.0	73.0	62.5	78.0	80.5	61.5
Cerebrovascular diseases	81.0	78.0	83.0	81.0	78.0	83.0	80.0	77.0	82.0	82.0	77.0	72.0	73.0	78.0
Chronic lower respiratory diseases	78.0	77.0	79.0	78.0	77.0	79.0	77.0	77.0	77.0	78.0	79.0	70.0	73.0	79.0
Accidents (unintentional injuries)	50.0	46.0	58.0	49.0	45.0	58.0	54.0	51.5	59.0	58.0	36.0	40.0	38.0	49.5
Motor vehicle accidents	41.0	41.0	41.0	41.0	41.0	43.0	40.0	41.5	37.0	53.0	31.0	33.0	34.0	53.5
Falls	83.0	81.0	85.0	84.0	82.0	86.0	80.0	76.0	84.0	84.0	81.0	73.5	64.5	87.0
Accidental poisoning	38.0	37.0	39.0	37.0	37.0	38.0	40.0	40.0	44.0	41.0	33.0	37.0	36.0	32.0
Accidental drowning	51.0	46.0	62.0	51.0	46.0	62.0	54.0	57.0	44.0	55.5	32.5	45.0	35.0	44.0
Influenza and pneumonia	76.0	74.0	78.0	76.0	75.0	79.0	76.0	73.5	77.0	78.0	73.0	68.0	70.0	85.5
COVID-19[±]	75.0	74.0	77.0	75.0	74.0	77.0	74.0	73.0	76.0	80.0	70.0	69.5	65.0	74.0
Alzheimer's disease	86.0	85.0	88.0	87.0	85.0	88.0	85.0	85.0	86.0	87.0	87.0	85.0	85.5	88.0
Diabetes	71.0	70.0	72.0	71.0	69.0	72.0	71.0	71.0	72.0	72.0	69.0	67.0	66.0	71.0
Intentional self-harm (suicide)	47.0	48.0	44.0	46.0	47.5	44.0	50.0	50.0	49.0	54.0	34.0	30.0	28.0	38.0
Chronic liver disease and cirrhosis	59.0	59.0	59.5	60.0	60.5	60.0	58.0	58.0	58.0	62.0	59.0	61.0	49.0	67.0
Nephritis, nephrotic syndrome and nephrosis	77.0	77.0	77.0	77.0	77.0	76.0	78.0	78.0	80.0	79.0	73.0	70.0	70.0	78.5
Septicemia	73.0	72.0	73.0	73.0	71.0	74.0	72.5	76.5	70.0	73.0	73.0	60.0	69.0	71.0
Assault (homicide)	34.0	34.0	37.0	33.0	32.0	36.5	38.0	38.0	38.0	45.0	30.0	28.5	35.0	43.0
Parkinson's disease	82.0	81.0	83.0	82.0	81.0	83.0	82.0	82.0	83.0	82.0	80.0	73.0	80.0	82.0
Essential (primary) hypertension and hypertensive renal disease	80.0	76.0	84.0	80.0	76.0	84.0	79.0	77.0	83.0	82.0	79.0	67.0	70.5	86.0
Human immunodeficiency virus (HIV) disease	57.0	56.0	59.0	56.5	56.0	58.5	63.0	57.5	65.0	58.0	53.0	50.0	50.5	44.0
Injury by firearms	41.0	41.0	42.0	40.0	39.0	41.0	51.0	51.0	50.5	54.0	30.0	30.0	30.0	37.0
Drug-induced deaths	38.0	37.0	41.0	38.0	37.0	40.0	40.0	38.0	46.0	42.0	32.5	37.0	33.0	30.5
Opioid-induced deaths	34.0	33.0	37.0	34.0	33.0	37.0	36.0	34.0	43.0	37.0	30.0	31.0	31.0	23.0
Alcohol-induced deaths	56.0	56.0	54.0	56.0	57.0	54.0	54.0	54.0	55.0	58.0	56.0	50.0	45.0	46.0

Notes: [a] Urban = Maricopa, Pima, Pinal, and Yuma counties; median age at death = the middle of the age distribution: half died at age greater than the median and half at age below the median; [±] The COVID-19 data collection began in mid-March 2020.

TABLE 2D-4
PERCENT DEATHS BEFORE EXPECTED[a] YEARS OF LIFE REACHED FOR THE LEADING CAUSES OF MORTALITY BY GENDER, RACE/ETHNICITY, AND URBAN/RURAL AREAS[b], ARIZONA, 2020

	ARIZONA			Area/gender						Race/ethnicity				
	Total	Male	Female	Total Urban	Urban Male	Urban Female	Total Rural	Rural Male	Rural Female	White Non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander
Total, all causes	52.2%	58.6%	44.5%	51.7%	58.5%	43.7%	53.7%	58.7%	47.3%	46.1%	65.0%	72.9%	75.6%	51.0%
Major cardiovascular diseases	41.4%	49.5%	31.8%	40.7%	49.2%	30.8%	44.1%	50.2%	35.9%	37.5%	50.8%	66.6%	62.4%	45.7%
Diseases of heart	42.0%	49.8%	31.7%	41.1%	49.4%	30.5%	45.1%	50.8%	36.7%	38.1%	52.3%	66.8%	64.1%	47.1%
Coronary heart disease	43.1%	51.1%	31.4%	42.2%	50.7%	30.0%	46.1%	51.8%	36.6%	39.7%	51.6%	67.5%	62.1%	49.4%
Malignant neoplasms	59.4%	59.6%	59.1%	59.8%	60.1%	59.4%	57.8%	57.7%	57.9%	56.4%	70.4%	74.2%	66.1%	66.2%
Lung cancer	58.6%	59.7%	57.4%	58.8%	60.0%	57.6%	57.6%	58.3%	56.7%	57.1%	64.9%	75.0%	65.2%	59.5%
Colorectal cancer	62.9%	67.6%	58.0%	62.9%	68.1%	57.5%	62.5%	65.6%	59.1%	58.3%	76.7%	81.1%	73.3%	75.0%
Breast cancer	64.4%	63.6%	64.4%	65.7%	75.0%	65.6%	59.9%	33.3%	60.3%	61.4%	73.3%	77.3%	88.9%	65.0%
Prostate cancer	40.0%	40.0%	0.0%	39.6%	39.6%	0.0%	41.2%	41.2%	0.0%	36.8%	55.1%	61.0%	15.4%	42.9%
Malignant melanoma of skin	62.3%	63.6%	59.0%	61.7%	64.1%	56.0%	64.4%	61.8%	72.7%	60.6%	85.7%	0.0%	50.0%	100.0%
Accidents (unintentional injuries)	81.9%	86.9%	70.9%	81.9%	87.2%	70.2%	81.2%	85.2%	73.1%	74.1%	93.0%	96.2%	94.9%	75.0%
Accidental poisoning	99.8%	99.9%	99.5%	99.9%	100.0%	99.5%	99.7%	99.6%	100.0%	99.8%	100.0%	100.0%	99.6%	100.0%
Falls	32.1%	38.6%	25.1%	29.7%	35.2%	23.9%	41.8%	50.4%	31.0%	29.1%	40.2%	62.5%	63.0%	27.3%
Motor vehicle accidents	93.8%	94.4%	92.4%	93.9%	95.3%	90.2%	93.0%	90.6%	98.6%	89.4%	99.0%	100.0%	98.4%	83.3%
Accidental drowning	85.9%	91.2%	74.2%	84.7%	89.5%	75.0%	92.3%	100.0%	66.7%	82.4%	95.0%	100.0%	100.0%	50.0%
Chronic lower respiratory diseases	45.1%	48.5%	41.9%	44.1%	48.1%	40.6%	47.8%	49.1%	46.4%	44.4%	44.4%	68.5%	55.3%	29.0%
Alzheimer's disease	12.4%	15.2%	10.9%	12.3%	15.7%	10.6%	12.8%	13.4%	12.5%	11.9%	14.0%	14.9%	20.0%	8.8%
Cerebrovascular diseases	37.7%	45.5%	31.2%	37.1%	45.1%	30.5%	39.7%	46.5%	33.7%	33.2%	47.9%	61.8%	56.7%	46.5%
Diabetes	68.0%	70.5%	64.3%	68.9%	71.4%	65.1%	64.7%	67.0%	61.1%	63.8%	71.3%	75.5%	77.6%	68.4%
Intentional self-harm (suicide)	88.8%	87.6%	93.2%	89.1%	88.0%	93.3%	87.7%	86.3%	92.8%	85.4%	98.5%	96.0%	98.8%	100.0%
Chronic liver disease and cirrhosis	90.3%	91.3%	88.8%	89.4%	90.1%	88.2%	92.4%	94.2%	89.8%	87.4%	91.7%	100.0%	96.7%	88.9%
Essential (primary) hypertension and hypertensive renal disease	41.2%	51.1%	31.5%	41.4%	51.6%	31.4%	40.0%	48.2%	31.8%	36.8%	44.8%	72.5%	58.9%	16.7%
Influenza and pneumonia	51.1%	55.2%	45.8%	50.8%	55.4%	45.0%	52.4%	54.8%	48.8%	45.4%	64.8%	71.4%	64.9%	18.8%
COVID-19[±]	54.7%	58.0%	49.9%	54.0%	57.4%	49.0%	56.8%	59.7%	52.8%	39.4%	68.3%	69.6%	73.8%	53.7%
Parkinson's disease	26.8%	28.4%	23.8%	26.7%	28.5%	23.3%	27.4%	27.7%	26.9%	25.0%	33.7%	66.7%	34.8%	21.1%
Nephritis, nephrotic syndrome and nephrosis	47.4%	47.0%	47.9%	49.6%	49.0%	50.2%	41.5%	41.7%	41.2%	42.4%	57.4%	61.3%	63.0%	41.7%
Septicemia	62.1%	65.6%	58.7%	63.3%	69.2%	57.0%	56.4%	50.0%	61.5%	59.4%	65.8%	75.0%	68.9%	50.0%
Assault (homicide)	99.0%	99.3%	98.2%	99.1%	99.4%	97.8%	98.9%	98.6%	100.0%	97.0%	100.0%	100.0%	100.0%	100.0%
Human immunodeficiency virus (HIV) disease	98.6%	100.0%	92.3%	98.3%	100.0%	91.7%	100.0%	100.0%	100.0%	97.6%	100.0%	100.0%	100.0%	100.0%
Injury by firearms	90.3%	89.5%	94.8%	91.4%	90.7%	95.4%	86.1%	85.1%	92.1%	84.7%	99.6%	99.2%	98.8%	100.0%
Drug-induced deaths	99.1%	99.6%	97.8%	99.0%	99.6%	97.6%	99.5%	100.0%	98.4%	98.5%	99.9%	100.0%	100.0%	100.0%
Opioid-induced deaths	99.7%	99.9%	99.4%	99.7%	99.8%	99.3%	100.0%	100.0%	100.0%	99.5%	100.0%	100.0%	100.0%	100.0%
Alcohol-induced deaths	95.8%	95.7%	96.1%	95.3%	95.1%	95.7%	96.7%	96.6%	96.8%	94.4%	96.6%	100.0%	98.0%	100.0%

Notes: [a] Expected years of life at birth for all U.S. residents (77.0 years in 2020); [b] Urban = Maricopa, Pima, Pinal, and Yuma counties; [±] The COVID-19 data collection began in mid-March 2020.

CHAPTER 3

REPORTABLE DISEASES, ARIZONA, 2010-2020

3A. NON-SEXUALLY TRANSMITTED DISEASES

3B. SEXUALLY TRANSMITTED DISEASES

3C. HUMAN IMMUNODEFICIENCY VIRUS (HIV) DISEASE AND ACQUIRED IMMUNODEFICIENCY SYNDROME (AIDS)

3A.

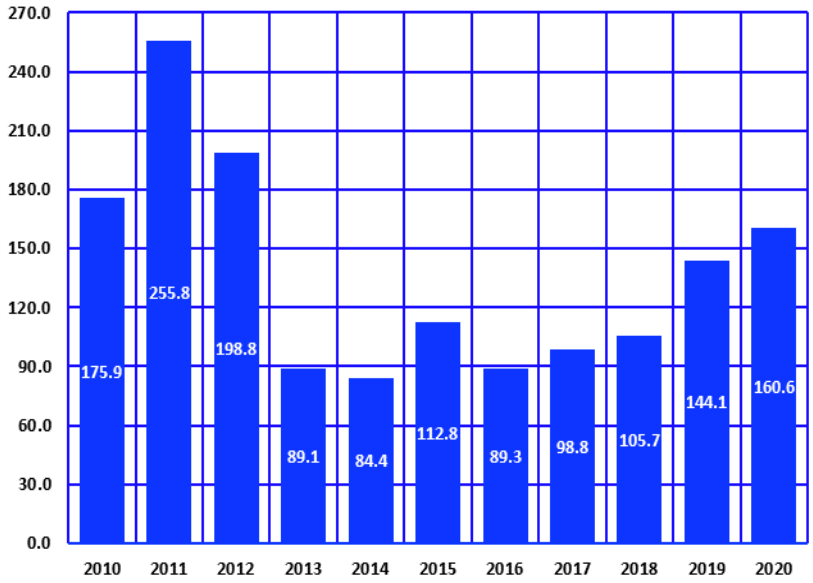
NON-SEXUALLY TRANSMITTED DISEASES

The infectious diseases designated as notifiable vary slightly by state. A notifiable disease is one for which regular, frequent, and timely information regarding individual cases is considered necessary for the prevention and control of the disease. All states generally report the internationally quarantinable diseases (i.e., cholera or plague) in compliance with the World Health Organization's International Health Regulations.

Data on morbidity, levels of disease, and disability in the Arizona population are obtained for certain infectious diseases that must be reported by law. The Bureau of Epidemiology and Disease Control Services conducts surveillance and monitoring of these reportable diseases and it provided data for the respective sections of this chapter and sections 5F, 6A, and 6B.

This section provides some illustrative findings from the tabulated data. It is not intended to be an exhaustive analysis of the incidence of infectious diseases in the State. There is more information available online on the website of the Office of Infectious Disease Services at: http://azdhs.gov/phs/oids/index.htm.

Figure 3A-1
Trends in the Incidence Rates[a] of Valley Fever (Coccidioidomycosis) by Year, Arizona, 2010-2020

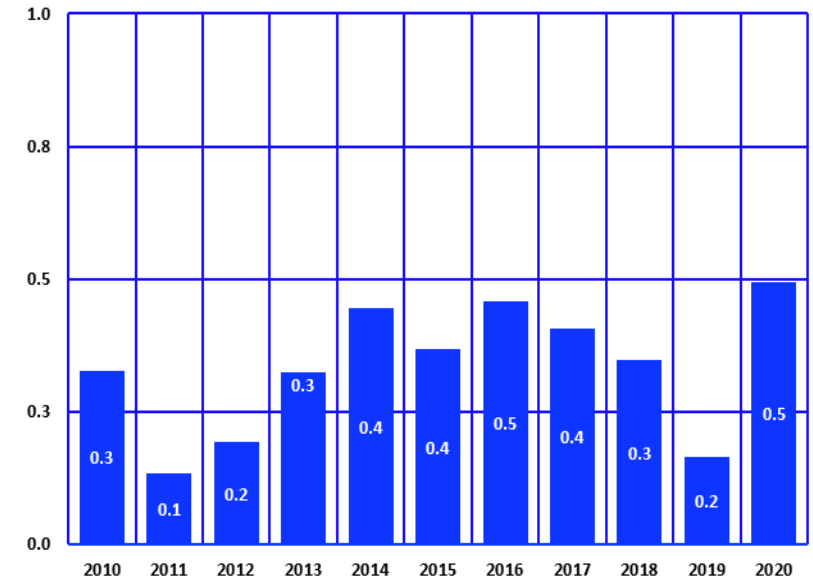


Note: [a] Number of cases per 100,000 population.

Coccidioidomycosis or *Valley Fever* is a fungal infection caused by inhalation of airborne spores that are present in the soil of southwestern United States, California, and parts of Central and South America. Most infections are asymptomatic or self-limited in patients with healthy immune systems. In rare instances, severe lung disease or disseminated infection can develop in patients.

Valley Fever imposed the greatest burden on morbidity among all non-sexually transmitted, notifiable diseases in Arizona in 2020. The reported incidence of Valley Fever increased 11.2 percent from 2019 (n=10,358) to 2020 (n=11,523). The 2020 incidence rate of 160.6/100,000 (**Figure 3A-1, Table 5F-2**) was 11.5 percent greater than the incidence rate of 144.1/100,000 in 2019, but was 37.2 percent lower than the unprecedented incidence rate of 255.8/100,000 in 2011.

Figure 3A-2
Trends in Case Fatality Rates[a] for Valley Fever (Coccidioidomycosis) by Year, Arizona, 2010-2020



Note: [a] Number of deaths per 100 reported cases.

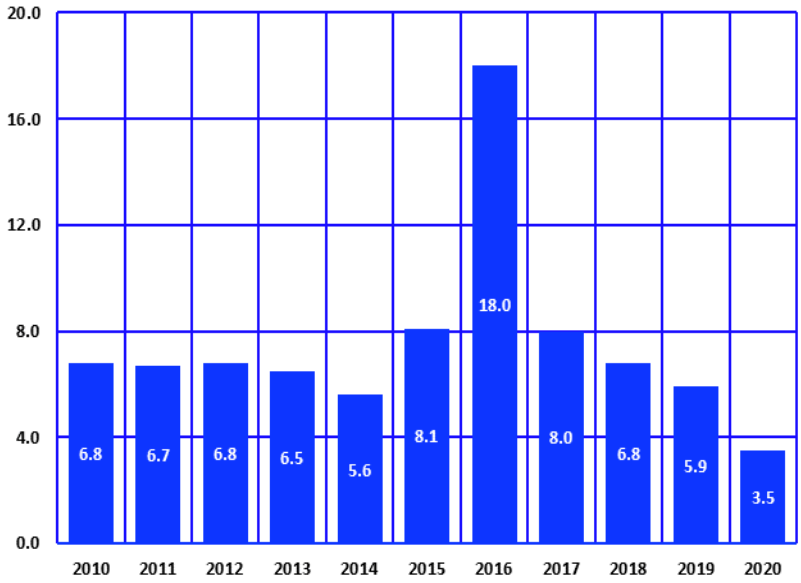
Fifty-seven of the 11,523 Arizonans who had *Valley Fever* in 2020 died from it (**Table 3A-2)** for a case fatality rate of 0.5 deaths per 100 cases (**Figure 3A-2**). The 2020 case fatality rate for Coccidioidomycosis was 66.7 percent higher than in 2010.

Shigellosis is an infectious disease caused by a group of bacteria called *Shigella* that can cause diarrhea in humans. To spread from one person to another, *Shigellae* can be transmitted through contaminated foods, sexual contact, and water used for drinking or recreational purposes.

From 2010–2020, *shigellosis* was the most common enteric disease to afflict Arizonans after *campylobacteriosis* and *salmonellosis* (**Table 3A-1**).

The number of reported cases of *shigellosis* has decreased by 173 cases from 426 in 2019 to 253 in 2020. Compared to 2019, the incidence rate of *shigellosis* was 40.7 percent lower at approximately 4 reported cases/100,000 population in 2020 (**Figure 3A-3**).

Figure 3A-3
Trends in the Incidence Rates[a] of Shigellosis by Year, Arizona, 2010-2020

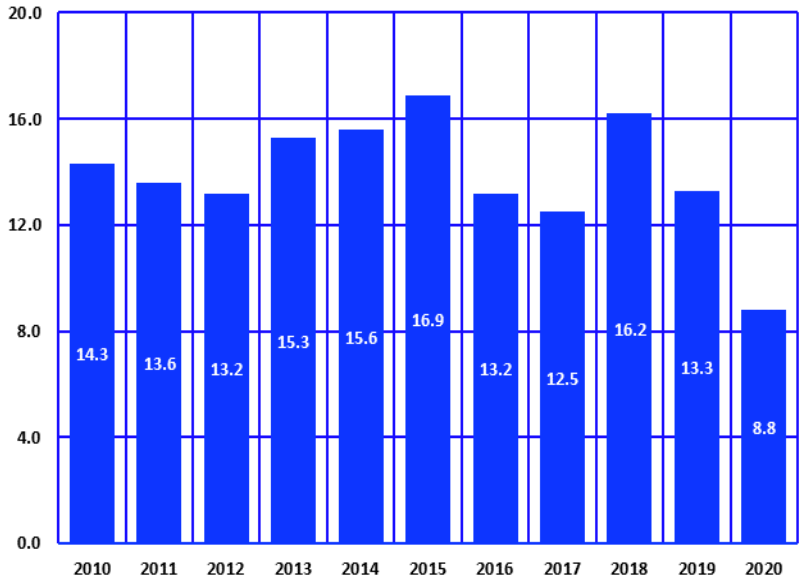


Note: [a] Number of reported cases per 100,000 population.

Salmonellosis is a bacterial infection. Most of those who are infected with *Salmonella* develop diarrhea, fever, and abdominal cramps.

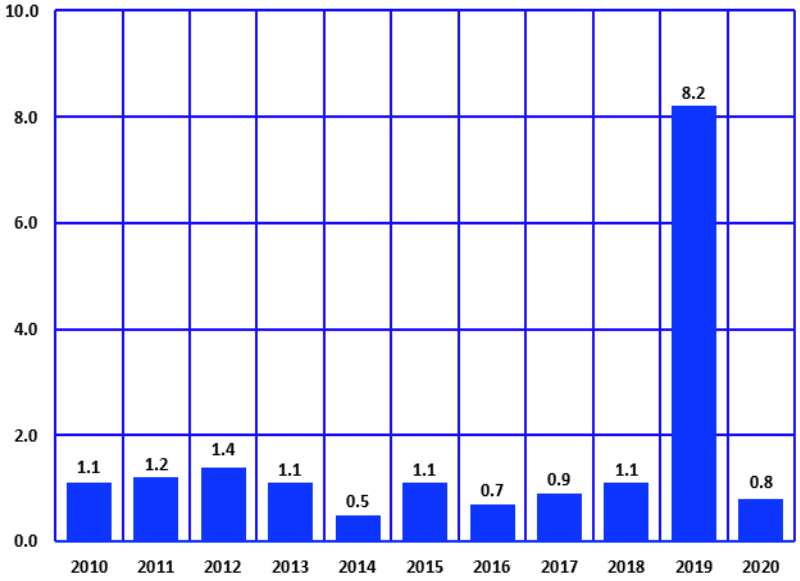
The incidence rate of *salmonellosis* decreased 33.8 percent from 13.3/100,000 in 2019 to 8.8/100,000 in 2020 (**Figure 3A-4**). The risk of *salmonellosis* was substantially higher in Navajo (26.2/100,000), Santa Cruz (20.9/100,000), Graham (15.5/100,000), Apache (15.1/100,000), Yavapai (14.8/100,000), and Pima (14.6/100,000), than the remaining counties (**Table 5F-2**).

Figure 3A-4
Trends in the Incidence Rates[a] of Salmonellosis[b] by Year, Arizona, 2010-2020



Notes: [a] Number of reported cases per 100,000 population; [b] Excluding S. Typhi and S. Paratyphi.

Figure 3A-5
Trends in the Incidence Rates[a] of Hepatitis A by Year, Arizona, 2010-2020

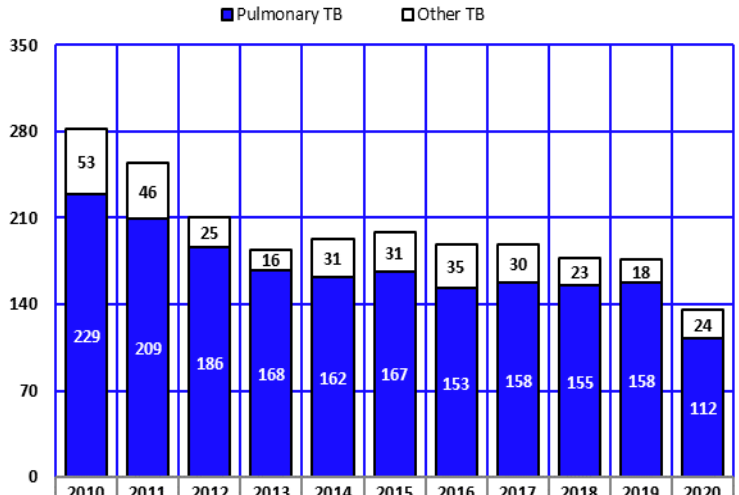


Note: [a] Number of reported cases per 100,000 population.

Hepatitis A is a liver disease caused by the *hepatitis A* virus. During 1995-1996, highly effective *hepatitis A* vaccines became available in the United States. Routine childhood vaccination for *hepatitis A* was recommended in 1999. The expansion of recommendations for routine *hepatitis A* vaccination to include all children in the United States aged 12-23 months is likely to reduce hepatitis rates further.

In Arizona, the incidence rate of *hepatitis A* was 0.8/100,000 in 2020, the highest rate recorded during the 2010-2020 period was 8.2 in 2019. The 2020 incidence rate was approximately 9 times lower than the 2019 rate (8.2/100,000; **Figure 3A-5**).

Figure 3A-6
Trends in the Incidence of Pulmonary Tuberculosis and Total Tuberculosis[a] by Year, Arizona, 2010-2020



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total TB	282	255	211	184	193	198	188	188	178	183	136
Other TB	53	46	25	16	31	31	35	30	23	18	24
Pulmonary TB	229	209	186	168	162	167	153	158	155	158	112

Note: [a] Number of reported cases by year.

Tuberculosis (TB) is an infectious disease that usually attacks the lungs, but can attack almost any part of the body. Tuberculosis is spread from person to person through the air.

The number of reported cases of *pulmonary tuberculosis* decreased from 158 cases in 2019 to 112 reported cases in 2020. The number of reported cases of tuberculosis other than pulmonary increased from 18 in 2019 to 24 in 2020 cases (**Figure 3A-6, Table 3A-1**). The incidence rate of *total* tuberculosis changed in 2019 2.5/100,000 to 1.9/100,000 in 2020 (**Table 5F-2**).

Pulmonary tuberculosis accounted for 82.4 percent of all tuberculosis infections in 2020 (**Table 3A-1**). Fifteen Arizonans who had *tuberculosis* died from it in 2020, an increase from 9 in 2019 (**Table 3A-2**).

TABLE 3A-1
NUMBER OF REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY CATEGORY, ARIZONA, 2010-2020

Disease	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Vaccine Preventable											
Measles	*	*	*	*	*	7	31	0	0	*	0
Mumps	*	0	*	*	12	*	7	34	15	103	10
Pertussis	546	867	1,130	1,440	517	580	287	420	239	379	331
Pertussis confirmed cases	(95)	(160)	(575)	(1,068)	(287)	(341)	(154)	(262)	(135)	(207)	(189)
Rubella	*	0	0	0	0	0	0	*	0	0	*
Congenital Rubella Syndrome	0	0	0	0	0	0	0	0	0	0	0
Haemophilus influenzae type b (invasive, age < 5 years)	*	*	*	*	0	*	*	*	*	*	0
Tetanus	*	*	0	0	0	*	*	0	0	*	0
Varicella (chickenpox)	755	660	535	354	300	270	279	189	245	307	72
Central Nervous System											
Aseptic Meningitis	733	400	453	343	288	189	146	81	N/A	N/A	N/A
Meningococcal Disease	14	16	6	12	9	*	*	*	*	*	*
Viral Encephalitis	6	6	*	*	*	*	*	*	*	16	*
Enteritides											
Amebiasis	13	21	17	21	24	*	6	16	21	20	12
Campylobacteriosis	956	939	940	846	939	1,379	1,241	1,372	1,269	1,615	1,050
Cholera	0	0	0	0	0	0	0	0	*	0	0
Cryptosporidiosis	40	46	47	42	46	62	549	112	203	143	80
E. coli O157:H7	100	126	141	246	98	128	148	166	296	297	186
Giardiasis	167	133	113	115	119	143	125	145	149	143	84
Salmonellosis (exl. *S*. Typhi & *S*. Paratyphi)	984	877	857	1,007	1,040	1,143	899	874	1,149	954	631
Salmonella Paratyphi A	7	*	0	*	*	*	*	*	*	*	*
Salmonella Paratyphi B	*	7	*	*	*	16	0	0	0	0	0
Salmonella Paratyphi C	0	0	0	0	0	0	0	0	0	0	0
Shigellosis	465	434	444	428	376	549	1,231	555	478	426	253
Typhoid Fever	6	*	7	12	*	*	9	*	9	7	*
Mycosis											
Coccidioidomycosis (Valley Fever)	11,888	16,472	12,920	5,861	5,624	7,622	6,101	6,885	7,478	10,358	11,523
Hepatitides											
Hepatitis A	62	77	93	73	35	72	46	61	80	590	59
Hepatitis B (acute)	150	185	104	50	38	43	16	41	30	49	33
Hepatitis D	*	0	0	0	*	0	0	0	*	0	0
Hepatitis E	*	0	0	0	*	0	0	*	0	*	*
Tuberculosis											
Pulmonary TB	229	209	186	168	162	167	153	158	155	158	112
Total TB	282	255	211	184	193	198	188	188	178	183	136

TABLE 3A-1 (continued)
NUMBER OF REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY CATEGORY, ARIZONA, 2010-2020

Disease	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Zoonoses / Vector-borne											
Brucellosis	9	*	*	*	6	*	*	8	*	*	6
Colorado Tick Fever	*	0	0	0	*	*	0	0	0	0	0
Dengue	10	*	10	*	91	24	14	*	10	18	*
Erlichiosis	0	*	*	*	*	*	*	*	*	*	0
Hantavirus Pulmonary Syndrome	0	*	*	*	*	*	*	*	0	0	*
Human Rabies	0	0	0	0	0	0	0	0	0	0	0
Lyme Disease	*	15	13	32	21	12	13	28	7	10	*
Malaria	28	21	19	33	25	14	38	26	24	30	12
Plague	0	0	0	0	0	*	0	*	0	0	*
Relapsing Fever, Tick-borne	0	*	*	*	12	*	*	*	*	*	0
Rocky Mountain Spotted Fever	17	77	50	63	16	17	23	27	38	48	35
St. Louis Encephalitis	0	0	0	0	*	23	0	6	0	9	6
Tularemia	*	0	0	0	0	*	*	*	0	*	*
West Nile Virus	166	69	135	62	108	103	78	110	27	174	11
Other											
Botulism	0	*	12	*	*	*	*	*	12	*	7
Legionellosis	65	46	44	69	59	93	76	74	83	93	90
Listeriosis	10	8	14	*	14	*	6	8	6	13	7
Methicillin Resistant *S. aureus* (invasive)	1,166	1,196	1,089	1,066	1,178	1,155	1,265	1,355	1,529	1,467	1,681
Streptococcal-Group A (invasive)	190	206	199	231	250	351	555	614	758	790	805
Streptococcal-Group B (invasive, age <90 d)	45	39	57	35	41	61	60	63	40	44	37
Streptococcus pneumoniae (invasive)	823	767	661	786	724	678	716	707	862	740	668
Toxic Shock Syndrome	*	*	*	*	6	*	*	0	*	0	*
Vibrio spp. (except toxogenic *V.cholerae*)	18	26	29	19	36	33	19	25	54	52	34
Yersiniosis (except *Y. pestis*)	*	6	10	9	*	12	14	20	11	58	53

Notes: * Cell suppressed due to non-zero count less than 6; Non-resident cases have been excluded. Only incident cases are reported. Cases are counted by date reported to public health. Case counts include both probable and confirmed cases unless otherwise indicated. *E. coli* has included both *E. coli* O157:H7 and Shiga-toxin positive *E.coli* since October 2004. *Haemophilus influenzae* type B includes all invasive *H. influenzae* B, not just meningitis, as of 1995. Meningococcal disease includes all invasive disease caused by *Neisseria meningitidis*, not just meningitis. Animal rabies cases are not included. Reported coccidioidomycosis cases were elevated from June 2009 through December 2012 and then declined in 2013 due to changes in reporting practices and laboratory testing from a major commercial laboratory. A change in the criteria for counting Lyme disease in 2013 may account for the increase in cases in that year. Aseptic meningitis and Reyes syndrome ceased being reportable in January 2018. For additional statistics on these diseases, please see:

https://azdhs.gov/preparedness/epidemiology-disease-control/index.php#data-stats

Source: Arizona Department of Health Services, Bureau of Epidemiology and Disease Control Services and Office of Disease Integration and Services.

TABLE 3A-2
NUMBER OF DEATHS FROM SELECTED NOTIFIABLE DISEASES BY CATEGORY AND YEAR, ARIZONA, 2010-2020

ICD-9/ICD-10 codes	Disease	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
VACCINE PREVENTABLE												
055/B05	Measles	0	0	0	0	0	0	0	0	0	0	0
072/B26	Mumps	0	0	0	0	0	*	0	0	0	0	0
033/A37	Whooping cough (pertussis)	0	0	0	0	0	0	*	*	0	0	0
056/B06	Rubella	0	0	0	0	0	0	0	0	0	0	0
052/B01	Chickenpox	*	*	*	0	*	0	0	0	*	*	0
CENTRAL NERVOUS SYSTEM												
047.9/G03.0	Aseptic meningitis	0	*	*	0	0	*	0	*	*	0	*
036/A39	Meningococcal infections	*	*	*	*	*	0	0	0	0	*	0
049.9/A86	Viral encephalitis	*	6	*	*	*	*	*	*	*	*	*
ENTERITIDES (FOODBORNE)												
006/A06	Amebiasis	0	0	0	0	*	0	0	0	0	0	0
007.1/A07.1	Giardiasis	0	0	0	0	0	0	0	0	0	0	0
003/A02	Salmonellosis *(except typhoid)*	*	*	0	0	*	*	*	*	*	*	*
004/A03	Shigellosis	*	0	0	*	*	*	0	0	0	0	0
002/A01	Typhoid	0	0	0	0	0	0	0	0	0	0	0
MYCOSIS												
114/B38	Coccidioidomycosis *(Valley Fever)*	39	22	25	19	25	28	28	28	26	17	57
HEPATITIDES												
070.0-070.1/B15	Hepatitis A	*	0	*	*	*	0	0	0	0	6	0
070.2-070.3/B16	Hepatitis B	10	9	12	9	8	8	10	*	6	6	*
070.4-070.5/B17-B18	Other viral hepatitis	207	209	274	265	248	257	207	191	133	96	90
070.6-070.9/B19	Unspecified	*	0	0	*	*	*	0	*	*	*	*
TUBERCULOSIS												
010-011/A15-A16	Respiratory TB	12	10	*	11	6	9	6	7	*	*	11
010-018/A15-A19	Total TB	15	12	*	15	8	10	7	10	10	10	15
ZOONOSES/VECTOR-BORNE												
023.9/A23	Brucellosis	0	0	0	0	0	*	0	0	0	0	0
061/A90	Dengue	0	0	0	0	0	0	0	0	0	0	0
071/A82	Human Rabies	0	0	0	0	0	0	0	0	0	0	0
084/B50-B54	Malaria	0	0	0	*	0	0	0	0	0	0	0
020/A20	Plague	0	0	*	0	0	0	0	0	0	0	0
082/A77.0	Rocky Mountain Spotted Fever	*	*	0	*	0	0	*	*	0	0	0
021/A21	Tularemia	0	0	0	0	*	0	0	0	0	0	0
OTHER												
482.8/A48.1	Legionellosis	0	*	*	*	*	*	*	0	6	*	*
027.0/A32	Listeriosis	0	0	*	0	*	0	0	0	0	*	0
331.8/G93.7	Reyes Syndrome	0	0	0	0	0	0	0	0	0	0	0
995.0/A48.3	Toxic Shock Syndrome	0	0	0	0	0	0	*	0	0	*	0

Note: * Cell suppressed due to non-zero count less than 6.

3B.

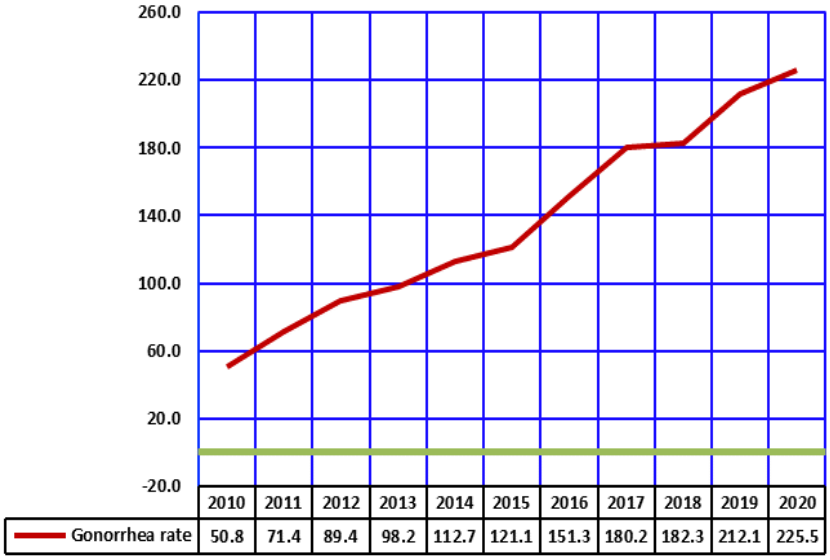
SEXUALLY TRANSMITTED DISEASES

All states require that certain sexually transmitted diseases (STDs) be reported by physicians and other health care providers when they suspect that a case has occurred or they have laboratory confirmation.

It is important to note that disease reporting is likely incomplete and completeness may vary depending on the disease. Moreover, changes in methods for public health surveillance, or implementation of new diagnostic tests can cause changes in disease reporting that are independent of the true incidence of disease.* In this section, STD rates were calculated using denominators from the CDC for years prior to 2018. In the current report, the Arizona Department of Health Services denominators were used to compute the STD rates.

*Centers for Disease Control and Prevention. Summary of notifiable diseases – United States, 2008. Published June 25, 2010, for 2008; Vol. 57 (No. 54). Available online at http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5754a1.htm

Figure 3B-1
Trends in the Incidence Rates[a] of Gonorrhea by Year, Arizona, 2010-2020



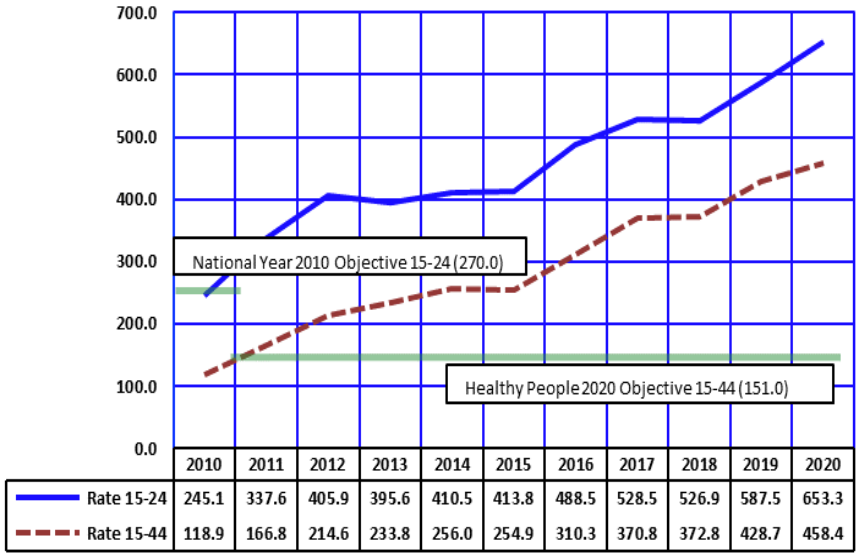
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Gonorrhea rate	50.8	71.4	89.4	98.2	112.7	121.1	151.3	180.2	182.3	212.1	225.5

Neisseria gonorrhoeae infection is the second most commonly reported notifiable disease in the United States. (**Figure 3B-1**). The consistent steady increase in the incidence rate of gonorrhea since 2010 likely resulted from a combination of factors, such as changes in surveillance, increases in the number of tests performed, and actual increases in disease occurrence (**Figure 3B-1**).

The *Healthy People 2010* objective HP25-2 defines the target rate for gonorrhea as equal to or lower than 19.1 cases per 100,000 population. However, the *Healthy People 2020* target is for ages 15-44 and is set at 151.0/100,000 females and 147.0/100,000 males (**Table 6A-2**).

Note: [a] Number of reported cases per 100,000 population.

Figure 3B-2
Trends in the Incidence Rates[a] of Gonorrhea among Females aged 15-24 and 15-44 Years, Arizona, 2010-2020



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Rate 15-24	245.1	337.6	405.9	395.6	410.5	413.8	488.5	528.5	526.9	587.5	653.3
Rate 15-44	118.9	166.8	214.6	233.8	256.0	254.9	310.3	370.8	372.8	428.7	458.4

The 2020 incidence rate for gonorrhea was 458.4 per 100,000 for Arizona females aged 15-44 years, meaning Arizona's incidence rate was higher than the *Healthy People 2020* objective. Generally, the trends in gonorrhea incidence rates are similar for women in the age groups 15-24 and 15-44, although the overall incidence rate is consistently higher for women aged 15-24.

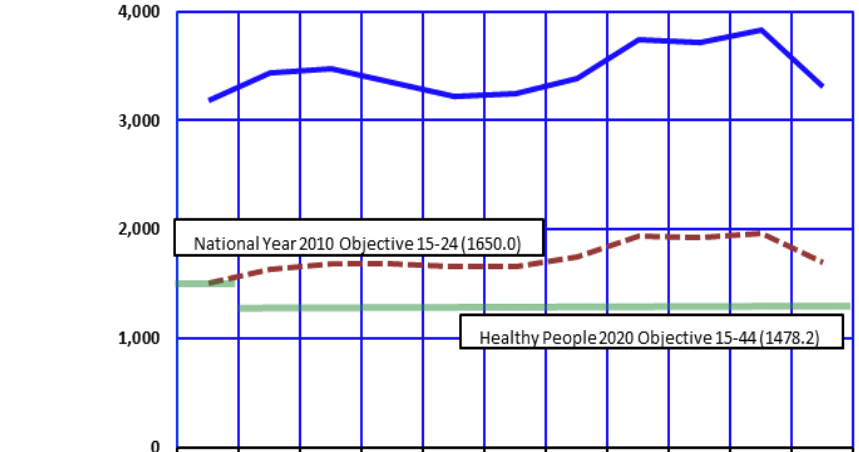
Notes: [a] Number of reported cases per 100,000 females; There was a change in target rate and age range for Healthy People 2020 objective. In National Year 2010 objective was for females aged 15 and 24 years. In Healthy People 2020 objective is for females aged 15 and 44 years.

Chlamydia trachomatis is the most prevalent bacterial sexually transmitted disease in the United States (1,570,885 cases in 2020*) with the highest rates reported among adolescents and young adults (**Table 3B-4**). Recent availability of sensitive tests for *chlamydia* using DNA amplification technology undoubtedly contributed to the increase in the number of reported cases in Arizona over the last decade (**Figure 3B-3**, **Table 3B-1**).

The incident rate of chlamydia was previously reported for females aged 15-24 years, however based on changes in *Healthy People 2020*, it would be reported for females 15-44 years. The *Healthy People 2020* goal for chlamydia is set at 1,478.2 per 100,000 females. The incidence rate for Arizona in 2020 was 1,694 per 100,000 females age 15-44 years (**Table 6A-2**).

*Most recent publication https://www.cdc.gov/std/statistics/2020/overview.htm#Chlamydia

Figure 3B-3
Trends in the Incidence Rates[a] of Chlamydia among Females 15-24 and 15-44 Years, Arizona, 2010-2020



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Rate 15-24	3,180	3,437	3,473	3,353	3,227	3,246	3,381	3,737	3,713	3,827	3,312
Rate 15-44	1,510	1,628	1,688	1,683	1,663	1,657	1,748	1,940	1,921	1,965	1,694

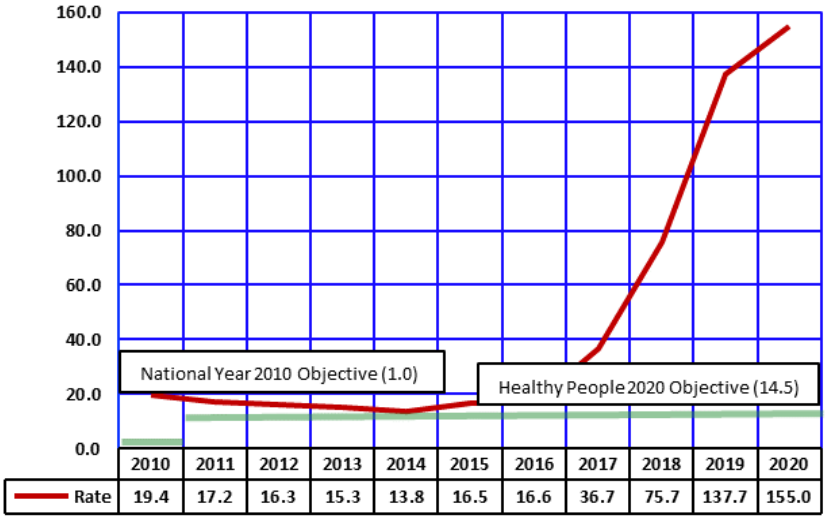
Notes: [a] Number of reported cases per 100,000 females; There was a change in target rate and age range for Healthy People 2020 objective. In National Year 2010 objective was for females aged 15-24 years. In Healthy People 2020 objective is for females aged 15-44 years.

Congenital syphilis is an infection caused by the spirochete *Treponema pallidum*, which can be passed from the mother to child during fetal development or birth. Not all infants born to infected women will be infected.

In 1988, CDC implemented a new Congenital syphilis case definition. It no longer relies on documentation of infection in the infant; rather, it presumes that an infant is infected if it cannot be proven that an infected mother was adequately treated for syphilis before or during pregnancy.

The *Healthy People 2020* goal for congenital syphilis is 14.5 cases per 100,000, which has been surpassed by Arizona in each year from 2010 to 2020, with sole exception of 2014. The Arizona incidence rates of congenital syphilis were for the most part below 20 cases per 100,000 infants, with exception to years prior 2010 and after 2016. In 2017, a sharp increase in the incidence was recorded (36.7/100,000), in 2018, the rate more than doubled at 75.7/100,000 and in 2020, the rate was the highest recorded during the 11-year period. (**Figure 3B-4**, **Table 6A-2**).

Figure 3B-4
Trends in the Incidence Rates[a] of Congenital Syphilis by Year, Arizona, 2010-2020



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Rate	19.4	17.2	16.3	15.3	13.8	16.5	16.6	36.7	75.7	137.7	155.0

TABLE 3B-1
NUMBER OF REPORTED CASES OF SEXUALLY TRANSMITTED DISEASES BY CATEGORY AND YEAR, ARIZONA, 2010-2020

Disease	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Gonorrhea	3,249	4,564	5,856	6,505	7,585	8,270	10,330	12,514	12,903	15,249	16,180
Gonococcal PID[a]	0	0	0	0	0	0	0	*	17	18	27
Resistant Gonorrhea[b]	0	0	0	0	*	0	0	0	0	0	0
Syphilis (P & S)[c]	230	274	204	290	572	590	721	943	1,052	1,297	1,442
Syphilis-Total[d]	904	907	795	966	1,434	1,482	1,903	2,424	3,258	4,044	4,428
Chlamydia	26,861	29,251	30,571	30,923	31,750	32,511	34,923	39,635	40,866	43,219	36,977

Notes: * Cell suppressed due to non-zero count less than 6; [a] PID is pelvic inflammatory disease; [b] Includes PPNG, penicillinase-producing Neisseria gonorrhoeae, a form of gonorrhea which is resistant to penicillin; [c] Primary and secondary syphilis only; [d] Early, late, congenital and other; since 2005, the table includes all positive laboratory results for chlamydia and gonorrhea with or without communicable disease report.

Source: Arizona Department of Health Services, Bureau of Epidemiology and Disease Control, Office of HIV / STD.

TABLE 3B-2
NUMBER OF DEATHS ASSOCIATED WITH SPECIFIED SEXUALLY TRANSMITTED DISEASES BY CATEGORY AND YEAR, ARIZONA, 2010-2020

Disease	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Gonococcal infections	0	0	0	0	0	0	0	0	0	0	0
Syphilis-Total	0	*	*	*	*	0	*	*	*	0	0

Notes: * Cell suppressed due to non-zero count less than 6; Number of deaths associated with Syphilis are still birth (congenital syphilis).

TABLE 3B-3
FREQUENCY OF REPORTED CASES OF GONORRHEA, CHLAMYDIA, AND EARLY SYPHILIS BY AGE AND GENDER, ARIZONA, 2020

Age group	GONORRHEA				CHLAMYDIA				EARLY SYPHILIS			
	Males	Females	Unknown or Transgender	Total	Males	Females	Unknown or Transgender	Total	Males	Females	Unknown or Transgender	Total
0-4	*	6	0	10†	*	7	0	10†	0	0	0	0
5-9	*	*	0	10†	0	*	0	0†	0	0	0	0
10-14	11	42	0	53	26	156	0	182	0	0	0	0
15-19	885	1,202	*	2,090	1,974	6,170	8	8,152	60	44	0	104
20-24	2,121	1,845	*	3,970	4,304	9,280	*	13,589	289	133	0	422
25-29	2,117	1,318	*	3,438	2,786	4,382	*	7,173	389	129	0	518
30-34	1,582	950	*	2,535	1,616	2,068	*	3,686	365	120	0	485
35-39	1,032	675	0	1,707	947	1,039	*	1,989	285	81	0	366
40-44	599	336	*	936	484	440	*	925	190	37	0	227
45-49	421	190	0	611	331	217	0	548	144	26	0	170
50-54	283	101	*	385	220	118	*	339	141	22	0	163
55-59	206	52	0	258	140	75	0	215	118	8	0	126
60-64	99	14	0	113	70	27	0	97	59	*	0	60†
65-over	60	10	0	70	51	18	0	69	36	0	0	36
Total	9,420†	6,740†	20†	16,180†	12,950†	24,000†	30†	36,980†	2,076	600†	0	2,679

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; since 2005, the table includes all positive laboratory results for chlamydia and gonorrhea with or without communicable disease report.

Source: Arizona Department of Health Services, Bureau of Epidemiology and Disease Control Services, Office of HIV / STD.

TABLE 3B-4
RATES[a] OF REPORTED CASES OF GONORRHEA, CHLAMYDIA, AND EARLY SYPHILIS BY AGE AND GENDER, ARIZONA, 2020

Age group	GONORRHEA			CHLAMYDIA			EARLY SYPHILIS		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
0-4	**	2.9	2.1	**	3.4	2.1	0.0	0.0	0.0
5-9	**	**	**	0.0	**	**	0.0	0.0	0.0
10-14	4.6	18.2	11.3	10.9	67.6	38.7	0.0	0.0	0.0
15-19	367.0	521.8	443.2	818.5	2678.6	1728.9	24.9	19.1	22.1
20-24	838.0	781.6	811.6	1700.4	3931.3	2778.0	114.2	56.3	86.3
25-29	785.3	529.3	663.0	1033.5	1759.8	1383.2	144.3	51.8	99.9
30-34	644.1	415.5	534.5	657.9	904.4	777.2	148.6	52.5	102.3
35-39	439.7	299.3	370.9	403.5	460.7	432.2	121.4	35.9	79.5
40-44	281.9	159.7	221.3	227.8	209.1	218.7	89.4	17.6	53.7
45-49	198.1	88.5	143.0	155.7	101.0	128.2	67.8	12.1	39.8
50-54	138.8	48.3	93.2	107.9	56.4	82.1	69.1	10.5	39.5
55-59	96.5	22.9	58.5	65.6	33.0	48.8	55.3	3.5	28.6
60-64	49.1	6.2	26.4	34.7	11.9	22.6	29.3	**	14.5
65-over	10.1	1.4	5.4	8.6	2.6	5.3	6.1	0.0	2.8
Total	264.2	186.8	225.5	363.2	664.7	515.3	58.2	16.7	37.3

Notes: ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; [a] Number of cases per 100,000 population; table includes all positive laboratory results for chlamydia and gonorrhea with or without communicable disease report in 2020; denominators for unknown or transgender category are not available; rates per 100,000 population.

Source: Arizona Department of Health Services, Bureau of Epidemiology and Disease Control Services, Office of HIV / STD.

TABLE 3B-5
FREQUENCY OF REPORTED CASES, PERCENT DISTRIBUTION AND RATES OF EARLY AND LATE SYPHILIS, GONORRHEA, AND CHLAMYDIA BY RACE/ETHNICITY, ARIZONA, 2020

Race/ethnicity	SYPHILIS						GONORRHEA						CHLAMYDIA		
	Early			Late			Resistant			Total					
	Cases	%	Rate	Cases	%	Rate	Cases	%	Rate	Cases	%	Rate	Cases	%	Rate
White Non-Hispanic	820	30.6	20.7	335	20.5	8.4	0	0.0	0.0	3,227	19.9	81.4	6,037	16.3	152.3
Black or African American	317	11.8	87.7	175	10.7	48.4	0	0.0	0.0	2,743	17.0	758.5	3,569	9.7	986.9
Hispanic or Latino	1,007	37.6	44.2	639	39.2	28.1	0	0.0	0.0	4,409	27.2	193.6	9,840	26.6	432.0
Asian or Pacific Islander	35	1.3	12.4	20	1.2	7.1	0	0.0	0.0	116	0.7	41.2	332	0.9	118.0
American Indian or Alaska Native	340	12.7	116.9	289	17.7	99.4	0	0.0	0.0	1,163	7.2	399.8	2,104	5.7	723.3
Multi-racial	45	1.7	N/A	37	2.3	N/A	0	0.0	0.0	265	1.6	N/A	382	1.0	N/A
Not Specified	115	4.3	N/A	136	8.3	N/A	0	0.0	N/A	4,257	26.3	N/A	14,713	39.8	N/A
Total	2,679	100.0	37.3	1,631	100.0	22.7	0	N/A	N/A	16,180	100.0	225.5	36,977	100.0	515.3

Notes: [a] Number of cases per 100,000 population; table includes all positive laboratory results for chlamydia and gonorrhea with or without communicable disease report in 2020; rates per 100,000 population.

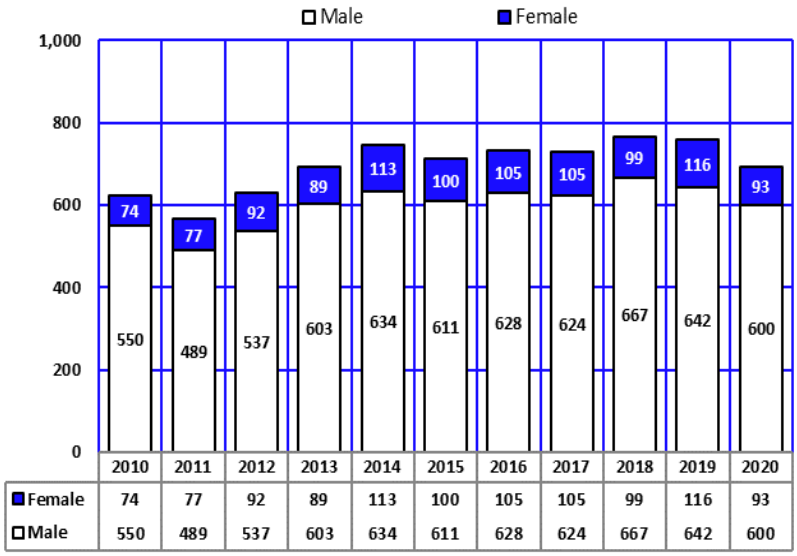
Source: Arizona Department of Health Services, Bureau of Epidemiology and Disease Control Services, Office of HIV / STD.

3C.

HUMAN IMMUNODEFICIENCY VIRUS (HIV) DISEASE AND ACQUIRED IMMUNODEFICIENCY SYNDROME (AIDS)

Statistics about the estimated incidence of Human Immunodeficiency Virus (HIV) disease and Acquired Immunodeficiency Syndrome (AIDS) for 1981-2020, as provided by the Office of HIV, STD, and Hepatitis Services, are available in Tables 3C-1, 3C-2, 3C-3, 3C-4, and 5F-3 of this report. In the past, the cases of persons previously reported as HIV positive and subsequently diagnosed with AIDS were not properly counted since these were not new cases, only a new diagnosis reflecting a progression of the disease. The data presented in this report are based on a revised approach adopted by the Office of HIV/AIDS Services. The estimated incidence of HIV/AIDS includes the sum of new HIV cases and new AIDS cases, which were not diagnosed as HIV positive in any prior calendar year. The cases of persons who were diagnosed with both HIV and AIDS in the same calendar year are counted only as AIDS to avoid double counting.

Figure 3C-1
Reported Cases of HIV/AIDS by Gender and Year of Diagnosis, Arizona, 2010-2020



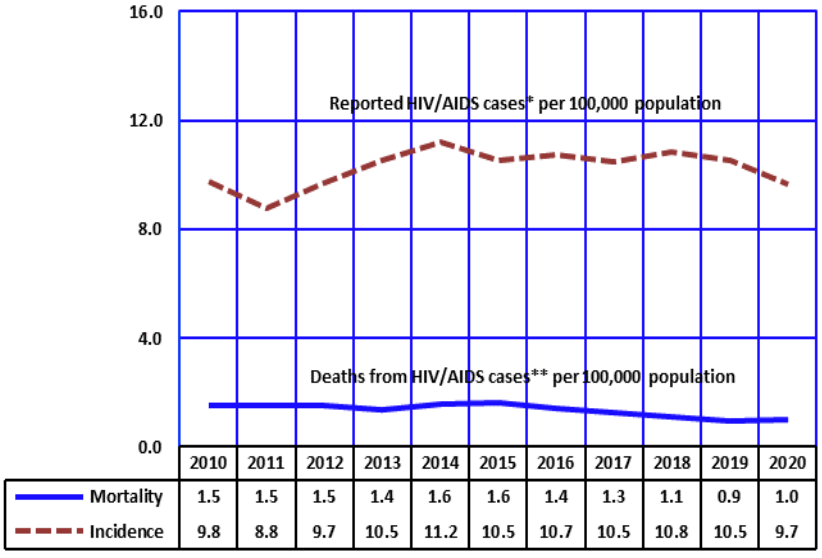
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Female	74	77	92	89	113	100	105	105	99	116	93
Male	550	489	537	603	634	611	628	624	667	642	600

Since the first case of AIDS diagnosed in an Arizona resident in 1981, a total of 25,656 cases of HIV/AIDS had been diagnosed in the State by the end of 2020 and reported by July 1, 2020 (**Table 3C-1**).

In 2020, males accounted for 86.6 percent of all *HIV/AIDS* diagnoses. The male-to-female ratio of *HIV/AIDS* diagnoses in Arizona in 2020 was 6.5:1 (600/93; **Figure 3C-1**, **Table 3C-2**).

The proportion of risk behaviors attributed to emerging cases of HIV/AIDS in 2020 remained similar to previous years. Of the 693 *HIV/AIDS* cases diagnosed in 2020, 393 were among men who reported sexual contact with other men (**Table 3C-4**). Another 42 reported heterosexual contact. An additional 44 reported only injecting drugs. Adults without an indicated risk accounted for 165 of HIV/AIDS cases diagnosed in 2020.

Figure 3C-2
Trends in the Incidence Rates of HIV/AIDS and Mortality Rates for HIV Disease by Year, Arizona, 2010-2020



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Mortality	1.5	1.5	1.5	1.4	1.6	1.6	1.4	1.3	1.1	0.9	1.0
Incidence	9.8	8.8	9.7	10.5	11.2	10.5	10.7	10.5	10.8	10.5	9.7

Notes: *By year of diagnosis; **By year of death.

The incidence rate measures the relative risk for HIV/AIDS in a population. The incidence rate of HIV/AIDS has decreased in Arizona by 1.0 percent from 9.8 cases per 100,000 population in 2010 to 9.7/100,000 in 2020 (**Figure 3C-2**; the incidence rates for 2010 – 2020 have been re-computed based on the latest volume of the HIV/AIDS data as of 8/3/2021).

The rate of deaths from *HIV disease* remained unchanged from 2014 to 2015, then decreased slightly at 1.4 deaths per 100,000 population in 2016 to 1.1 in 2018, and 1.0 in 2020 (**Figure 3C-2**).

Of the 693 *HIV/AIDS* cases diagnosed in 2020, 245 were White non-Hispanic, 279 were Hispanic, 101 were Black, 38 were American Indian, and 19 were Asian or Pacific Islander (**Table 3C-3**).

TABLE 3C-1
FREQUENCY DISTRIBUTION OF HIV/AIDS BY AGE AT DIAGNOSIS, ARIZONA, 1981-2020

Age Group (years)	HIV/AIDS cases
Under 5	131
5-12	63
13-19	640
20-29	7,852
30-39	8,913
40-49	5,230
50 or above	2,809
Missing	18
Total	25,656

TABLE 3C-2
HIV/AIDS CASES AND DEATHS BY YEAR OF DIAGNOSIS AND GENDER, ARIZONA, 1981-2009 and 2010-2020

	1981-2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
# Males	15,812	550	489	537	603	634	611	628	624	667	642	600
# Females	2,196	74	77	92	89	113	100	105	105	99	116	93
# Total	18,008	624	566	629	692	747	711	733	729	766	758	693
# Presumed Living	9,607	524	492	547	624	690	648	679	681	739	733	668
# Known dead	8,401	100	74	82	68	57	63	54	48	27	25	25
% Mortality	**46.7**	**16.0**	**13.1**	**13.0**	**9.8**	**7.6**	**8.9**	**7.4**	**6.6**	**3.5**	**3.3**	**3.6**

Note: Due to reporting delays, all numbers are provisional (2020 volume as of 08/03/2021).

Source: Arizona Department of Health Services, Bureau of Epidemiology and Disease Control, Office of HIV/AIDS Services.

TABLE 3C-3
DISTRIBUTION OF REPORTED HIV/AIDS CASES BY YEAR OF DIAGNOSIS AND RACE/ETHNICITY, ARIZONA, 1981-2009 AND 2010-2020

Race/ethnicity	1981-2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
White non-Hispanic	10,785	306	227	245	273	265	245	247	248	245	247	245
Black or African American non-Hispanic	1,726	59	75	101	112	130	129	137	115	130	129	101
Hispanic or Latino all races	4,411	203	202	212	242	269	253	276	295	322	321	279
Asian or Pacific Islander non-Hispanic	139	10	16	16	9	17	23	16	22	20	14	19
American Indian or Alaska Native non-Hispanic	591	34	41	44	46	56	51	53	46	42	39	38
Two or more races/ other or unknown race	356	12	*	11	10	10	10	*	*	7	8	11
Total	18,008	624	570†	629	692	747	711	730†	730†	766	758	693

Note: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; Due to reporting delays, all numbers are provisional (2020 volume as of 08/03/2021).

TABLE 3C-4
DISTRIBUTION OF REPORTED HIV/AIDS CASES BY YEAR OF DIAGNOSIS AND TRANSMISSION CATEGORY, ARIZONA, 1981-2009 AND 2010-2020

Transmission	1981-2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
MSM	10,590	392	335	367	425	469	418	447	449	489	442	393
IV Drug User (IDU)	2,310	43	55	52	52	54	52	54	35	48	50	44
MSM/IDU	1,933	45	36	37	35	42	51	32	40	34	44	47
Hemophiliac (Adult)	82	0	0	0	0	0	0	0	0	0	0	0
Heterosexual Contact	1,579	66	80	99	71	76	79	64	63	51	66	42
Transfusion/transplant (Adult)	125	0	0	0	0	0	0	0	0	0	0	0
No indicated risk (Adult)	1,233	76	59	66	103	102	105	134	138	137	153	165
Pediatric Hemophiliac	17	0	0	0	0	0	0	0	0	0	0	0
Pediatric transfusion/transplant	*	0	0	0	0	0	0	0	0	0	0	0
Mother HIV+	127	*	*	8	*	*	*	*	*	7	*	*
Pediatric (no indicated risk)	9	0	0	0	*	*	*	0	*	0	0	0
Total	18,010†	620†	570†	629	690†	750†	710†	730†	730†	766	760†	690†

Note: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; Due to reporting delays, all numbers are provisional (2020 volume as of 08/03/2021).

Source: Arizona Department of Health Services, Bureau of Epidemiology and Disease Control, Office of HIV/AIDS Services.

CHAPTER 4

HOSPITAL INPATIENT DISCHARGES AND EMERGENCY ROOM VISITS:

2020 STATUS

4A. INPATIENT DISCHARGES FROM SHORT-STAY HOSPITALS BY FIRST-LISTED DIAGNOSIS AND PATIENT CHARACTERISTICS

4B. INPATIENT DISCHARGES FROM SHORT-STAY HOSPITALS BY ALL-LISTED PROCEDURES AND PATIENT CHARACTERISTICS

4C. CHARACTERISTICS OF EMERGENCY ROOM VISITS BY DISEASE CATEGORY, DIAGNOSIS GROUP, AND AGE GROUP

4D. INJURY-RELATED INPATIENT DISCHARGES AND EMERGENCY ROOM VISITS BY INTENT AND MECHANISM OF INJURY

4A.

INPATIENT DISCHARGES FROM SHORT STAY HOSPITALS BY FIRST-LISTED DIAGNOSIS AND PATIENT CHARACTERISTICS

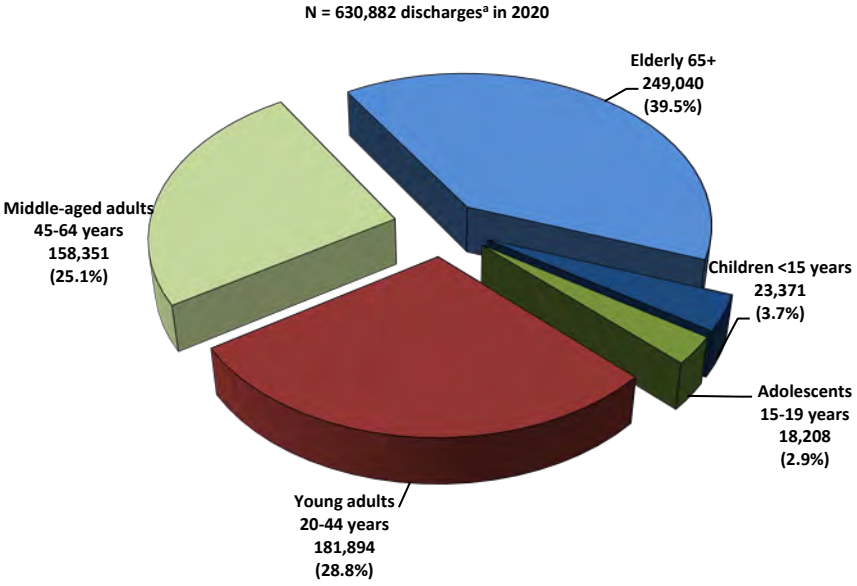
An inpatient discharge occurs when a person who was admitted to a hospital leaves that hospital. A person who has been hospitalized more than once in a given calendar year will be counted multiple times as a discharge; thus, the numbers in this report are for discharges, not persons. Federal, military, and Department of Veteran Affairs' hospitals are excluded. Beginning in 2010, the psychiatric hospitals also are required to report to the Arizona Department of Health Services. All discharges are for residents of Arizona. Discharges of out-of-state residents are not included in this report. Discharges of inpatients in this report exclude newborn infants.

Beginning in 2016, diagnostic groupings and code numbers are based solely on the International Classification of Diseases and Related Problems, 10th Revision, Clinical Modification (ICD-10-CM). ICD-10-CM incorporates greater details about medical diagnosis and represents a substantial increase in number of diagnostic codes, with more than 69,000 codes compared with about 14,000 under ICD-9-CM. Due to fundamental changes in the coding system caution should be exercised in comparing current inpatient data to that of years prior 2016. For further explanation of this new coding system, please refer to "The Implementation of the International Classification of Disease, Tenth Revision".

The change in the Arizona reporting requirements increased the number of diagnoses that are coded for each discharge from nine to twenty-five. In this section, discharges are presented by principal diagnosis, which is the first one listed on the discharge summary of the medical record. The number of first-listed diagnoses is the same as the number of discharges. For comparability with the national data*, the discharge rates are presented per 10,000 population. The groupings of ICD-9-CM and ICD-10-CM codes used to identify specific diagnostic categories can be accessed at:
http://pub.azdhs.gov/health-stats/hip/cat/icd9-10primary.xlsx.

*Findings of the National Hospital Discharge Survey are available in bound reports of the National Center for Health Statistics and online at http://www.cdc.gov/nchs/nhds.htm

Figure 4A-1
Hospital Inpatient Discharges[a] by Age Group, Arizona Residents, 2020

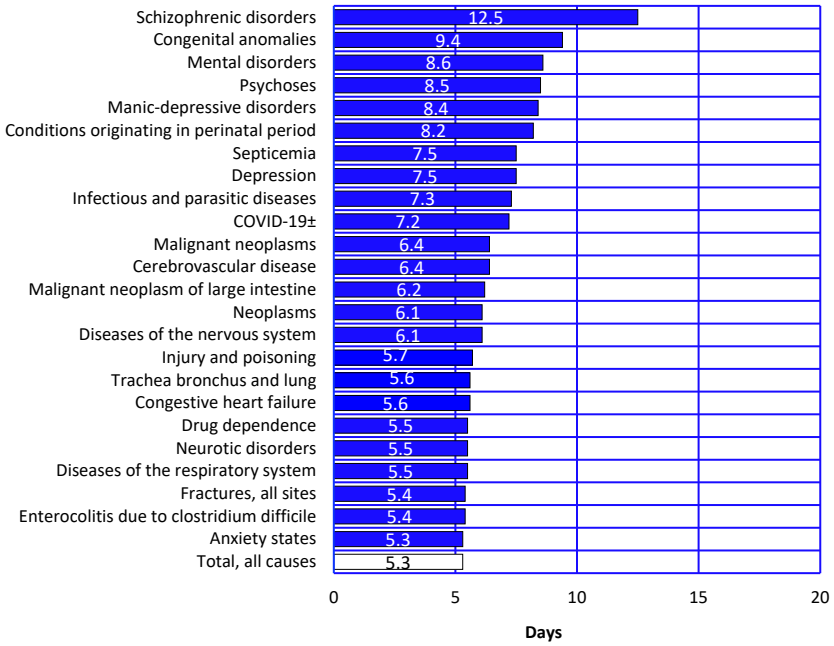


Note: [a] Excluding newborn infants.

In 2020, there were 630,882 inpatients discharged, excluding newborn infants, from non-Federal short stay hospitals in Arizona (**Table 4A-1**). Patients who were elderly (65 years or older) accounted for 39.5 percent of hospital discharges (**Figure 4A-1**), followed by young adults (20-44 years old) who comprised 28.8 percent of discharges, and middle-aged adults (45-64 years old) with 25.1 percent of all inpatient discharges.

Diseases of the circulatory system were the most common diagnoses (13.6 percent of all discharges), followed by *mental disorders* (10.9 percent), and *injury and poisoning* diagnoses (9.9 percent; percentages based on data in **Table 4A-1**).

Figure 4A-2
Average Length of Hospital Stay for Discharges[a] with Selected First-listed Diagnosis, Arizona Residents, 2020



Notes: [a] Excluding newborn infants; ± The collection of COVID-19 data began in mid-March 2020.

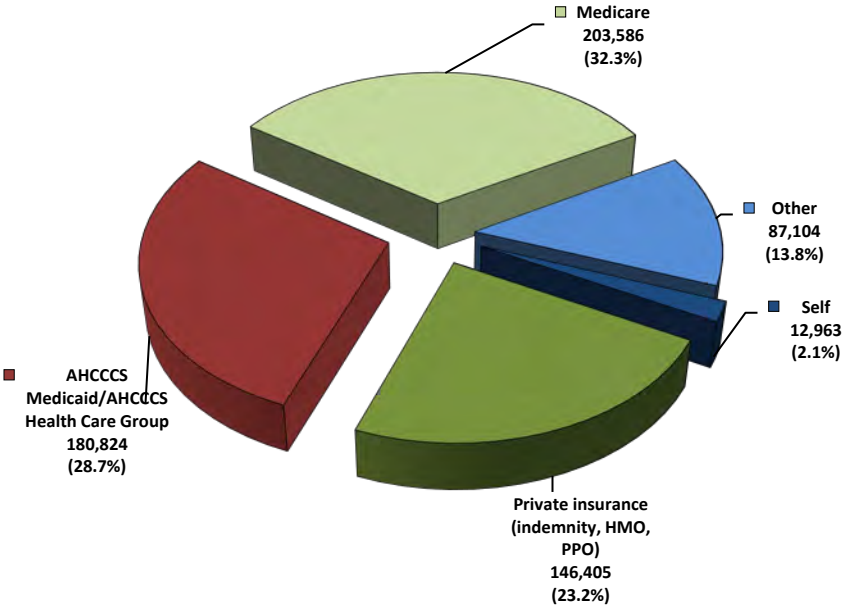
Based on the data from the National Hospital Discharge Survey, the longest continuously running nationally representative survey of hospital utilization, the length of stay for inpatients has changed dramatically from 1970 through 2010. In 1970, the average length of stay was 7.8 days, with one-third of patients hospitalized for 8 days or more. In 2010, the average length of stay nationally was 4.8 days.

In 2020, the average length of hospital stay for Arizona inpatients was 5.3 days (**Figure 4A-2**, **Table 4A-5**).

The top five conditions with the longest length of inpatient stay was: *Schizophrenic disorders* (12.5 days), *congenital anomalies* (9.4 days), *mental disorders* (8.6 days), *psychoses* (8.5 days), and *manic-depressive disorders* (8.4 days).

Medicare paid for 32.3 percent of all discharges (**Figure 4A-3**) and 69.0 percent of inpatient discharges of persons aged 65 years or older (**Table 4A-4**). The Arizona Health Care Cost Containment System (AHCCCS; the State's Medicaid Program) was the second most frequently recorded expected source of payment, accounting for 28.7 percent of inpatient discharges. Private insurance accounted for 23.2 percent of hospital inpatient discharges.

Figure 4A-3
Hospital Inpatient Discharges by Payer, Arizona Residents, 2020



Note: The Arizona Health Care Cost Containment System is the State's Medicaid Program.

The rhythm of hospital births by day of the week (see **Figure 1B-14**) reveals that the daily average of resident live births in 2020 was substantially lower on weekends than on weekdays. The same pattern applies to hospital inpatient admissions excluding newborn infants (**Figure 4A-4**).

Figure 4A-4
Percent of Hospital Inpatient Admissions by Day of the Week, Arizona Residents, 2020

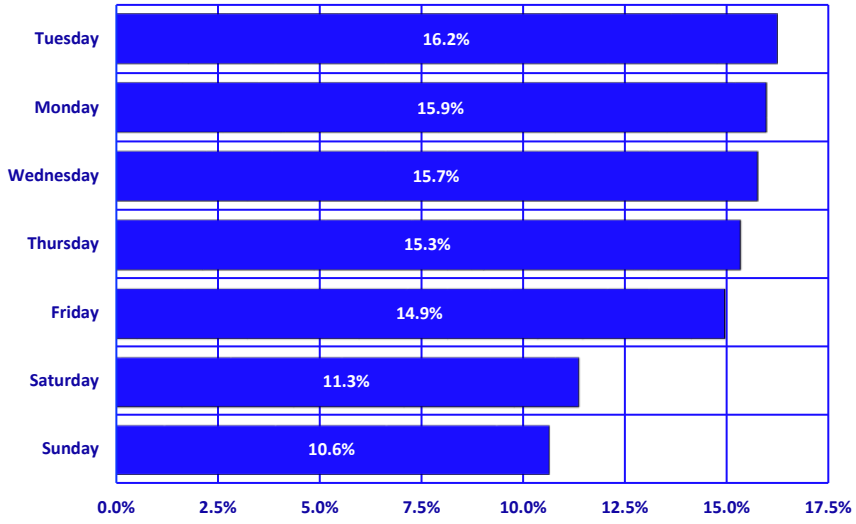
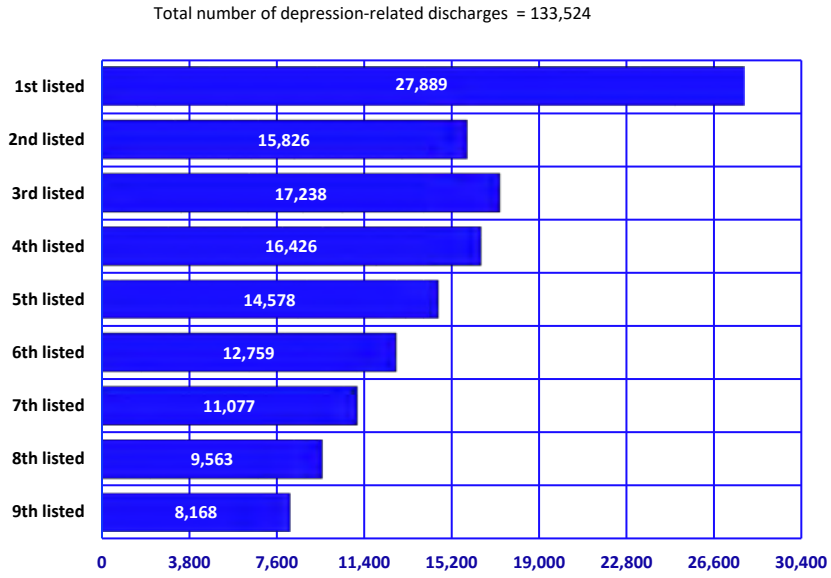


Figure 4A-5
Number of Depression-Related Inpatient Discharges and Emergency Room Visits of Arizona Residents, 2020

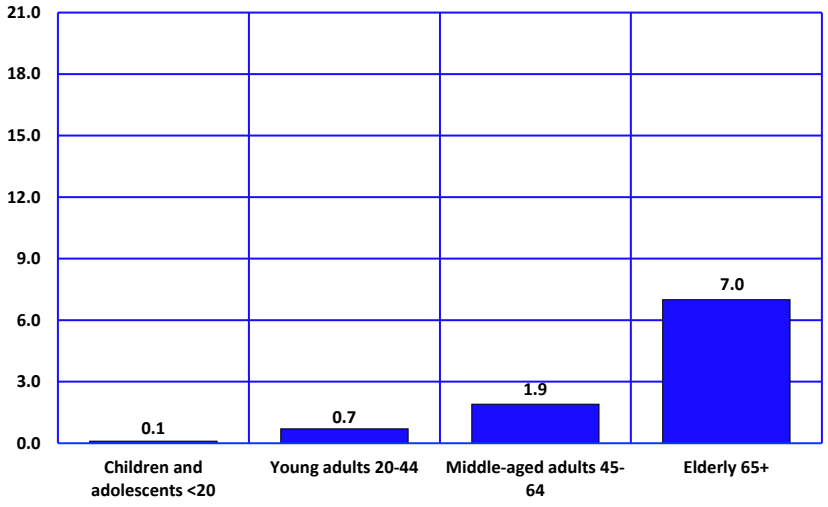


In 2020, *depression* accounted for 23,495 inpatient discharges and 4,394 emergency room visits as the first-listed diagnosis (for a total of 27,889 hospital encounters; **Figure 4A-5, Table 4A-1, Table 7C-1**).

The extent to which the first-listed diagnosis is the principal reason for hospitalization ought not to be overestimated. More often than not, the first-listed diagnosis is the immediate, but not necessarily the underlying cause of hospitalization.

However, when we count all entries of this code within the first nine diagnostic fields, depression was mentioned on 133,524 inpatient discharges and emergency room records (**Figure 4A-5**).

Figure 4A-6
Inpatient Hospitalization Rates for Enterocolitis due to *Clostridium difficile* By Age Group, Arizona Residents, 2020



Note: Number of visits per 10,000 population

In 2020, 1,402 Arizonans were hospitalized with the diagnosis of enterocolitis due to *Clostridium difficile*, a bacterial inflammation of the intestines (**Table 4A-1**). The disease is of growing public health concern because it is often acquired in hospitals and other health care institutions with long-term patients as residents.

The hospitalization rates associated with enterocolitis due to *Clostridium difficile* tend to increase with age. The rate for the elderly 65 years or older (7.0/10,000) was the highest of all age groups (**Figure 4A-6**).

In 2020, 116 Arizonans died from enterocolitis due to *Clostridium difficile.* Elderly 65 years or older accounted for 82.8 percent of these deaths (**Table 2C-27**).

TABLE 4A-1
NUMBER OF DISCHARGES[a] BY FIRST-LISTED DIAGNOSIS AND AGE GROUP, ARIZONA, 2020

Category of first-listed diagnosis	Total	Age group					
		Children <15 years	Adoles-cents 15-19 years	Young adults 20-44 years	Middle-aged adults 45-64 years	Elderly 65+ years	Unknown
All categories	630,882	23,371	18,208	181,894	158,351	249,040	18
Infectious and parasitic diseases	62,789	810	518	11,373	19,735	30,349	*
Septicemia	57,371	395	418	10,268	18,259	28,027	*
Enterocolitis due to *Clostridium difficile*	1,400†	12	*	154	325	908	0
Neoplasms	20,027	417	156	2,092	6,864	10,498	0
Malignant neoplasms	16,835	336	107	1,322	5,705	9,365	0
Large intestine	2,240†	0	*	136	844	1,255	0
Prostate	750†	0	0	*	328	419	0
Trachea bronchus and lung	2,076	10	6	59	585	1,416	0
Breast	710†	0	*	147	349	212	0
Benign neoplasms	2,533	59	32	674	988	780	0
Endocrine nutritional metabolic and immunity diseases	26,807	1,095	505	6,622	9,625	8,959	*
Diabetes mellitus	13,233	488	332	3,546	5,139	3,728	0
Volume depletion	1,242	192	23	118	237	672	0
Morbid obesity	3,070†	*	15	1,543	1,310	199	0
Diseases of the blood and blood forming organs	5,218	520	187	1,038	1,153	2,320	0
Mental disorders	68,942	4,225	7,646	35,630	16,753	4,687	*
Psychoses	42,610	1,548	3,595	22,660	11,628	3,178	*
Alcoholic psychoses	6,010†	*	12	2,720	2,728	552	0
Drug psychoses	837	6	69	553	188	21	0
Schizophrenic disorders	9,426	16	246	5,977	2,882	305	0
Manic-depressive disorders	38,765	3,591	6,239	19,121	7,735	2,079	0
Neurotic disorders	15,529	897	1,192	6,954	5,117	1,369	0
Anxiety states	742	61	98	292	181	110	0
Depression	23,495	2,143	3,846	11,602	4,494	1,410	0
Drug dependence	2,680†	*	232	2,009	351	84	0
Nondependent abuse of drugs	310†	*	14	167	101	25	0
Alcohol dependence	8,100†	*	18	3,741	3,611	724	0
Diseases of the nervous system	14,598	1,075	398	2,753	3,825	6,546	*
Diseases of the eye and adnexa	488	44	17	103	153	171	0
Diseases of the ear and mastoid process	453	64	19	62	106	202	0
Diseases of the circulatory system	85,513	244	150	5,166	23,772	56,180	*
Heart disease	56,081	129	87	3,117	15,511	37,237	0
Acute myocardial infarction	11,054	0	0	495	3,868	6,691	0
Coronary artherosclerosis	4,380†	*	*	93	1,382	2,907	0

TABLE 4A-1 (continued)
NUMBER OF DISCHARGES[a] BY FIRST-LISTED DIAGNOSIS AND AGE GROUP, ARIZONA, 2020

Category of first-listed diagnosis	Total	Age group					
		Children <15 years	Adoles-cents 15-19 years	Young adults 20-44 years	Middle-aged adults 45-64 years	Elderly 65+ years	Unknown
Other ischemic heart disease	380†	0	*	37	134	205	0
Cardiac dysrythmias	11,196	56	32	519	2,440	8,149	0
Cardiac arrest	310†	6	*	46	109	140	0
Congestive heart failure	1,990†	21	*	235	612	1,118	0
Cerebrovascular diseases	19,882	48	26	952	5,275	13,581	0
Diseases of the respiratory system	40,170	4,652	517	3,928	10,256	20,817	0
Acute bronchitis and bronchiolitis	1,790†	1,237	*	87	144	317	0
Pneumonia	12,221	502	104	1,095	3,104	7,416	0
COVID-19[‡]	24,961	190	117	3,715	8,657	12,282	0
Chronic bronchitis	4,440†	*	0	71	1,551	2,814	0
Asthma	1,798	372	56	593	480	297	0
Diseases of the digestive system	53,460	1,554	757	10,984	17,510	22,655	0
Appendicitis	2,427	635	163	602	582	445	0
Noninfectious enteritis and colitis	4,408	133	120	978	1,236	1,941	0
Diverticula of intestine	4,440†	*	*	596	1,427	2,413	0
Cholelithiasis	2,733	19	51	726	803	1,134	0
Diseases of the genitourinary system	22,985	693	325	3,574	6,197	12,196	0
Calculus of kidney and ureter	390†	*	10	99	121	157	0
Diseases of the skin and subcutaneous tissue	10,298	536	137	2,573	3,548	3,504	0
Cellulitis and abscess	6,642	239	51	1,469	2,347	2,536	0
Diseases of the musculoskeletal system	31,454	548	334	2,621	9,965	17,986	0
Osteoarthrosis and allied disorders	11,820†	*	*	167	3,583	8,070	0
Invertebral disc disorders	2,410†	0	*	412	961	1,033	0
Congenital anomalies	1,955	1,177	151	213	246	168	0
Conditions originating in perinatal period	1,927	1,927	0	0	0	0	0
Symptoms signs and ill-defined conditions	10,761	823	212	1,482	2,698	5,545	*
Injury and poisoning	62,659	2,030	1,687	12,200	15,436	31,297	9
Fractures, all sites	20,660	376	326	2,875	3,676	13,407	0
Fracture of neck of femur	7,338	17	7	142	761	6,411	0
Poisonings	4,987	342	583	2,037	1,258	764	*

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [‡] The collection of COVID-19 data began in mid March 2020; [a] Excluding newborn infants.

TABLE 4A-2
NUMBER OF DISCHARGES[a] BY FIRST-LISTED DIAGNOSIS AND GENDER, ARIZONA, 2020

Category of first-listed diagnosis	Total	Patient's gender		
		Male	Female	Unknown
All categories	630,882	288,460	342,401	21
Infectious and parasitic diseases	62,789	33,026	29,762	*
Septicemia	57,371	30,488	26,882	*
Enterocolitis due to *Clostridium difficile*	1,402	517	885	0
Neoplasms	20,027	10,162	9,865	0
Malignant neoplasms	16,835	9,145	7,690	0
Large intestine	2,236	1,174	1,062	0
Prostate	749	749	0	0
Trachea bronchus and lung	2,076	990	1,086	0
Breast	713	35	678	0
Benign neoplasms	2,533	679	1,854	0
Endocrine nutritional metabolic and immunity diseases	26,807	13,163	13,644	0
Diabetes mellitus	13,233	7,994	5,239	0
Volume depletion	1,242	623	619	0
Morbid obesity	3,068	560	2,508	0
Diseases of the blood and blood forming organs	5,218	2,424	2,794	0
Mental disorders	68,942	39,089	29,849	*
Psychoses	42,610	25,041	17,567	*
Alcoholic psychoses	6,013	4,408	1,605	0
Drug psychoses	837	582	255	0
Schizophrenic disorders	9,426	6,163	3,262	*
Manic-depressive disorders	38,765	19,360	19,402	*
Neurotic disorders	15,529	9,531	5,998	0
Anxiety states	742	320	422	0
Depression	23,495	11,850	11,643	*
Drug dependence	2,680	1,852	828	0
Nondependent abuse of drugs	308	203	105	0
Alcohol dependence	8,095	5,874	2,221	0
Diseases of the nervous system	14,598	7,184	7,414	0
Diseases of the eye and adnexa	488	242	246	0
Diseases of the ear and mastoid process	453	204	249	0
Diseases of the circulatory system	85,513	48,869	36,644	0
Heart disease	56,081	33,066	23,015	0
Acute myocardial infarction	11,054	7,221	3,833	0
Coronary artherosclerosis	4,384	3,148	1,236	0

TABLE 4A-2 (continued)
NUMBER OF DISCHARGES[a] BY FIRST-LISTED DIAGNOSIS AND GENDER, ARIZONA, 2020

Category of first-listed diagnosis	Total	Patient's gender		
		Male	Female	Unknown
Other ischemic heart disease	377	227	150	0
Cardiac dysrythmias	11,196	6,115	5,081	0
Cardiac arrest	306	191	115	0
Congestive heart failure	1,989	1,185	804	0
Cerebrovascular diseases	19,882	10,448	9,434	0
Diseases of the respiratory system	40,170	19,999	20,169	*
Acute bronchitis and bronchiolitis	1,786	935	851	0
Pneumonia	12,221	5,958	6,262	*
COVID-19[±]	24,961	13,178	11,781	*
Chronic bronchitis	4,438	1,989	2,449	0
Asthma	1,798	662	1,136	0
Diseases of the digestive system	53,460	25,769	27,691	0
Appendicitis	2,427	1,358	1,069	0
Noninfectious enteritis and colitis	4,408	1,712	2,696	0
Diverticula of intestine	4,438	2,010	2,428	0
Cholelithiasis	2,733	1,132	1,601	0
Diseases of the genitourinary system	22,985	10,649	12,336	0
Calculus of kidney and ureter	389	181	208	0
Diseases of the skin and subcutaneous tissue	10,298	5,797	4,501	0
Cellulitis and abscess	6,642	3,794	2,848	0
Diseases of the musculoskeletal system	31,454	14,916	16,538	0
Osteoarthrosis and allied disorders	11,822	5,106	6,716	0
Invertebral disc disorders	2,411	1,212	1,199	0
Congenital anomalies	1,955	1,135	820	0
Conditions originating in perinatal period	1,927	1,099	828	0
Symptoms signs and ill-defined conditions	10,761	5,410	5,351	0
Injury and poisoning	62,659	32,632	30,017	10
Fractures, all sites	20,660	9,000	11,657	*
Fracture of neck of femur	7,338	2,528	4,810	0
Poisonings	4,987	2,411	2,576	0

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [±] The collection of COVID-19 data began in mid March 2020; [a] Excluding newborn infants.

TABLE 4A-3
NUMBER OF DISCHARGES[a] BY FIRST-LISTED DIAGNOSIS AND RACE/ETHNICITY, ARIZONA, 2020

Category of first-listed diagnosis	Total	Race/ethnicity					
		White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander	Refused/Unknown
Total	630,882	422,249	122,466	36,596	29,993	12,999	6,579
Infectious and parasitic diseases	62,789	40,716	13,371	3,226	3,566	1,358	552
Septicemia	57,371	37,074	12,408	2,832	3,325	1,220	512
Enterocolitis due to *Clostridium difficile*	1,402	1,086	175	59	51	25	6
Neoplasms	20,027	14,727	3,112	931	449	550	258
Malignant neoplasms	16,835	12,651	2,524	661	355	448	196
Large intestine	2,236	1,710	324	84	44	53	21
Prostate	750†	558	113	52	*	8	13
Trachea bronchus and lung	2,076	1,697	207	85	17	53	17
Breast	713	508	111	48	17	22	7
Benign neoplasms	2,533	1,598	485	238	69	89	54
Endocrine nutritional metabolic and immunity diseases	26,807	16,277	5,869	2,055	1,890	479	237
Diabetes mellitus	13,233	7,418	3,098	1,138	1,254	208	117
Volume depletion	1,242	908	193	65	51	21	*
Morbid obesity	3,068	1,831	829	300	26	47	35
Diseases of the blood and blood forming organs	5,218	3,132	892	831	191	131	41
Mental disorders	68,942	45,766	11,471	5,816	4,237	1,174	478
Psychoses	42,610	28,648	6,886	3,541	2,559	739	237
Alcoholic psychoses	6,013	4,445	661	196	638	58	15
Drug psychoses	837	501	191	88	39	8	10
Schizophrenic disorders	9,426	5,593	1,706	1,426	449	199	53
Manic-depressive disorders	38,765	26,349	6,270	2,926	2,257	665	298
Neurotic disorders	15,529	10,865	2,234	791	1,368	173	98
Anxiety states	742	541	128	36	24	9	*
Depression	23,495	15,617	4,000	1,572	1,693	404	209
Drug dependence	2,680	1,654	713	152	91	63	7
Nondependent abuse of drugs	308	216	42	13	36	0	*
Alcohol dependence	8,095	5,938	885	277	882	90	23
Diseases of the nervous system	14,598	10,500	2,165	879	603	247	204
Diseases of the eye and adnexa	488	316	84	33	30	15	10
Diseases of the ear and mastoid process	453	311	90	11	24	9	8
Diseases of the circulatory system	85,513	65,595	10,529	4,603	2,306	1,437	1,043
Heart disease	56,081	43,480	6,810	2,827	1,466	882	616
Acute myocardial infarction	11,054	8,419	1,535	413	293	192	202
Coronary artherosclerosis	4,384	3,546	501	108	82	104	43

TABLE 4A-3 (continued)
NUMBER OF DISCHARGES[a] BY FIRST-LISTED DIAGNOSIS AND RACE/ETHNICITY, ARIZONA, 2020

Category of first-listed diagnosis	Total	Race/ethnicity					
		White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander	Refused /Unknown
Other ischemic heart disease	377	266	64	23	14	8	*
Cardiac dysrythmias	11,196	9,387	982	360	205	139	123
Cardiac arrest	310†	192	50	28	23	*	10
Congestive heart failure	1,989	1,526	252	89	78	24	20
Cerebrovascular diseases	19,882	15,266	2,390	1,030	484	364	348
Diseases of the respiratory system	40,170	29,143	6,063	2,197	1,734	707	326
Acute bronchitis and bronchiolitis	1,786	1,036	493	93	117	34	13
Pneumonia	12,221	9,199	1,623	517	550	223	109
COVID-19[±]	24,961	12,922	7,695	1,095	2,313	568	368
Chronic bronchitis	4,438	3,810	308	219	41	39	21
Asthma	1,798	969	415	282	77	42	13
Diseases of the digestive system	53,460	37,086	9,573	2,336	3,114	863	488
Appendicitis	2,427	1,405	740	74	121	42	45
Noninfectious enteritis and colitis	4,408	3,428	537	250	79	79	35
Diverticula of intestine	4,438	3,431	639	145	131	46	46
Cholelithiasis	2,733	1,749	641	86	191	47	19
Diseases of the genitourinary system	22,985	16,180	4,006	1,272	967	393	167
Calculus of kidney and ureter	389	299	54	7	14	11	*
Diseases of the skin and subcutaneous tissue	10,298	7,140	1,714	497	739	119	89
Cellulitis and abscess	6,642	4,881	975	241	427	64	54
Diseases of the musculoskeletal system	31,454	25,202	3,212	1,201	854	645	340
Osteoarthrosis and allied disorders	11,822	10,126	787	312	146	317	134
Invertebral disc disorders	2,411	1,965	236	82	63	40	25
Congenital anomalies	1,955	1,121	569	78	69	67	51
Conditions originating in perinatal period	1,927	961	607	102	110	60	87
Symptoms signs and ill-defined conditions	10,761	7,835	1,530	604	459	197	136
Injury and poisoning	62,659	45,381	9,591	2,873	3,120	921	773
Fractures, all sites	20,660	16,444	2,484	537	744	204	247
Fracture of neck of femur	7,338	6,371	594	106	130	61	76
Poisonings	4,987	3,178	1,047	374	248	54	86

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [±] The collection of COVID-19 data began in mid March 2020; [a] Excluding newborn infants.

TABLE 4A-4
NUMBER OF DISCHARGES[a] BY PRIMARY PAYER, GENDER, AGE GROUP, RACE/ETHNICITY, AND MARITAL STATUS, ARIZONA, 2020

Selected characteristics		Total	Self-pay	Private insurance (indemnity, HMO, PPO)	AHCCCS/ Medicaid	Medicare	Other
Total		630,882	12,963	146,405	180,824	203,586	87,104
Gender	**Male**	288,460	6,757	57,885	79,403	101,085	43,330
	Female	342,401	6,202	88,515	101,414	102,499	43,771
	Unknown	20†	*	*	7	*	*
Age group	**Children <15 years**	23,371	508	7,676	14,419	30	738
	Adolescents 15-19 years	18,208	412	6,041	11,121	51	583
	Young adults 20-44 years	181,894	6,601	64,869	93,807	7,131	9,486
	Middle-aged adults 45-64 years	158,351	4,765	53,084	57,321	24,471	18,710
	Elderly 65+ years	249,040	659	14,735	4,156	171,903	57,587
	Unknown	18	18	0	0	0	0
Race/ethnicity	**White non-Hispanic**	422,249	7,256	102,518	83,569	162,354	66,552
	Hispanic or Latino	122,466	3,903	26,104	59,320	21,375	11,764
	Black or African American	36,596	849	7,523	16,440	7,604	4,180
	American Indian or Alaska Native	29,993	459	3,709	16,222	7,347	2,256
	Asian or Pacific Islander	12,999	286	4,607	3,434	3,222	1,450
	Refused/Unknown	6,579	210	1,944	1,839	1,684	902
Patient's marital status	**Single**	257,492	6,982	55,536	127,261	43,369	24,344
	Married	251,228	4,621	78,151	33,252	97,151	38,053
	Separated	4,789	122	747	2,034	1,218	668
	Divorced	50,295	685	7,509	12,450	19,864	9,787
	Widowed	60,648	260	3,184	3,540	40,279	13,385
	Not Applicable	40†	*	9	24	0	*
	Unknown	6,393	290	1,269	2,263	1,705	866

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Excluding newborn infants.

TABLE 4A-5
AVERAGE LENGTH OF STAY FOR DISCHARGES[a] BY FIRST-LISTED DIAGNOSIS AND AGE GROUP, ARIZONA, 2020

Category of first–listed diagnosis	All ages	Patient's age group					
		Children <15 years	Adoles-cents 15-19 years	Young adults 20-44 years	Middle-aged adults 45-64 years	Elderly 65+ years	Unknown
All conditions	5.3	6.4	6.2	4.4	5.8	5.5	1.2
Infectious and parasitic diseases	7.3	5.8	6.0	6.5	8.1	7.2	3.3
Septicemia	7.5	8.0	6.2	6.6	8.2	7.3	3.3
Enterocolitis due to *Clostridium difficile*	5.4	9.5	4.3	4.1	5.2	5.6	0.0
Neoplasms	6.1	10.5	10.3	5.8	5.9	6.0	0.0
Malignant neoplasms	6.4	11.7	12.8	7.3	6.2	6.2	0.0
Large intestine	6.2	0.0	17.0	5.4	5.8	6.5	0.0
Prostate	2.3	0.0	0.0	2.0	2.0	2.6	0.0
Trachea bronchus and lung	5.6	3.5	5.2	4.1	5.3	5.7	0.0
Breast	4.4	0.0	1.4	4.0	4.2	4.9	0.0
Benign neoplasms	3.8	6.4	3.3	3.0	3.6	4.7	0.0
Endocrine nutritional metabolic and immunity diseases	4.1	4.1	3.0	3.1	4.4	4.7	1.0
Diabetes mellitus	4.8	2.7	2.5	3.5	5.4	5.9	0.0
Volume depletion	2.9	2.3	3.2	2.6	3.0	3.2	0.0
Morbid obesity	1.5	2.0	1.4	1.5	1.5	2.1	0.0
Diseases of the blood and blood forming organs	4.5	4.7	6.1	4.8	4.3	4.3	0.0
Mental disorders	8.6	11.5	9.6	7.7	8.5	10.7	0.0
Psychoses	8.5	13.1	9.9	7.8	8.3	10.8	0.0
Alcoholic psychoses	5.1	1.0	6.4	4.5	5.2	7.0	0.0
Drug psychoses	4.9	5.8	7.8	4.7	4.7	5.1	0.0
Schizophrenic disorders	12.5	29.3	16.0	11.8	12.6	21.5	0.0
Manic-depressive disorders	8.4	11.3	9.4	7.2	8.4	10.9	0.0
Neurotic disorders	5.5	9.3	7.1	4.7	5.3	6.6	0.0
Anxiety states	5.3	6.7	6.2	4.8	4.9	5.7	0.0
Depression	7.5	9.7	8.0	6.5	7.9	10.1	0.0
Drug dependence	5.5	14.8	5.7	5.2	6.2	8.9	0.0
Nondependent abuse of drugs	4.3	5.0	7.4	4.2	3.6	6.0	0.0
Alcohol dependence	5.1	7.0	5.6	4.6	5.2	6.8	0.0
Diseases of the nervous system	6.1	3.5	4.1	4.9	6.4	6.9	2.0
Diseases of the eye and adnexa	3.5	3.0	3.4	4.0	3.5	3.3	0.0
Diseases of the ear and mastoid process	3.1	3.2	2.5	2.9	3.1	3.2	0.0
Diseases of the circulatory system	4.9	10.0	6.6	5.0	5.1	4.9	0.0
Heart disease	4.5	11.8	6.0	4.5	4.5	4.4	0.0
Acute myocardial infarction	4.1	0.0	0.0	3.1	3.8	4.4	0.0
Coronary artherosclerosis	4.6	0.0	4.0	3.8	4.2	4.8	0.0

TABLE 4A-5 (continued)
AVERAGE LENGTH OF STAY FOR DISCHARGES[a] BY FIRST-LISTED DIAGNOSIS AND AGE GROUP, ARIZONA, 2020

Category of first–listed diagnosis	All ages	Patient's age group					
		Children <15 years	Adoles-cents 15-19 years	Young adults 20-44 years	Middle-aged adults 45-64 years	Elderly 65+ years	Unknown
Other ischemic heart disease	2.4	0.0	2.0	1.3	2.0	2.8	0.0
Cardiac dysrythmias	3.4	5.2	2.2	3.3	3.6	3.3	0.0
Cardiac arrest	3.6	8.2	2.0	4.3	3.9	2.9	0.0
Congestive heart failure	5.6	21.3	13.0	6.9	5.0	5.3	0.0
Cerebrovascular diseases	6.4	8.9	11.4	7.7	6.9	6.1	0.0
Diseases of the respiratory system	5.5	4.0	5.5	5.0	5.8	5.7	0.0
Acute bronchitis and bronchiolitis	3.2	3.1	1.0	2.7	3.1	3.7	0.0
Pneumonia	4.6	3.7	4.2	3.9	4.6	4.8	0.0
COVID-19[±]	7.2	4.3	5.1	5.9	7.4	7.4	0.0
Chronic bronchitis	4.0	1.5	0.0	3.1	3.8	4.2	0.0
Asthma	2.8	1.9	3.0	2.5	3.4	3.4	0.0
Diseases of the digestive system	4.5	4.5	4.8	4.0	4.5	4.8	0.0
Appendicitis	3.4	3.9	3.8	2.5	3.5	3.7	0.0
Noninfectious enteritis and colitis	4.6	7.3	6.7	4.0	4.4	4.8	0.0
Diverticula of intestine	4.4	15.0	5.0	3.8	4.2	4.6	0.0
Cholelithiasis	3.3	2.8	2.7	2.6	3.2	3.9	0.0
Diseases of the genitourinary system	4.0	3.4	3.1	3.0	3.9	4.3	0.0
Calculus of kidney and ureter	2.6	2.0	2.1	2.6	2.6	2.7	0.0
Diseases of the skin and subcutaneous tissue	4.2	2.7	3.4	3.5	4.4	4.9	0.0
Cellulitis and abscess	3.9	2.4	2.2	3.2	3.9	4.5	0.0
Diseases of the musculoskeletal system	3.3	4.0	4.1	4.1	3.2	3.3	0.0
Osteoarthrosis and allied disorders	1.7	2.0	6.0	1.3	1.6	1.7	0.0
Invertebral disc disorders	3.7	0.0	3.8	2.9	3.3	4.3	0.0
Congenital anomalies	9.4	12.6	3.1	4.1	5.0	5.4	0.0
Conditions originating in perinatal period	8.2	8.2	0.0	0.0	0.0	0.0	0.0
Symptoms signs and ill-defined conditions	3.8	3.0	3.2	3.3	3.6	4.2	1.0
Injury and poisoning	5.7	4.2	4.6	5.4	5.8	5.9	0.6
Fractures, all sites	5.4	2.2	3.5	4.5	5.1	5.9	0.0
Fracture of neck of femur	4.9	1.9	4.0	4.7	4.7	4.9	0.0
Poisonings	3.6	1.9	2.9	3.4	4.3	4.7	1.0

Note: [±] The collection of COVID-19 data began in mid March 2020; [a] Excluding newborn infants.

4B.

INPATIENT DISCHARGES FROM SHORT-STAY HOSPITALS BY ALL-LISTED PROCEDURES AND PATIENT CHARACTERISTICS

The data on the number of procedures in this section are for inpatients only. Procedures include surgical and non-surgical operations, diagnostic procedures, and special treatments reported on the medical record. Up to six procedures were included for each discharge. These all-listed procedures include all occurrences of the procedure regardless of the order on the medical record. For comparability with the national data*, the rates of all-listed procedures are presented per 10,000 population.

Beginning in 2008, Arizona hospitals may report up to 12 surgical and non-surgical procedures per record, doubling the previously required number. However, not all hospitals have been able to meet the revised requirements. This is one reason why, in our 2008-2015 reports, we only analyzed the top six procedures. Another reason is comparability with the previously published data for 2000-2007. Starting with the 2016 report, all the 12 listed procedures in the database are being taken into account in our analysis.

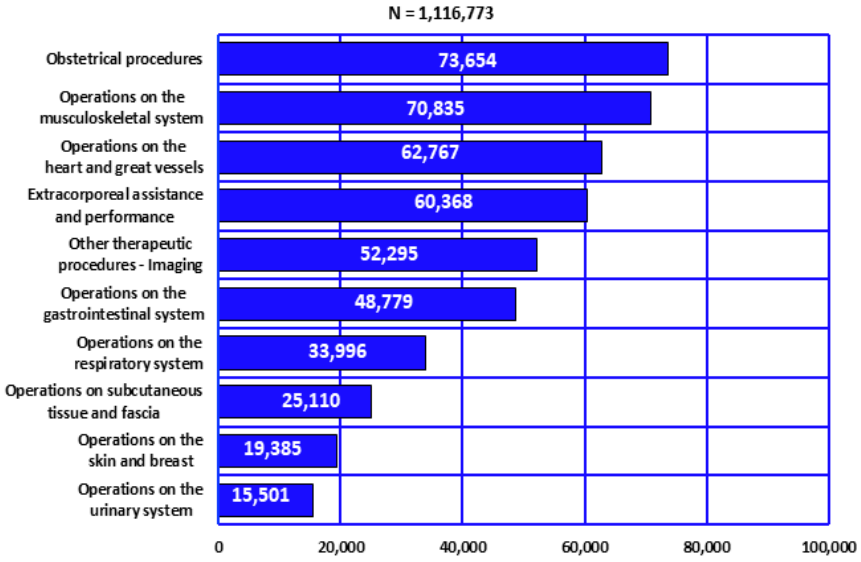
During 2015, all Arizona Hospitals transitioned to the International Classification of Diseases, 10th Revision, and Procedure Coding System (ICD-10-PCS) for coding inpatient procedures. ICD-10-PCS was implemented on October 1, 2015 in replacement of the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM).

In the current report, procedure groupings and codes are based on ICD-10-PCS. ICD-10-PCS is structurally different and far more detailed with about 72,000 procedure codes than ICD-9-CM, which includes only 3,824 procedure codes. Due to the fundamental differences in coding systems, caution should be exercised in comparing 2019 hospital discharge data with data from years prior 2016. For further explanation of ICD-10-CM transition, please refer to "The Implementation of the International Classification of Disease, Tenth Revision".

*Findings of the National Hospital Discharge Survey, including estimates of the number of specific procedure categories, are available in bound reports of the National Center for Health Statistics and online at http://www.cdc.gov/nchs/nhds.htm. The survey collects the data on up to four surgical and non-surgical procedures.

4B. Inpatient Discharges from Short-Stay Hospitals by All-Listed Procedures and Patient Characteristics

Figure 4B-1
Ten Leading Categories of All-listed Inpatient Procedures, Arizona Residents, 2020

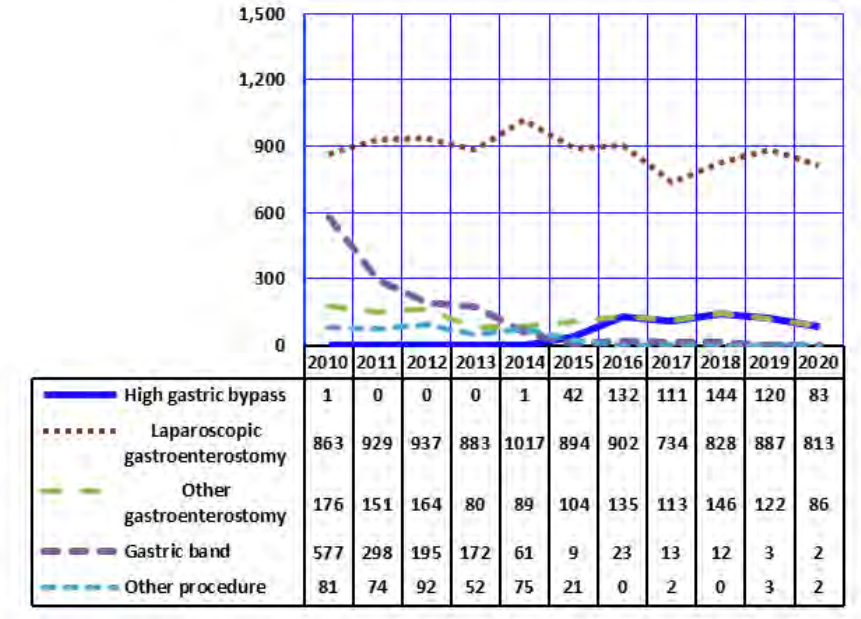


Note: Excludes newborn infants.

During 2020, 1,116,773 procedures were performed among the 630,882 **(Table 4A-1)** total inpatient discharges to Arizona residents. The 2020 rate of procedures was 1,556.2 per 10,000 population, representing an increase from the 2019 rate of 1550 per 10,000.

No specific procedure was recorded for 39.2 percent of all inpatient discharges. Only 2.1 percent of inpatients had six procedures reported while 0.9 of inpatients had 12 procedures recorded. Among the inpatient discharges which had one or more specific procedures recorded, the most frequent were *obstetrical procedures*, followed by *operations on the musculoskeletal system*, and *operations on the heart and great vessels* (**Figure 4B-1, Table 4B-1**).

Figure 4B-2
Trends in Types of Inpatient Procedures Performed in Treatment of Morbid Obesity, Arizona Residents, 2010-2020



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
High gastric bypass	1	0	0	0	1	42	132	111	144	120	83
Laparoscopic gastroenterostomy	863	929	937	883	1017	894	902	734	828	887	813
Other gastroenterostomy	176	151	164	80	89	104	135	113	146	122	86
Gastric band	577	298	195	172	61	9	23	13	12	3	2
Other procedure	81	74	92	52	75	21	0	2	0	3	2

Note: The frequency counts in Figure 4B-2 are based on the principal procedure. The tabulated data use all twelve listed procedures.

Bariatrics is a branch of medicine that deals with the surgical treatment of obesity. Bariatric surgery has seen a rather dramatic increase in its popularity. A typical candidate for gastrointestinal surgery has a body mass index (BMI) of 40 or more – about 100 pounds overweight for men and 80 pounds for women. Bariatric surgery may also be considered for someone whose BMI is between 35 and 39.9 and who has a serious obesity-related health problem (such as type 2-diabetes, heart disease, or severe sleep apnea).

In 2020, *morbid obesity* was the principal diagnosis for 3,068 inpatient hospitalizations (**Table 4A-1**). The number of *gastric bypass* surgeries, once the most common bariatric procedure, declined from a recent high of 2,123 in 2003 to fewer than 10 gastric bypass surgeries being completed collectively between 2007-2014. Since 2015, the number of *gastric bypass procedures* has seen a dramatic increase (**Figure 4B-2**). As in any years since 2010, *laparoscopic gastroenterostomy* remained the most popular procedure, with 813 surgeries performed in 2020.

TABLE 4B-1
NUMBER OF PROCEDURES BY CATEGORY AND AGE GROUP, ARIZONA, 2020

Procedures by category	Total	Age group					
		Children <15 years	Adoles-cents 15-19 years	Young adults 20-44 years	Middle-aged adults 45-64 years	Elderly 65+ years	Un-known
All procedures	1,116,773	53,998	22,325	310,353	296,798	433,231	68
Operations on the central nervous system	15,199	1,911	378	3,236	4,366	5,308	0
Spinal tap	5,952	1,398	156	1,246	1,535	1,617	0
Operations on the peripheral nervous system	6,147	54	83	892	2,202	2,916	0
Operations on the heart and great vessels	62,767	2,528	480	7,043	19,926	32,781	9
Heart transplant	80†	10	*	15	37	11	0
Coronary artery bypass graft	3,010†	*	0	57	1,010	1,942	0
Cardiac catherization	17,592	148	21	923	6,174	10,326	0
Insertion, replacement, removal, of pacemaker leads	4,229	33	6	129	656	3,405	0
Operations on the upper arteries	17,008	329	136	2,204	5,476	8,860	*
Operations on the lower arteries	7,489	362	57	717	1,974	4,379	0
Operations on the upper veins	15,792	256	102	2,549	5,158	7,726	*
Operations on the lower veins	9,735	1,147	51	1,053	3,192	4,287	*
Operations on the lymphatic and hemic systems	8,091	282	105	897	2,677	4,128	*
Operations on the eye	469	63	13	157	111	125	0
Operations on the ear, nose, sinus	931	147	50	213	237	284	0
Operations on the respiratory system	33,996	1,935	436	5,616	11,069	14,930	10
Bronchoscopy with or without biopsy	2,961	179	36	455	962	1,329	0
Operations on the mouth and throat	2,883	798	85	549	671	780	0
Operations on the gastrointestinal system	48,779	2,129	733	9,646	15,011	21,259	*
Implantation of gastric band	0†	0	0	*	*	0	0
Endoscopy of small intestine with or without biopsy	11,694	227	183	2,051	3,686	5,547	0
Endoscopy of large intestine with or without biopsy	7,870	132	102	1,089	2,356	4,191	0
Appendectomy, excluding incidental	3,304	691	197	813	863	740	0
Operations on the hepatobiliary system and pancreas	12,829	148	212	2,696	3,999	5,773	*
Cholecystectomy	6,572	49	146	1,802	1,940	2,635	0
Operations on the endocrine system	889	16	24	178	301	370	0
Operations on the skin and breast	19,385	324	1,022	11,722	3,204	3,113	0
Breast surgery	710†	0	*	147	349	212	0

TABLE 4B-1 (continued)
NUMBER OF PROCEDURES BY CATEGORY AND AGE GROUP, ARIZONA, 2020

Procedures by category	Total	Age group					
		Children <15 years	Adoles-cents 15-19 years	Young adults 20-44 years	Middle-aged adults 45-64 years	Elderly 65+ years	Un-known
Operations on the subcutaneous tissue and fascia	25,110	682	366	5,056	8,601	10,405	0
Operations on the musculoskeletal system	70,835	1,198	1,680	19,880	17,381	30,696	0
Open reduction of fracture with or without internal fixation	7,813	265	197	1,333	1,661	4,357	0
Total hip replacement	5,390†	*	*	172	1,784	3,428	0
Total knee replacement	6,500†	6	*	72	2,088	4,328	0
Operations on the urinary system	15,501	268	157	2,757	4,649	7,670	0
Kidney transplant	160†	*	*	50	73	28	0
Operations on the male reproductive system	6,646	4,744	21	235	642	1,004	0
Prostatectomy	1,230†	0	0	*	413	816	0
Operations on the female reproductive system	15,144	55	807	12,188	1,293	801	0
Oophorectomy and salpingo-oophorectomy	2,576	9	20	1,134	911	502	0
Hysterectomy	2,120†	*	*	843	855	420	0
Obstetrical procedures	73,650†	32	3,803	69,695	123	*	0
Episiotomy with or without forceps or vacuum extraction	2,490†	*	208	2,277	*	0	0
Artificial rupture of membranes	22,506	17	1,302	21,156	31	0	0
Cesarean section	21,040†	*	570	20,404	60	*	0
Other therapeutic procedures - Imaging	52,295	1,288	305	5,484	16,510	28,708	0
Computerized tomography (CT Scan)	2,620	98	28	376	755	1,363	0
Magnetic resonance imaging (MRI)	1,133	523	45	74	200	291	0
Other therapeutic procedures - Nuclear medicine	148	38	9	14	25	62	0
Other therapeutic procedures - Radiation therapy	135	7	10	14	59	45	0
Extracorporeal assistance and performance	60,368	3,726	527	8,225	19,999	27,879	12
Hemodialysis	19,807	32	41	2,777	7,954	9,001	*

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 4B-2
NUMBER OF PROCEDURES BY CATEGORY AND GENDER, ARIZONA, 2020

Procedures by category	Total	Patient's gender		
		Male	Female	Unknown
All procedures	1,116,773	519,523	597,193	57
Operations on the central nervous system	15,199	7,852	7,347	0
Spinal tap	5,952	3,106	2,846	0
Operations on the peripheral nervous system	6,147	3,291	2,855	*
Operations on the heart and great vessels	62,767	36,909	25,856	*
Heart transplant	75	59	16	0
Coronary artery bypass graft	3,011	2,353	658	0
Cardiac catherization	17,592	11,063	6,529	0
Insertion, replacement, removal, of pacemaker leads	4,229	2,413	1,816	0
Operations on the upper arteries	17,008	9,805	7,200	*
Operations on the lower arteries	7,489	4,581	2,907	*
Operations on the upper veins	15,792	7,665	8,126	*
Operations on the lower veins	9,735	6,329	3,404	*
Operations on the lymphatic and hemic systems	8,091	4,278	3,813	0
Operations on the eye	469	303	166	0
Operations on the ear, nose, sinus	931	569	362	0
Operations on the respiratory system	33,996	19,345	14,648	*
Bronchoscopy with or without biopsy	2,961	1,732	1,229	0
Operations on the mouth and throat	2,883	1,799	1,084	0
Operations on the gastrointestinal system	48,779	22,763	26,016	0
Implantation of gastric band	0†	*	*	0
Endoscopy of small intestine with or without biopsy	11,694	5,733	5,961	0
Endoscopy of large intestine with or without biopsy	7,870	3,764	4,106	0
Appendectomy, excluding incidental	3,304	1,717	1,587	0
Operations on the hepatobiliary system and pancreas	12,829	5,956	6,873	0
Cholecystectomy	6,572	2,778	3,794	0
Operations on the endocrine system	889	395	494	0
Operations on the skin and breast	19,385	5,372	14,011	*
Breast surgery	713	35	678	0

TABLE 4B-2 (continued)
NUMBER OF PROCEDURES BY CATEGORY AND GENDER, ARIZONA, 2020

Procedures by category	Total	Patient's gender		
		Male	Female	Unknown
Operations on the subcutaneous tissue and fascia	25,110	14,165	10,945	0
Operations on the musculoskeletal system	70,835	28,129	42,704	*
Open reduction of fracture with or without internal fixation	7,813	3,302	4,511	0
Total hip replacement	5,392	2,271	3,121	0
Total knee replacement	6,496	2,676	3,820	0
Operations on the urinary system	15,501	8,131	7,370	0
Kidney transplant	156	102	54	0
Operations on the male reproductive system	6,646	6,619	25	*
Prostatectomy	1,234	1,234	0	0
Operations on the female reproductive system	15,144	8	15,136	0
Oophorectomy and salpingo-oophorectomy	2,576	6	2,570	0
Hysterectomy	2,120†	*	2,118	0
Obstetrical procedures	73,650†	*	73,650	0
Episiotomy with or without forceps or vacuum extraction	2,490	0	2,490	0
Artificial rupture of membranes	22,506	0	22,506	0
Cesarean section	21,040†	*	21,035	0
Other therapeutic procedures - Imaging	52,295	29,914	22,380	*
Computerized tomography (CT Scan)	2,620	1,339	1,281	0
Magnetic resonance imaging (MRI)	1,133	583	550	0
Other therapeutic procedures - Nuclear medicine	148	75	73	0
Other therapeutic procedures - Radiation therapy	135	81	54	0
Extracorporeal assistance and performance	60,368	35,579	24,783	6
Hemodialysis	19,807	11,136	8,670	*

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 4B-3
NUMBER OF PROCEDURES BY CATEGORY AND RACE/ETHNICITY, ARIZONA, 2020

Procedures by category	Total	Race/ethnicity					
		White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander	Refused /Unknown
All procedures	1,116,773	732,477	229,642	59,569	55,825	25,426	13,834
Operations on the central nervous system	15,199	10,227	2,901	883	602	328	258
Spinal tap	5,952	3,567	1,411	450	279	144	101
Operations on the peripheral nervous system	6,147	4,811	763	238	172	88	75
Operations on the heart and great vessels	62,767	43,545	10,645	3,154	3,405	1,267	751
Heart transplant	80†	47	12	8	*	*	*
Coronary artery bypass graft	3,011	2,375	382	64	63	74	53
Cardiac catherization	17,592	13,439	2,302	768	521	319	243
Insertion, replacement, removal, of pacemaker leads	4,229	3,373	449	125	123	87	72
Operations on the upper arteries	17,008	11,222	3,254	890	1,093	310	239
Operations on the lower arteries	7,489	5,409	1,163	382	311	141	83
Operations on the upper veins	15,792	10,978	2,409	1,031	963	257	154
Operations on the lower veins	9,735	6,471	1,883	487	522	211	161
Operations on the lymphatic and hemic systems	8,091	5,987	1,215	405	173	222	89
Operations on the eye	469	265	110	35	38	9	12
Operations on the ear, nose, sinus	931	588	187	54	60	23	19
Operations on the respiratory system	33,996	22,035	6,677	2,040	2,016	766	462
Bronchoscopy with or without biopsy	2,961	1,938	537	166	183	84	53
Operations on the mouth and throat	2,883	1,791	632	193	152	72	43
Operations on the gastrointestinal system	48,779	33,441	8,875	2,595	2,234	1,097	537
Implantation of gastric band	0†	*	*	*	0	0	0
Endoscopy of small intestine with or without biopsy	11,694	8,185	1,915	630	659	212	93
Endoscopy of large intestine with or without biopsy	7,870	5,732	1,189	394	339	136	80
Appendectomy, excluding incidental	3,304	2,032	895	89	167	66	55
Operations on the hepatobiliary system and pancreas	12,829	8,485	2,758	445	716	295	130
Cholecystectomy	6,572	4,157	1,583	222	408	135	67
Operations on the endocrine system	889	602	157	63	31	20	16
Operations on the skin and breast	19,385	11,254	5,422	1,050	970	458	231
Breast surgery	713	508	111	48	17	22	7

TABLE 4B-3 (continued)
NUMBER OF PROCEDURES BY CATEGORY AND RACE/ETHNICITY, ARIZONA, 2020

Procedures by category	Total	Race/ethnicity					
		White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander	Refused /Unknown
Operations on the subcutaneous tissue and fascia	25,110	16,232	4,841	1,514	1,761	481	281
Operations on the musculoskeletal system	70,835	51,529	11,548	2,690	2,484	1,780	804
Open reduction of fracture with or without internal fixation	7,813	5,881	1,177	234	338	94	89
Total hip replacement	5,392	4,719	303	166	60	91	53
Total knee replacement	6,496	5,304	571	195	114	233	79
Operations on the urinary system	15,501	11,081	2,712	685	509	373	141
Kidney transplant	156	72	48	15	14	6	*
Operations on the male reproductive system	6,646	4,642	1,077	499	122	246	60
Prostatectomy	1,234	966	162	62	10	15	19
Operations on the female reproductive system	15,144	7,140	5,671	1,078	624	467	164
Oophorectomy and salpingo-oophorectomy	2,576	1,504	622	200	113	94	43
Hysterectomy	2,123	1,216	511	203	70	88	35
Obstetrical procedures	73,654	35,270	27,151	4,988	2,661	2,754	830
Episiotomy with or without forceps or vacuum extraction	2,490	1,318	752	156	68	150	46
Artificial rupture of membranes	22,506	11,179	8,021	1,455	859	758	234
Cesarean section	21,038	10,145	7,285	1,642	793	910	263
Other therapeutic procedures - Imaging	52,295	37,791	8,108	2,375	2,383	960	678
Computerized tomography (CT Scan)	2,620	1,766	487	164	83	50	70
Magnetic resonance imaging (MRI)	1,133	565	317	124	81	18	28
Other therapeutic procedures - Nuclear medicine	150†	95	39	6	6	*	0
Other therapeutic procedures - Radiation therapy	140†	93	24	9	*	*	*
Extracorporeal assistance and performance	60,368	36,204	12,883	4,069	5,063	1,283	866
Hemodialysis	19,807	9,293	5,385	1,878	2,603	479	169

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 4B-4
NUMBER OF PROCEDURES BY CATEGORY AND EXPECTED SOURCE OF PAYMENT, ARIZONA, 2020

Procedures by category	Total	Self-pay	Private insurance (indemnity, HMO, PPO)	AHCCCS/ Medicaid	Medicare	Other
All procedures	1,116,773	20,904	286,609	301,843	348,168	159,249
Operations on the central nervous system	15,199	237	4,435	4,206	4,280	2,041
Spinal tap	5,952	117	1,652	2,163	1,396	624
Operations on the peripheral nervous system	6,147	75	1,671	948	2,327	1,126
Operations on the heart and great vessels	62,767	870	11,770	13,291	27,297	9,539
Heart transplant	75	6	36	11	11	11
Coronary artery bypass graft	3,011	31	705	297	1,451	527
Cardiac catherization	17,592	406	3,739	2,510	7,722	3,215
Insertion, replacement, removal, of pacemaker leads	4,229	28	502	321	2,507	871
Operations on the upper arteries	17,008	263	2,867	3,890	7,518	2,470
Operations on the lower arteries	7,489	109	1,225	1,392	3,404	1,359
Operations on the upper veins	15,792	197	2,271	3,934	5,843	3,547
Operations on the lower veins	9,735	168	2,088	2,592	3,460	1,427
Operations on the lymphatic and hemic systems	8,091	99	2,209	1,245	3,236	1,302
Operations on the eye	469	14	107	196	95	57
Operations on the ear, nose, sinus	931	28	272	279	256	96
Operations on the respiratory system	33,996	635	6,610	9,215	12,526	5,010
Bronchoscopy with or without biopsy	2,961	38	612	726	1,137	448
Operations on the mouth and throat	2,883	74	833	1,018	675	283
Operations on the gastrointestinal system	48,779	857	12,490	11,149	17,005	7,278
Implantation of gastric band	0†	0	*	*	*	0
Endoscopy of small intestine with or without biopsy	11,694	171	2,405	2,750	4,536	1,832
Endoscopy of large intestine with or without biopsy	7,870	107	1,744	1,456	3,316	1,247
Appendectomy, excluding incidental	3,304	168	1,251	1,004	582	299
Operations on the hepatobiliary system and pancreas	12,829	260	3,296	2,961	4,510	1,802
Cholecystectomy	6,572	178	1,791	1,693	1,999	911
Operations on the endocrine system	889	15	293	170	292	119
Operations on the skin and breast	19,385	601	6,723	7,601	2,703	1,757
Breast surgery	713	10	303	130	180	90

TABLE 4B-4 (continued)
NUMBER OF PROCEDURES BY CATEGORY AND EXPECTED SOURCE OF PAYMENT, ARIZONA, 2020

Procedures by category	Total	Self-pay	Private insurance (indemnity, HMO, PPO)	AHCCCS/ Medicaid	Medicare	Other
Operations on the subcutaneous tissue and fascia	25,110	432	4,716	6,989	9,364	3,609
Operations on the musculoskeletal system	70,835	1,205	20,185	14,498	23,387	11,560
Open reduction of fracture with or without internal fixation	7,813	199	1,332	1,525	3,360	1,397
Total hip replacement	5,392	49	1,444	393	2,250	1,256
Total knee replacement	6,496	17	1,676	419	2,888	1,496
Operations on the urinary system	15,501	302	3,754	2,905	6,216	2,324
Kidney transplant	160†	*	57	11	76	10
Operations on the male reproductive system	6,646	194	3,744	1,451	726	531
Prostatectomy	1,234	7	373	62	565	227
Operations on the female reproductive system	15,144	420	6,246	6,968	748	762
Oophorectomy and salpingo-oophorectomy	2,576	93	1,094	716	437	236
Hysterectomy	2,123	77	966	527	357	196
Obstetrical procedures	73,654	2,033	33,498	34,793	334	2,996
Episiotomy with or without forceps or vacuum extraction	2,490	96	1,182	1,072	46	94
Artificial rupture of membranes	22,506	601	10,271	10,664	59	911
Cesarean section	21,038	502	10,045	9,586	115	790
Other therapeutic procedures - Imaging	52,295	989	10,344	9,772	21,490	9,700
Computerized tomography (CT Scan)	2,620	65	563	530	927	535
Magnetic resonance imaging (MRI)	1,133	29	309	462	161	172
Other therapeutic procedures - Nuclear medicine	150†	*	29	46	42	30
Other therapeutic procedures - Radiation therapy	140†	*	49	28	34	23
Extracorporeal assistance and performance	60,368	919	9,618	14,963	25,800	9,068
Hemodialysis	19,807	93	1,919	4,008	11,062	2,725

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

4C.

CHARACTERISTICS OF EMERGENCY ROOM VISITS BY DISEASE CATEGORY, DIAGNOSIS GROUP, AND AGE GROUP

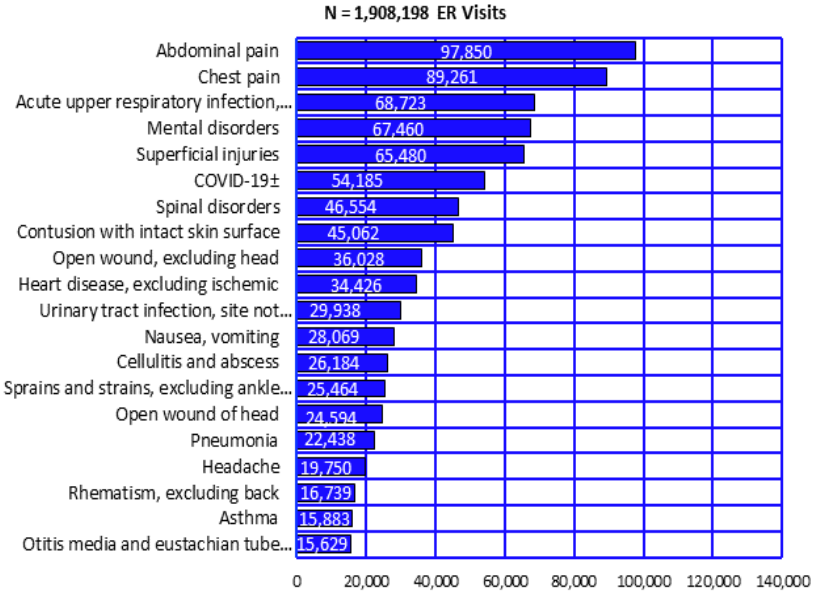
This section focuses on ambulatory care visits to emergency rooms of non-Federal, short-stay hospitals. The emergency room (ER) and the inpatient hospitalization data are mutually exclusive. The ER data include only those who were not admitted as inpatients.

All emergency room visits are those of the residents of Arizona. Ambulatory care visits to hospital emergency rooms of out-of-state residents are not included in this report. In the current report, diagnostic groupings and code numbers are solely based on the International Classification of Diseases and Related Problems, 10th Revision, Clinical Modification ICD-10-CM. Prior to 2015, the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) was used to classify diseases and related health problems. On October 1, 2015, the US healthcare system transitioned from ICD-9-CM to ICD-10-CM, thus both ICD-9-CM and ICD-10-CM were used in the 2015 report of ER visits.

Please refer to "The Implementation of the International Classification of Disease, Tenth Revision," for further explanation of ICD-10-CM transition.

*Findings of the National Hospital Ambulatory Medical Care Survey, including data on trends in ER utilization, are available in bound reports of the National Center for Health Statistics and online at http://www.cdc.gov/nchs/ahcd.htm

Figure 4C-1
Number of Emergency Room Visits by the Leading Diagnostic Groupings, Arizona Residents, 2020



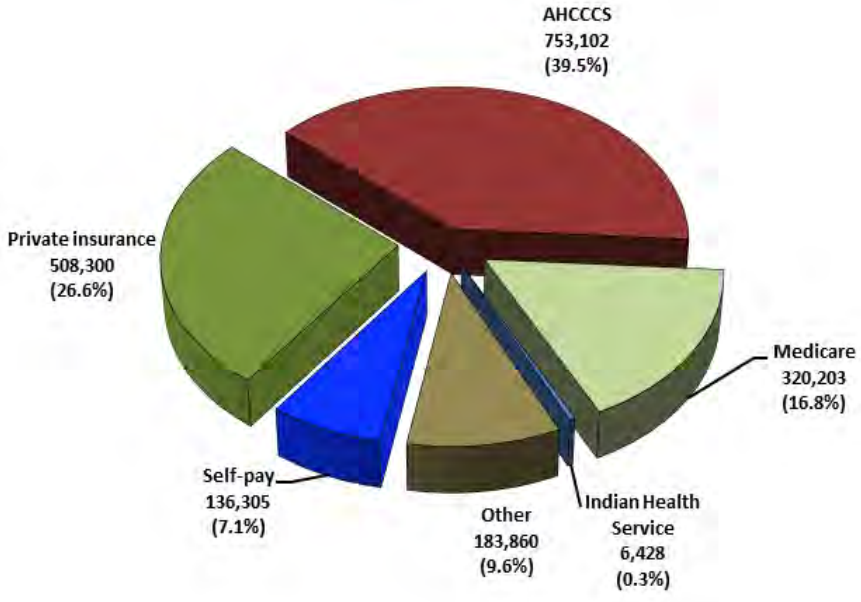
During 2020, approximately 1.9 million visits were made by Arizona residents to hospital emergency rooms (ER), which translate to 26.6 visits per 100 persons.

In 2020, *abdominal pain*, *chest pain*, *acute upper respiratory infection*, *mental disorders*, *superficial injuries*, *COVID-19*±, *spinal disorders*, and *contusion with intact skin surface*, were the leading diagnostic categories, accounting for 28.0 percent of all visits (**Figure 4C-1**, **Table 4C-2**).

*www.cdc.gov/nchs/data/nhsr/nhsr007.pdf

Notes: Based on first-listed diagnosis; See Table 4C-2; ± The collection of COVID-19 data began in mid-March 2020.

Figure 4C-2
Emergency Room Visits by Payer, Arizona Residents, 2020



The Arizona Health Care Cost Containment System (AHCCCS, the State's Medicaid program) was the most frequently recorded expected source of payment, accounting for 39.5 percent of ER visits (**Figure 4C-3**). Private insurance was the second most frequent payer (26.6 percent of ER visits), followed by Medicare (16.8 percent).

Notes: Number of visits per 100 persons; The actual number of ER visits for each group is provided below the bars.

TABLE 4C-1
NUMBER OF EMERGENCY ROOM VISITS[a] BY FIRST-LISTED DIAGNOSIS AND AGE GROUP, ARIZONA, 2020

Category of first-listed diagnosis	All Ages	Age group					
		Children <15 years	Adoles-cents 15-19 years	Young adults 20-44 years	Middle-aged adults 45-64 years	Elderly 65+ years	Unknown
Total, all causes	1,908,198	251,975	105,480	711,698	457,088	381,883	74
Infectious and parasitic diseases	43,330	12,599	2,651	15,521	7,739	4,820	0
Neoplasms	5,600	150	80	1,207	1,977	2,186	0
Endocrine nutritional metabolic and immunity diseases	49,764	1,590	1,618	17,143	16,728	12,682	*
Diabetes mellitus	15,090	500	366	4,317	6,190	3,717	0
Mental disorders	67,460	2,621	5,032	35,436	18,160	6,197	14
Psychoses	44,844	995	2,956	23,852	13,136	3,893	12
Alcoholic psychoses	4,632	17	89	2,622	1,636	266	*
Drug psychoses	1,964	32	245	1,303	326	56	*
Schizophrenic disorders	686	0	16	383	249	38	0
Manic-depressive disorders	5,997	730	1,094	2,323	1,315	535	0
Neurotic disorders	58,069	2,374	4,315	30,477	16,152	4,740	11
Anxiety states	16,049	432	1,260	8,942	3,703	1,712	0
Depression	4,394	579	902	1,623	885	405	0
Drug dependence	2,460†	*	159	1,597	510	192	0
Nondependent abuse of drugs	8,176	90	628	5,360	1,850	245	*
Alcohol dependence	6,941	0	13	3,601	2,879	447	*
Diseases of the nervous system	49,484	2,263	2,276	20,339	14,577	10,026	*
Diseases of the eye and adnexa[b]	15,072	2,762	687	5,077	3,841	2,705	0
Diseases of the ear and mastoid process[b]	28,140	12,643	1,496	7,299	3,873	2,828	*
Diseases of the circulatory system	69,720	796	585	10,117	22,663	35,546	13
Diseases of the respiratory system	185,156	56,982	10,992	58,979	33,861	24,340	*
Acute bronchitis and bronchiolitis	16,733	6,075	527	4,976	3,122	2,033	0
Pneumonia	22,438	3,223	848	6,430	6,228	5,709	0
COVID-19[‡]	54,185	2,613	2,214	21,993	17,428	9,936	*
Chronic bronchitis	9,090†	*	*	376	3,731	4,980	0
Asthma	15,883	3,693	1,098	6,664	3,280	1,148	0
Diseases of the digestive system	128,361	11,871	5,613	51,448	33,949	25,480	0
Diseases of the genitourinary system	115,205	7,329	7,189	50,305	26,177	24,202	*
Diseases of the skin and subcutaneous tissue	62,387	8,275	3,296	25,573	15,647	9,595	*
Diseases of the musculoskeletal system	120,351	5,575	4,290	42,246	38,951	29,288	*
Symptoms signs and ill-defined conditions	442,238	44,160	23,286	160,892	116,134	97,754	12
Injury and poisoning	368,327	69,655	26,217	122,587	74,669	75,181	18
Fractures, all sites	57,339	10,916	3,299	15,341	12,901	14,882	0
Sprains	32,361	4,233	3,310	13,468	7,327	4,023	0
Intracranial	10,896	1,771	1,245	3,761	1,903	2,214	*
Open wounds	81,657	18,524	5,185	27,346	14,352	16,244	6
Superficial injuries	65,480	12,209	4,462	20,800	13,295	14,713	*
Contusions with intact skin surface	45,062	7,373	3,020	13,804	9,408	11,457	0
Foreign bodies	9,165	3,623	374	2,464	1,497	1,206	*
Burns and corrosions	5,964	1,518	425	2,314	1,226	480	*
Trauma complications and unspecified injuries	19,873	5,505	1,139	4,781	3,065	5,383	0
Poisonings	12,241	1,580	1,972	5,753	1,978	955	*
Surgical and medical complications	13,204	617	290	2,754	3,722	5,821	0

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; ‡ The collection of COVID-19 data began in mid March 2020.

TABLE 4C-2
NUMBER OF EMERGENCY ROOM VISITS FOR THE LEADING DIAGNOSIS GROUPS[a] AND AGE GROUP, ARIZONA, 2020

Primary diagnosis group	All Ages	Age group					
		Children <15 years	Adoles-cents 15-19 years	Young adults 20-44 years	Middle-aged adults 45-64 years	Elderly 65+ years	Unknown
Total, all causes	1,908,198	251,975	105,480	711,698	457,088	381,883	74
Abdominal pain	97,850	8,314	6,736	44,601	24,852	13,347	0
Chest pain	89,261	1,698	2,899	31,951	31,662	21,050	*
Acute upper respiratory infection, excluding pharyngitis	68,723	29,964	3,439	20,577	9,638	5,105	0
Mental disorders	67,460	2,621	5,032	35,436	18,160	6,197	14
Superficial injuries	65,480	12,209	4,462	20,800	13,295	14,713	*
COVID-19[±]	54,185	2,613	2,214	21,993	17,428	9,936	*
Spinal disorders	46,554	890	1,290	17,342	15,718	11,314	0
Contusion with intact skin surface	45,062	7,373	3,020	13,804	9,408	11,457	0
Open wound, excluding head	36,028	3,494	2,761	15,959	7,613	6,199	*
Heart disease, excluding ischemic	34,426	244	210	4,344	10,927	18,691	10
Urinary tract infection, site not specified	29,938	3,202	1,578	9,068	6,120	9,970	0
Nausea, vomiting	28,069	5,517	2,265	12,382	4,736	3,169	0
Cellulitis and abscess	26,184	2,032	798	10,129	7,932	5,292	*
Sprains and strains, excluding ankle and back	25,464	3,019	2,230	10,304	6,290	3,621	0
Open wound of head	24,594	7,231	1,404	5,921	3,682	6,356	0
Pneumonia	22,438	3,223	848	6,430	6,228	5,709	0
Headache	19,750	1,293	1,336	9,047	5,419	2,655	0
Rheumatism, excluding back	16,739	598	554	6,293	5,534	3,760	0
Asthma	15,883	3,693	1,098	6,664	3,280	1,148	0
Otitis media and eustachian tube disorders	15,629	10,579	740	2,867	1,035	408	0
Fever	14,665	8,881	522	2,627	1,485	1,150	0
Chronic and unspecified bronchitis	14,102	158	206	2,440	5,306	5,992	0
Gastroenteritis and colitis	13,967	1,499	752	5,714	3,475	2,527	0
Acute pharyngitis	13,139	2,637	1,677	6,375	1,745	705	0
Migraine	10,852	383	849	5,900	3,128	592	0
Sprains and strains of neck and back	2,777	123	244	1,396	705	309	0
Unspecified viral and chlamydial infection	150†	13	37	92	7	*	0

Notes: * Cell suppressed due to non-zero count less than 6; [±] The collection of COVID-19 data began in mid March 2020; [a] Based on first-listed diagnosis.

4D.
INJURY-RELATED INPATIENT DISCHARGES AND EMERGENCY ROOM VISITS BY INTENT AND MECHANISM OF INJURY

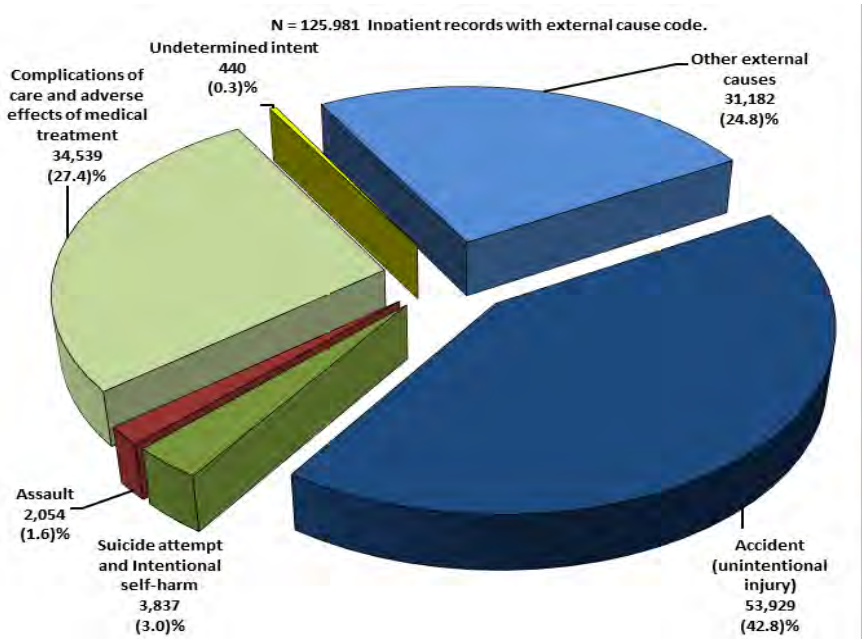
Prior to 2009, injury hospitalizations and injury-related emergency room visits were defined here through the range of ICD-9-CM codes 800-999 used as the first-listed diagnosis. In addition, the supplementary classification of external causes of injury and poisoning (ICD-9-CM codes E800–E999) is used to permit the classification of environmental events, circumstances, and conditions as the cause of injury, poisoning, and other adverse effects. The "E" code classification is used to describe both the *mechanism* of external cause of injury (e.g., motor vehicle traffic, fall, poisoning), but also the manner or *intent* of the injury (e.g., suicide, assault, accident).

In 2009, the reporting requirements for hospitals were revised and the non-injury first-listed diagnoses may also have an external cause of injury code (E-code). Beginning with the 2009 edition of this report, the reader is advised that the number of suicides, accidents, etc. shown in **Table 4D-1** and **Table 4D-2** no longer reflect only those where the principal diagnosis was an injury. To continue to do so would only mean undercounting the external causes of injury. As an example, in 2009 forward, among the suicide attempt-related ER visits, *injury and poisoning*, *mental disorders*, *chronic disease*, *infectious disease*, or *ill-defined conditions* were identified as the first-listed diagnosis.

In 2015, injury hospitalizations and injury-related emergency room visits data were recorded and classified using ICD-9-CM in the first three quarters of the year and ICD-10-CM in the last quarter. Under ICD-10-CM, external causes of morbidity capture how and where the injury or health condition occurred, the intent or mechanism (accidental or intentional), the activity of the patient at the time of the event and the patient's status (for example civilian, student). For further explanation of ICD-10-CM transition, please refer to "The Implementation of the International Classification of Disease, Tenth Revision".

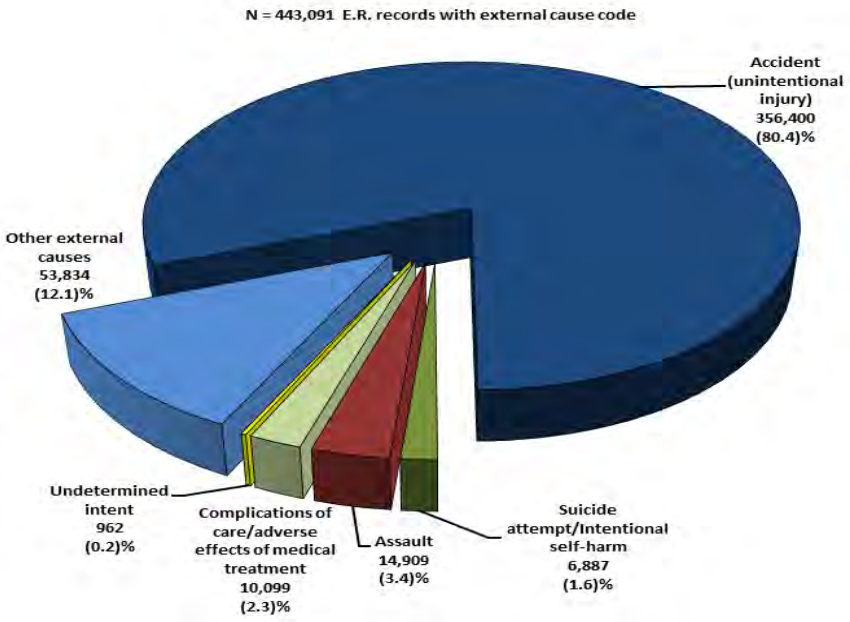
Beginning 2016, injury hospitalizations and injury-related emergency room visits are coded exclusively based on ICD-10-CM, external causes of morbidity. Readers are advised to avoid comparison of current year data to years prior 2015 due to a changeover in coding from ICD-9-CM and ICD-10-CM.

Figure 4D-1
Percent Distribution of Inpatient Discharges by Intent of Injury, Arizona Residents, 2020



In 2020, injury and poisoning as a joint category was indicated as the principal diagnosis on 62,659 inpatient discharge records (**Table 4A-1).** *Unintentional injuries or accidents* accounted for the absolute majority of inpatient hospitalizations by the intent of injury (42.8 percent) and *complications of medical care and adverse effects of medical treatment* accounted for 27.4 percent of all inpatient discharges by intent of injury. *Assault* accounted for 2,054 inpatient hospitalizations (1.6 percent of all hospital discharges with known intent of injury). *Intentional self-inflicted injuries* including *suicide attempt* resulted in 3,837 inpatient hospitalizations (3.0 percent).

Figure 4D-2
Percent Distribution of Emergency Room Visits by Intent of Injury, Arizona Residents, 2020



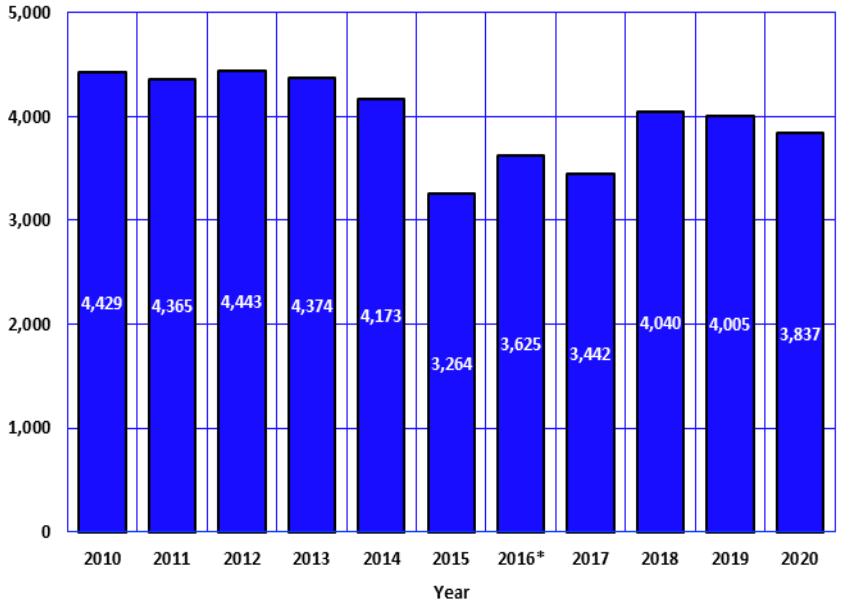
In 2020, *Unintentional injuries or accidents* accounted for eight out of ten (356,400 or 80.4 percent) of all injury-related emergency room visits (**Figure 4D-3, Table 4D-2**). The external cause of injury was classified as *assault* for 14,909 emergency room visits: these were the injuries purposely inflicted by another person. *Complications of medical/surgical care* accounted for a greater number of emergency room visits than *intentional self-inflicted injuries* (2.3 percent vs. 1.6 percent, respectively; **Figure 4D-3, Table 4D-2**).

Self-inflicted injuries result from actions of individuals trying to deliberately harm themselves (i.e. behavior with no suicide intent) or kill themselves (i.e. suicide attempt). Beginning in 2008, there was a substantial increase in the number of *intentional self-inflicted injuries* related inpatient discharges and emergency room visits (**Figure 4D-3** and **Table 4D-2**), partly due to the change in the reporting requirements for hospitals.

In 2020, there were 3,837 inpatient discharges attributed to intentional self-inflicted injuries

Mental disorders were identified as the principal diagnosis on 1,294 intentional self-inflicted injury/ suicide attempt-related records. *Injury or poisoning* was the principal diagnosis on 2,471 inpatient discharge records related to self-inflicted injuries.

Figure 4D-3
Intentional self-inflicted injury Inpatient Discharges by Year, Arizona Residents, 2010–2020



In 2020, self-inflicted injuries resulting in ER visits accounted for 6,887, a decrease of 3.9 percent from 2019. Of all the ER visits related to *intentional self-inflicted injures, mental disorders* were identified as the principal diagnosis on 338 ER discharges. *Injury or poisoning* was recorded as the principal diagnosis on 6,012 (87.3 percent) ER discharges related to self-inflicted injury.

Figure 4D-4
Intentional self-inflicted injury Emergency Room Visits by Year, Arizona Residents, 2010–2020

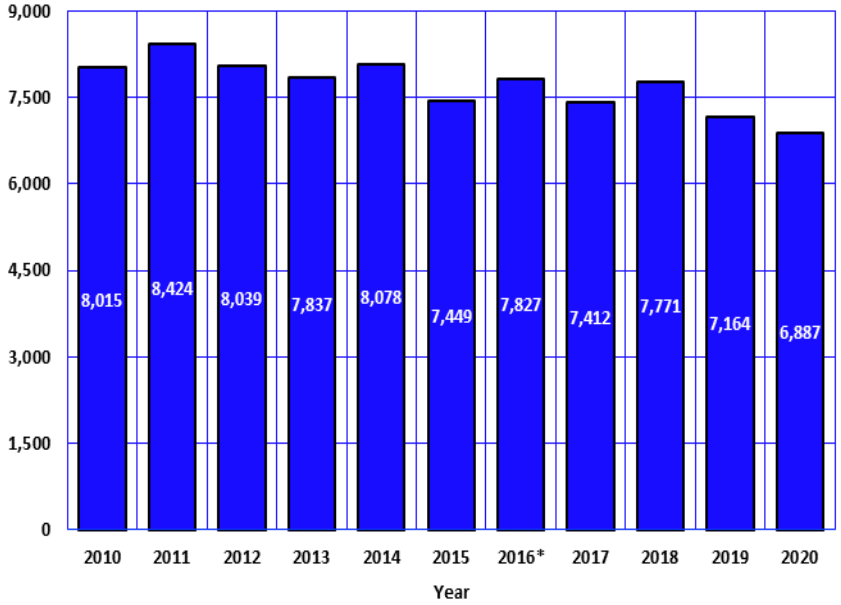


TABLE 4D-1
INPATIENT DISCHARGES BY INTENT AND MECHANISM FOR SELECTED EXTERNAL CAUSES BY GENDER, AGE GROUP, AND RACE/ETHNICITY, ARIZONA, 2020

	Total[a]	Gender			Age group						Race/ethnicity					
		Male	Female	Unknown	Children <15 years	Adolescents 15-19 years	Young adults 20-44 years	Middle-aged adults 45-64 years	Elderly 65+ years	Unknown	White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander	Refused/Unknown
UNINTENTIONAL INJURY OR ACCIDENT	53,929	27,343	26,579	7	1,368	1,122	8,365	11,595	31,472	7	41,333	7,067	1,831	2,355	712	631
Falls	34,036	14,843	19,190	*	396	125	1,904	5,807	25,804	0	27,998	3,352	778	1,125	435	348
Transport accidents	8,203	5,417	2,783	*	332	469	3,193	2,319	1,888	*	5,590	1,529	381	440	102	161
Natural and environmental factors	6,260	3,628	2,631	*	279	223	1,502	1,838	2,414	*	4,323	1,024	350	403	92	68
Exposure to excessive natural heat	610†	477	130	0	*	8	163	238	190	*	390	111	62	26	9	9
Fire and flames	412	265	147	0	43	18	121	147	83	0	261	84	23	34	7	*
Machinery	180†	167	16	0	*	*	72	69	37	0	107	59	6	*	*	*
SUICIDE ATTEMPT AND INTENTIONAL SELF-HARM	3,837	1,588	2,249	0	382	779	1,741	679	256	0	2,417	754	223	316	58	69
ASSAULT	2,054	1,610	442	*	48	161	1,255	477	113	0	908	446	251	383	21	45
INJURIES OF UNDETERMINED INTENT	440	265	175	0	143	22	126	86	63	0	227	116	50	26	8	13
COMPLICATIONS OF CARE AND ADVERSE EFFECTS OF MEDICAL TREATMENT	34,539	18,713	15,826	0	654	281	4,903	11,451	17,249	*	24,173	5,846	1,945	1,555	738	282
Misadventures to patients	320†	164	151	0	*	*	42	103	163	0	220	48	15	24	*	*
Surgical and medical procedures as the cause of adverse reaction	30,120	16,316	13,804	0	572	246	4,358	10,030	14,913	*	21,137	5,077	1,679	1,327	655	245

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] the total may include records with unknown gender and/or age group.

TABLE 4D-2
EMERGENCY ROOM VISITS BY INTENT AND MECHANISM FOR SELECTED EXTERNAL CAUSES BY GENDER, AGE GROUP, AND RACE/ETHNICITY, ARIZONA, 2020

	Total[a]	Gender			Age group						Race/ethnicity					
		Male	Female	Unknown	Children <15 years	Adolescents 15-19 years	Young adults 20-44 years	Middle-aged adults 45-64 years	Elderly 65+ years	Unknown	White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander	Refused/Unknown
UNINTENTIONAL INJURY OR ACCIDENT	356,400	181,044	175,331	25	65,563	23,451	114,669	74,099	78,602	16	222,046	87,461	24,419	13,528	5,728	3,218
Falls	129,419	56,803	72,610	6	26,632	3,982	21,204	26,236	51,365	0	89,963	25,835	5,957	4,645	1,944	1,075
Transport accidents	56,839	30,282	26,549	8	7,136	6,420	26,589	11,797	4,894	*	31,968	15,830	5,338	1,980	1,060	663
Struck against or struck accidentally by objects or persons	38,010	21,845	16,162	*	10,454	3,682	12,998	6,410	4,465	*	22,137	10,581	2,904	1,475	566	347
Overexertion	26,305	13,084	13,219	*	3,263	2,407	11,380	6,078	3,177	0	15,288	7,158	2,235	1,006	421	197
Cutting or piercing instruments or objects	21,871	14,237	7,632	*	2,669	1,595	9,780	4,928	2,898	*	13,429	5,917	1,160	816	332	217
Natural and environmental factors	50,768	26,206	24,561	*	7,739	2,981	19,132	11,926	8,984	6	29,903	12,947	4,476	2,162	885	395
Exposure to excessive natural heat	1,369	989	380	0	24	64	625	407	247	*	845	353	85	64	11	11
Fire and flames	2,092	1,215	876	*	402	139	883	467	201	0	1,146	563	216	106	39	22
Machinery	2,128	1,863	265	0	62	75	900	658	433	0	1,360	621	55	51	19	22
Pedal cycle, nontraffic and other	5,737	4,135	1,602	0	1,640	382	1,539	1,514	662	0	4,057	1,111	238	144	112	75
Motor vehicle, nontraffic	696	485	211	0	128	62	284	158	64	0	472	151	34	19	12	8
Firearm missile	1,258	1,068	189	*	94	180	739	170	72	*	583	417	176	48	12	22
Drowning/submersion	100†	52	43	0	81	*	7	*	*	0	53	23	6	7	*	*
SUICIDE ATTEMPT AND INTENTIONAL SELF-HARM	6,887	2,700	4,183	*	893	1,883	3,031	869	210	*	4,202	1,566	521	410	114	74
ASSAULT	14,909	8,927	5,981	*	496	1,412	9,590	2,924	483	*	6,704	4,028	1,819	1,997	174	187
INJURIES OF UNDETERMINED INTENT	962	536	426	0	245	125	363	164	65	0	517	264	85	57	14	25
COMPLICATIONS OF CARE AND ADVERSE EFFECTS OF MEDICAL TREATMENT	10,099	5,647	4,452	0	365	180	2,187	3,026	4,341	0	6,739	2,041	644	411	212	52
Misadventures to patients	60†	29	35	0	*	0	24	18	19	0	36	14	6	7	*	0
Surgical and medical procedures as the cause of adverse reaction	7,621	4,183	3,438	0	308	139	1,736	2,310	3,128	0	5,059	1,560	488	300	170	44

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] the total may include records with unknown gender and/or age group.

Part II:

THE COUNTIES

CHAPTER 5

TRENDS AND PATTERNS IN HEALTH STATUS AND VITAL STATISTICS BY COUNTY OF RESIDENCE, 2010-2020

5A

PREGNANCIES BY PREGNANCY OUTCOME

TABLE 5A-1
PREGNANCIES AND PREGNANCY RATES BY PREGNANCY OUTCOME AND COUNTY OF RESIDENCE, ARIZONA, 2020

County of residence	PREGNANCIES BY OUTCOME					PREGNANCY RATES BY OUTCOME			
	Female population of childbearing age[a]	Live births	Abortions	Fetal deaths	Total pregnancies[b]	Fertility rate[c]	Abortion rate[d]	Pregnancy rate[e]	Percent pregnancies ending in abortions
State Total	1,379,947	76,781	13,186	480†	90,444	55.6	9.6	65.5	14.6
Apache	12,202	785	16	*	800†	64.3	1.3	**	2.0
Cochise	20,394	1,273	119	7	1,399	62.4	5.8	68.6	8.5
Coconino	36,435	1,330	176	*	1,510†	36.5	4.8	**	11.6
Gila	7,421	471	30	8	509	63.5	4.0	68.6	5.9
Graham	7,019	464	27	7	498	66.1	3.8	71.0	5.4
Greenlee	1,809	121	7	0	128	66.9	3.9	0.0	5.5
La Paz	2,050	154	21	*	180†	75.1	10.2	**	11.9
Maricopa	895,972	49,191	9,587	300	59,078	54.9	10.7	65.9	16.2
Mohave	28,409	1,696	20	10	1,726	59.7	0.7	60.8	1.2
Navajo	18,088	1,305	66	14	1,385	72.1	3.6	76.6	4.8
Pima	202,184	10,035	1,621	65	11,721	49.6	8.0	58.0	13.8
Pinal	71,544	4,647	464	31	5,142	65.0	6.5	71.9	9.0
Santa Cruz	8,709	589	32	*	620†	67.6	3.7	**	5.1
Yavapai	30,866	1,693	182	9	1,884	54.8	5.9	61.0	9.7
Yuma	36,845	2,972	26	16	3,014	80.7	0.7	81.8	0.9

Notes: * Cell suppressed due to non-zero count less than 6; ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Females 15-44 years old; [b] Sum of recorded live births, reported spontaneous terminations of pregnancy (fetal deaths) and reported induced terminations of pregnancy (abortions); [c] The number of live births per 1,000 females of childbearing age; [d] The number of abortions per 1,000 females of childbearing age; [e] The number of pregnancies per 1,000 females of childbearing age; the total number of abortions, fetal deaths, and total pregnancies include missing county of residence; these data are not shown above.

TABLE 5A-2
PREGNANCIES AND PREGNANCY RATES, FEMALES 10-19 YEARS, BY COUNTY OF RESIDENCE, ARIZONA, 2020

County of residence	NUMBER OF PREGNANCIES[a]				
	All 19 years or younger	10-14 years	15-19 years		
			Total, 15-19	15-17	18-19
Apache	58	0	58	16	42
Cochise	113	0	113	27	86
Coconino	80†	*	75	21	54
Gila	49	0	49	15	34
Graham	50†	*	45	17	28
Greenlee	10	0	10†	*	9
La Paz	19	0	20†	*	15
Maricopa	3,188	32	3,156	759	2,397
Mohave	90	0	90	22	68
Navajo	115	0	115	32	83
Pima	670	7	663	145	518
Pinal	300†	*	295	88	207
Santa Cruz	46	0	46	10	36
Yavapai	130†	*	123	19	104
Yuma	190†	*	193	61	132
STATE TOTAL	5,180	50†	5,130	1,260†	3,874
County of residence	PREGNANCY RATES[b]				
	All 19 years or younger	10-14 years	15-19 years		
			Total, 15-19	15-17	18-19
Apache	11.1	0.0	22.8	10.1	43.6
Cochise	15.1	0.0	31.3	12.2	61.5
Coconino	6.3	**	9.4	8.8	9.7
Gila	17.8	0.0	37.5	17.5	75.2
Graham	16.1	**	32.6	20.2	51.9
Greenlee	15.6	0.0	37.2	**	92.8
La Paz	28.1	0.0	61.1	**	144.2
Maricopa	10.9	0.2	21.8	8.7	41.7
Mohave	9.0	0.0	19.0	7.3	39.2
Navajo	15.0	0.0	32.5	13.9	67.2
Pima	10.5	0.2	19.5	8.1	32.3
Pinal	11.4	**	24.4	11.4	47.5
Santa Cruz	12.7	0.0	25.5	8.9	53.0
Yavapai	11.6	**	23.5	6.0	50.5
Yuma	14.2	**	28.3	14.6	50.0
STATE TOTAL	11.2	0.2	22.3	9.3	40.7

Notes: * Cell suppressed due to non-zero count less than 6; ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] The sum of live births, fetal deaths and abortions; [b] The number of pregnancies per 1,000 females in specified group.

TABLE 5A-3
TRENDS IN PREGNANCY RATES[a] BY COUNTY OF RESIDENCE AMONG FEMALES 10-17 AND 18-19 YEARS OLD, ARIZONA, 2010-2020

		ARIZONA	APACHE	COCHISE	COCONINO	GILA	GRAHAM	GREENLEE	LA PAZ	MARICOPA	MOHAVE	NAVAJO	PIMA	PINAL	SANTA CRUZ	YAVAPAI	YUMA
10-19 YEARS	2010	24.7	26.7	27.5	22.5	39.7	33.3	35.7	38.1	23.7	24.6	32.8	24.7	22.8	30.5	21.4	34.1
	2011	23.0	23.6	24.7	20.3	35.9	28.5	34.1	31.9	22.4	18.9	33.4	22.6	21.7	27.9	19.9	30.1
	2012	21.6	21.6	24.0	18.0	29.9	29.2	18.9	29.0	25.3	20.7	19.2	29.8	21.4	20.6	29.0	18.7
	2013	19.2	19.1	18.9	16.2	32.0	26.7	28.8	37.6	18.4	15.8	23.3	19.2	16.4	20.6	16.7	25.1
	2014	17.8	17.7	18.4	14.7	29.0	27.1	26.8	33.4	17.4	17.5	21.8	16.9	15.5	20.0	17.2	19.7
	2015	15.9	13.7	20.0	14.4	25.6	23.7	20.5	22.9	15.3	14.7	21.4	15.0	15.1	13.6	16.4	18.2
	2016	14.9	17.2	18.8	13.0	31.3	18.2	21.5	20.7	14.4	13.5	19.3	14.2	12.9	18.1	13.5	17.5
	2017	13.7	15.7	14.3	12.6	22.0	16.6	15.3	18.0	13.2	13.6	19.5	13.1	13.5	12.7	15.1	13.9
	2018	12.6	13.0	14.4	9.2	21.6	17.6	11.0	20.2	11.9	11.2	16.2	11.6	12.4	11.9	13.3	17.7
	2019	11.9	13.4	11.2	7.2	20.5	14.9	8.4	18.2	11.2	12.0	14.4	11.8	11.5	11.0	12.3	15.9
	2020	11.2	11.1	15.1	6.3	17.8	16.1	15.6	28.1	10.9	9.0	15.0	10.5	11.4	12.7	11.6	14.2
18-19 YEARS	2010	80.8	96.6	90.6	40.2	137.9	96.0	122.4	177.8	80.3	96.5	122.7	68.7	96.8	94.2	84.5	114.7
	2011	77.2	94.2	78.9	36.2	132.6	81.7	163.3	127.8	78.4	75.9	121.1	64.3	94.7	104.2	71.3	109.3
	2012	70.2	79.6	80.2	33.4	105.8	95.2	64.7	90.1	87.7	69.3	69.6	115.7	61.9	82.2	97.9	64.6
	2013	64.8	68.5	65.2	30.8	133.0	103.2	108.8	146.1	64.2	59.4	92.9	54.6	67.7	92.4	62.2	83.0
	2014	65.2	66.4	66.7	25.8	114.8	108.7	142.9	126.4	68.3	79.5	81.0	48.7	70.8	66.9	75.5	72.0
	2015	58.4	43.9	77.0	25.9	105.7	95.0	86.2	77.3	59.5	67.9	78.9	45.9	71.4	50.9	64.5	69.9
	2016	55.0	68.1	73.0	21.3	114.2	70.6	84.5	94.9	56.4	63.2	70.2	43.5	58.9	69.3	55.1	63.1
	2017	50.9	62.1	55.4	22.6	97.0	61.5	67.2	80.5	51.7	67.4	76.3	39.1	64.0	61.0	61.3	50.3
	2018	46.6	58.2	56.6	14.9	84.3	60.8	46.9	80.0	46.5	52.5	64.4	35.3	55.2	53.1	52.8	63.3
	2019	42.8	55.2	38.3	11.0	77.4	52.6	**	80.2	43.1	55.8	55.9	35.2	50.8	37.8	46.5	60.2
	2020	40.7	43.6	61.5	9.7	75.2	51.9	92.8	144.2	41.7	39.2	67.2	32.3	47.5	53.0	50.5	50.0
10-17 YEARS	2010	10.0	11.0	10.8	11.5	18.1	11.9	19.3	**	9.5	8.1	12.5	10.3	8.6	17.1	6.6	14.9
	2011	8.7	7.8	10.4	10.6	14.6	10.3	**	10.1	8.4	5.8	13.6	9.0	7.7	11.9	7.8	11.2
	2012	8.4	7.7	9.2	8.3	11.7	12.2	**	12.6	8.9	8.1	6.3	10.4	8.0	7.2	15.0	7.4
	2013	6.9	8.1	6.9	7.3	10.7	10.0	10.8	12.8	6.6	4.4	7.1	7.4	5.3	7.7	5.4	10.1
	2014	6.1	6.0	6.4	7.1	9.9	9.5	**	11.6	5.9	4.8	8.8	6.6	5.1	9.1	4.3	6.7
	2015	5.4	6.8	6.3	6.2	9.5	8.1	**	10.3	5.2	3.9	9.7	5.2	4.7	5.2	5.3	5.7
	2016	5.0	6.5	6.3	6.9	13.7	6.4	**	**	4.6	3.4	8.8	4.8	4.3	6.9	3.8	6.7
	2017	4.4	6.1	5.0	5.2	5.9	6.7	**	**	4.1	3.0	8.1	4.9	3.8	2.3	4.1	5.2
	2018	4.2	3.1	4.6	4.9	8.4	7.4	**	**	3.9	2.9	6.6	3.9	3.9	2.7	4.3	7.0
	2019	3.9	3.8	4.3	4.2	9.2	5.5	**	**	3.6	2.9	6.1	4.1	3.6	4.8	4.4	5.3
	2020	3.6	3.7	4.4	3.4	6.5	7.8	**	**	3.4	2.7	5.0	3.2	4.1	3.4	2.5	5.6

Notes: ** Cell suppressed due to rate/ratio/percent based on count less than 6; [a] Number of pregnancies per 1,000 females in specified group.

TABLE 5A-4
PREGNANCIES BY PREGNANCY OUTCOME, AGE GROUP, AND COUNTY OF RESIDENCE, ARIZONA, 2020

		Total	<15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45+	Un-known
STATE TOTAL	Total pregnancies	90,444	50	1,256	3,874	20,138	26,891	23,564	11,792	2,672	205	0†
	Births	76,781	28	995	2,911	16,020	23,135	20,947	10,347	2,244	152	*
	Abortions	13,186	20	251	947	4,011	3,633	2,501	1,359	414	50	0
	Fetal deaths	480†	*	10	16	107	123	116	86	14	*	0
APACHE	Total pregnancies	800†	0	20†	40†	210†	230†	180†	97	30†	0†	0
	Births	790†	0	15	41	207	223	176	97	24	*	0
	Abortions	20†	0	*	*	*	*	*	0	*	*	0
	Fetal deaths	0†	0	0	0	0	*	*	0	0	0	0
COCHISE	Total pregnancies	1,400†	0	30†	86	350†	426	334	150†	30†	0†	0
	Births	1,270†	0	24	76	319	384	310	133	25	*	0
	Abortions	120†	0	*	10	30	42	24	8	*	0	0
	Fetal deaths	10†	0	0	0	*	0	0	*	0	0	0
COCONINO	Total pregnancies	1,510†	0†	20†	54	360†	410†	400†	220†	44	0†	0
	Births	1,330†	*	19	37	288	379	373	191	38	*	0
	Abortions	180†	0	*	17	70	31	28	22	6	0	0
	Fetal deaths	10†	0	0	0	*	*	*	*	0	0	0
GILA	Total pregnancies	510†	0	15	30†	152	130†	120†	50†	13	0†	0
	Births	470†	0	15	30	144	119	108	41	13	*	0
	Abortions	30†	0	0	*	8	8	8	*	0	0	0
	Fetal deaths	10†	0	0	0	0	*	*	*	0	0	0
GRAHAM	Total pregnancies	500†	0†	17	30†	150†	180†	90†	30†	10	0	0
	Births	460†	*	17	26	139	165	81	25	10	0	0
	Abortions	30†	0	0	*	7	10	*	*	0	0	0
	Fetal deaths	10†	0	0	0	*	*	*	0	0	0	0
GREENLEE	Total pregnancies	130†	0	0†	10†	50†	37	20†	10	0†	0	0
	Births	120†	0	*	8	41	37	21	10	*	0	0
	Abortions	10†	0	0	*	*	0	*	0	0	0	0
	Fetal deaths	0	0	0	0	0	0	0	0	0	0	0
LA PAZ	Total pregnancies	180†	0	0†	20†	44	50†	40†	20†	0†	0	0
	Births	150†	0	*	13	37	44	39	14	*	0	0
	Abortions	20†	0	0	*	7	*	*	*	*	0	0
	Fetal deaths	0†	0	0	0	0	0	*	0	0	0	0
MARICOPA	Total pregnancies	59,078	30†	759	2,397	12,495	17,311	15,938	8,148	1,860	140†	0
	Births*	49,191	17	578	1,733	9,518	14,553	14,025	7,112	1,556	99	0
	Abortions	9,587	14	175	653	2,915	2,681	1,834	981	297	37	0
	Fetal deaths	300†	*	6	11	62	77	79	55	7	*	0
MOHAVE	Total pregnancies	1,730†	0	20†	70†	510†	540†	370†	170†	40†	0†	0
	Births	1,700†	0	21	67	491	532	369	171	42	*	0
	Abortions	20†	0	*	*	10	*	*	*	*	0	0
	Fetal deaths	10†	0	0	0	*	*	*	0	0	0	0
NAVAJO	Total pregnancies	1,390†	0	30†	80†	380†	390†	320†	150†	30†	0†	0
	Births	1,310†	0	29	71	353	378	305	140	28	*	0
	Abortions	70†	0	*	9	18	12	14	8	*	0	0
	Fetal deaths	10†	0	0	*	*	*	*	*	0	0	0
PIMA	Total pregnancies	11,721	10†	150†	520†	2,618	3,541	3,033	1,518	320†	30†	0
	Births	10,035	6	113	387	2,077	3,090	2,754	1,329	261	18	0
	Abortions	1,621	0	31	129	527	435	265	178	49	7	0
	Fetal deaths	70†	*	*	*	14	16	14	11	*	*	0
PINAL	Total pregnancies	5,140†	0†	90†	207	1,250	1,635	1,262	555	140†	10†	0
	Births	4,650†	0	73	176	1,114	1,504	1,156	505	114	*	0
	Abortions	460†	*	14	31	130	124	97	44	23	0	0
	Fetal deaths	30†	0	*	0	6	7	9	6	*	0	0
SANTA CRUZ	Total pregnancies	620†	0	10	40†	130†	220†	150†	70†	12	0†	0
	Births	590†	0	10	32	119	204	146	63	12	*	0
	Abortions	30†	0	0	*	9	10	*	*	0	*	0
	Fetal deaths	0†	0	0	0	*	*	0	0	0	0	0
YAVAPAI	Total pregnancies	1,880†	0†	20†	104	440†	570†	471	210†	62	7	0
	Births	1,690†	*	17	84	383	522	435	189	54	7	0
	Abortions	180†	*	*	20	50	42	36	23	8	0	0
	Fetal deaths	10†	0	0	0	*	*	0	*	0	0	0
YUMA	Total pregnancies	3,010†	0†	60†	130†	800†	1,000†	640†	320†	49	0†	0
	Births	2,970†	*	59	130	785	993	638	316	49	*	0
	Abortions	30†	0	0	*	12	*	*	6	0	0	0
	Fetal deaths	20†	0	*	0	*	7	*	*	0	0	0
UNKNOWN	Total pregnancies	850†	0†	19	61	210†	231	182	88	36	10†	0†
	Births	60†	0	0	0	*	8	11	11	12	6	*
	Abortions	790†	*	19	61	209	223	171	77	24	*	0
	Fetal deaths	0	0	0	0	0	0	0	0	0	0	0

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 5A-5
BIRTHS AND BIRTH RATES, FEMALES 10-19 YEARS, BY COUNTY OF RESIDENCE, ARIZONA, 2020

County of residence	NUMBER OF BIRTHS				
	All 19 years or younger	10-14 years	15-19 years		
			Total 15-19	15-17	18-19
Apache	56	0	56	15	41
Cochise	100	0	100	24	76
Coconino	60†	*	56	19	37
Gila	45	0	45	15	30
Graham	40†	*	43	17	26
Greenlee	9	0	10†	*	8
La Paz	17	0	20†	*	13
Maricopa	2,328	17	2,311	578	1,733
Mohave	88	0	88	21	67
Navajo	100	0	100	29	71
Pima	506	6	500	113	387
Pinal	249	0	249	73	176
Santa Cruz	42	0	42	10	32
Yavapai	100†	*	101	17	84
Yuma	190†	*	189	59	130
STATE TOTAL	3,934	30†	3,906	1,000†	2,911

County of residence	BIRTH RATES[a]				
	All 19 years or younger	10-14 years	15-19 years		
			Total 15-19	15-17	18-19
Apache	10.7	0.0	22.0	9.5	42.5
Cochise	13.4	0.0	27.7	10.9	54.3
Coconino	4.7	**	7.0	8.0	6.6
Gila	16.4	0.0	34.4	17.5	66.4
Graham	15.4	**	31.2	20.2	48.2
Greenlee	14.0	0.0	33.5	**	82.5
La Paz	25.1	0.0	54.7	**	125.0
Maricopa	7.9	0.1	16.0	6.6	30.2
Mohave	8.8	0.0	18.6	7.0	38.7
Navajo	13.0	0.0	28.3	12.6	57.4
Pima	7.9	0.2	14.7	6.3	24.2
Pinal	9.6	0.0	20.6	9.4	40.4
Santa Cruz	11.6	0.0	23.3	8.9	47.1
Yavapai	9.5	**	19.3	5.3	40.8
Yuma	13.9	**	27.8	14.2	49.2
STATE TOTAL	8.5	0.1	17.0	7.4	30.6

Notes: * Cell suppressed due to non-zero count less than 6; ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] The number of births per 1,000 females in specified group.

5B

MATERNAL CHARACTERISTICS AND NEWBORN'S HEALTH

TABLE 5B-1
RATES OF NATURAL INCREASE FROM BIRTHS[a] PER 1,000 POPULATION
BY COUNTY OF RESIDENCE, ARIZONA, 2010-2020

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ARIZONA	6.4	5.8	5.7	6.6	5.3	4.6	4.1	3.5	3.0	2.6	0.2
Apache	7.8	6.8	6.4	5.6	5.8	4.3	5.1	3.5	3.0	2.2	-5.8
Cochise	4.3	3.6	3.8	3.9	3.4	2.0	1.5	-0.1	-0.1	-0.5	-2.9
Coconino	8.2	7.8	7.3	2.3	7.0	5.4	5.3	4.5	4.4	3.6	1.2
Gila	0.2	-1.1	-0.8	5.9	-1.8	-4.3	-4.4	-3.3	-4.7	-6.2	-9.5
Graham	6.1	9.6	6.1	2.9	8.4	8.6	7.3	5.9	4.6	5.4	2.1
Greenlee	5.9	5.7	5.9	4.2	8.8	8.1	9.3	8.3	6.1	5.6	4.8
La Paz	0.0	-0.7	-1.0	5.5	-1.9	-2.6	-2.2	-5.8	-5.9	-5.5	-12.8
Maricopa	7.8	7.3	7.4	1.9	6.9	6.3	5.7	5.1	4.6	4.2	1.9
Mohave	-1.7	-2.3	-3.7	1.7	-3.5	-5.7	-6.7	-6.7	-7.5	-7.5	-10.8
Navajo	8.5	6.9	6.8	1.1	6.2	5.6	4.4	4.0	2.1	1.4	-4.0
Pima	4.1	3.5	3.2	3.2	3.1	2.2	1.9	1.4	0.8	0.4	-2.2
Pinal	7.3	5.8	5.7	3.0	4.7	3.7	3.6	3.0	3.1	2.6	0.8
Santa Cruz	9.1	9.3	7.6	7.0	6.5	6.5	6.7	6.5	6.5	5.0	2.6
Yavapai	-2.9	-3.1	-4.0	2.7	-3.8	-4.8	-4.9	-5.8	-5.9	-5.4	-8.5
Yuma	10.0	9.3	8.4	2.1	7.7	7.4	6.9	6.6	6.2	5.7	2.6

Note: [a] The difference between the birth rate per 1,000 population and the death rate per 1,000 population.

TABLE 5B-2
BIRTH RATES[a] BY YEAR AND COUNTY OF RESIDENCE, ARIZONA, 2010-2020

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ARIZONA	13.2	13.2	13.2	12.9	13.0	12.6	12.3	11.7	11.4	11.0	10.7
Apache	15.4	14.9	12.9	13.2	14.2	13.2	14.2	13.0	12.4	12.5	11.9
Cochise	13.6	12.7	13.0	12.3	12.7	12.1	11.9	10.4	10.3	10.3	10.1
Coconino	13.2	13.2	12.6	12.0	12.2	11.1	11.3	10.5	10.3	9.3	9.1
Gila	12.5	11.6	11.4	11.0	12.0	10.7	10.9	9.8	9.0	8.6	8.8
Graham	14.2	16.1	14.1	15.8	15.7	15.1	14.6	13.8	13.5	12.8	12.0
Greenlee	12.4	14.2	13.3	11.5	13.7	14.6	14.3	14.2	12.4	12.0	12.7
La Paz	9.8	8.3	9.8	9.7	10.0	9.4	10.5	9.0	8.5	8.4	9.3
Maricopa	14.2	13.9	14.0	13.7	13.8	13.4	13.1	12.4	12.0	11.7	11.1
Mohave	10.1	9.8	8.5	8.6	9.0	9.0	8.8	8.3	8.4	8.0	7.9
Navajo	16.2	15.3	15.1	14.3	14.7	13.8	13.6	13.5	12.2	12.0	12.2
Pima	12.4	12.0	12.0	12.0	11.8	11.4	11.3	10.7	10.3	9.9	9.6
Pinal	13.3	12.0	12.0	11.6	11.3	11.0	10.8	10.3	10.2	9.9	10.9
Santa Cruz	14.6	14.4	13.8	13.2	12.1	12.4	12.7	12.3	11.8	11.3	12.3
Yavapai	8.6	8.7	8.4	8.5	9.0	8.6	8.5	8.0	7.7	7.8	7.1
Yuma	16.5	16.0	15.2	14.9	14.4	14.0	13.8	13.3	13.5	12.8	14.5

Note: [a] The number of births per 1,000 population.

TABLE 5B-3
NUMBER OF BIRTHS BY YEAR AND COUNTY OF RESIDENCE, ARIZONA, 2010-2020

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ARIZONA[a]	87,053	85,190	85,725	84,963	86,648	85,024	84,404	81,664	80,539	79,183	76,781
Apache	1,099	1,071	930	951	1,018	953	1,022	946	910	895	785
Cochise	1,781	1,664	1,704	1,607	1,643	1,566	1,531	1,330	1,348	1,344	1,273
Coconino	1,775	1,771	1,689	1,625	1,701	1,575	1,615	1,506	1,500	1,367	1,330
Gila	670	620	609	590	649	580	593	541	497	473	471
Graham	530	606	525	600	603	580	558	530	513	493	464
Greenlee	105	119	114	125	144	154	149	156	130	124	121
La Paz	200	172	204	204	213	199	223	194	187	186	154
Maricopa	54,236	53,361	54,475	53,848	55,285	54,600	54,021	52,470	51,701	50,998	49,191
Mohave	2,022	1,962	1,736	1,742	1,833	1,845	1,803	1,734	1,790	1,726	1,696
Navajo	1,737	1,642	1,633	1,554	1,609	1,517	1,498	1,507	1,379	1,355	1,305
Pima	12,169	11,874	11,876	11,965	11,844	11,476	11,403	10,970	10,661	10,357	10,035
Pinal	4,990	4,607	4,656	4,564	4,490	4,454	4,471	4,384	4,498	4,497	4,647
Santa Cruz	693	694	671	652	599	621	642	633	617	599	589
Yavapai	1,817	1,829	1,782	1,820	1,943	1,877	1,868	1,796	1,769	1,806	1,693
Yuma	3,229	3,198	3,121	3,116	3,058	3,017	3,004	2,956	3,030	2,945	2,972
Unknown	0	0	0	0	16	10	*	11	9	18	55

Notes: * Cell suppressed due to non-zero count less than 6; [a] May include records with unknown county of residence.

TABLE 5B-4
BIRTHS BY COUNTY OF OCCURRENCE[a], ARIZONA, 2010-2020

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ARIZONA[b]	88,100	86,121	87,221	86,586	88,065	86,845	86,228	83,471	82,500	81,056	78,154
Apache	967	1,003	932	947	872	888	788	722	659	651	542
Cochise	1,303	1,091	1,096	1,077	1,106	1,103	1,124	867	813	612	640
Coconino	2,087	2,057	2,013	1,929	1,993	1,874	1,886	1,821	1,810	1,603	1,533
Gila	529	505	482	460	503	441	489	482	441	432	451
Graham	552	597	521	605	669	624	623	574	562	549	505
Greenlee	*	0	0	0	0	0	0	*	0	0	0
La Paz	*	6	*	*	*	*	7	*	*	6	*
Maricopa	59,036	57,046	58,188	57,529	59,070	58,194	57,481	55,935	55,147	54,369	52,688
Mohave	2,061	1,993	1,976	1,995	2,000	1,949	1,931	1,819	1,833	1,754	1,705
Navajo	1,369	1,271	1,288	1,236	1,272	1,234	1,232	1,197	1,062	1,085	1,104
Pima	13,393	13,138	13,228	13,235	13,124	12,781	12,634	12,233	11,993	11,878	11,289
Pinal	918	1,596	1,814	1,743	1,615	1,597	1,689	1,615	1,836	2,003	1,894
Santa Cruz	784	762	728	744	716	720	730	706	702	697	653
Yavapai	1,635	1,647	1,598	1,653	1,770	1,674	1,662	1,607	1,580	1,587	1,499
Yuma	3,460	3,409	3,354	3,385	3,333	3,347	3,331	3,292	3,405	3,177	3,018
Unknown	0	0	0	46	18	415	621	597	654	653	630

Notes: * Cell suppressed due to non-zero count less than 6; [a] Resident and non-resident births occurring in Arizona; [b] Total births include resident births occurring out-of-state.

TABLE 5B-5
RESIDENT BIRTHS BY PLACE OF OCCURRENCE AND NON-RESIDENT BIRTHS BY COUNTY OF OCCURRENCE IN ARIZONA, 2020

County of residence	County of occurrence															Born in AZ	AZ resident born outside AZ	Total resident births[a]
	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma			
Apache	412	0	13	0	0	0	0	30	0	165	*	0	0	0	*	624	161	790†
Cochise	0	621	0	*	24	0	0	11	0	*	604	0	*	0	0	1,265	8	1,270†
Coconino	0	0	1,209	*	0	0	0	66	*	16	0	0	0	*	0	1,301	29	1,330†
Gila	0	0	*	377	*	0	0	80	0	*	6	*	0	0	0	470	*	470†
Graham	*	0	0	37	370	0	0	23	0	*	30	*	0	0	0	463	*	460†
Greenlee	0	0	0	0	98	0	0	*	0	*	17	0	0	0	0	118	*	120†
La Paz	0	0	0	0	0	0	*	39	102	0	0	0	0	0	*	149	*	150†
Maricopa	*	*	11	8	*	0	0	48,715	7	7	33	233	*	16	12	49,055	136	49,190†
Mohave	0	0	9	0	0	0	0	63	1,457	0	0	*	0	*	*	1,533	163	1,700†
Navajo	67	0	219	*	0	0	0	80	0	902	*	0	0	*	0	1,275	30	1,310†
Pima	0	*	0	0	*	0	0	68	*	0	9,889	8	25	*	*	10,003	32	10,040†
Pinal	0	*	*	20	0	0	0	2,842	0	*	141	1,632	*	*	*	4,641	6	4,650†
Santa Cruz	0	*	0	0	0	0	0	7	0	0	210	0	369	0	*	588	*	590†
Yavapai	0	0	46	*	0	0	0	172	*	0	*	0	0	1,465	0	1,689	*	1,690†
Yuma	0	0	0	0	0	0	0	47	*	0	0	*	*	0	2,884	2,935	37	2,970†
Unknown	0	*	0	0	*	0	0	28	*	*	*	*	0	0	0	42	13	55
AZ resident	480†	630†	1,510†	450†	500†	0	0†	52,270†	1,580†	1,100†	10,940†	1,880†	400†	1,490†	2,910†	76,150†	630†	76,781
Non-resident born in AZ	59	8	24	*	*	0	0	415	125	7	346	15	249	8	111	1,370†		
Total born in specified county	540†	640†	1,530†	450†	510†	0	0†	52,690†	1,710†	1,100†	11,290†	1,890†	650†	1,500†	3,020†	77,520†		

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Total number of resident births includes 18 births with unknown Arizona county of residence.

TABLE 5B-6
NUMBER OF BIRTHS BY MONTH AND COUNTY OF RESIDENCE, ARIZONA, 2020

	TOTAL	Month of birth											
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
ARIZONA	76,781	6,671	6,247	6,347	5,954	6,030	6,068	6,763	6,690	6,732	6,637	6,197	6,445
Apache	785	72	68	50	77	80	72	72	62	59	67	57	49
Cochise	1,273	108	100	122	104	104	109	106	125	96	109	110	80
Coconino	1,330	112	91	99	99	124	110	128	119	122	111	107	108
Gila	471	45	39	35	32	43	37	40	43	42	36	37	42
Graham	464	40	45	31	38	38	32	31	46	43	32	42	46
Greenlee	121	11	10	7	9	12	11	12	6	14	10	10	9
La Paz	154	15	15	11	14	13	12	17	17	10	12	8	10
Maricopa	49,191	4,295	3,985	4,062	3,821	3,857	3,873	4,339	4,187	4,386	4,307	3,973	4,106
Mohave	1,696	133	133	124	119	143	139	169	166	148	157	138	127
Navajo	1,305	102	87	105	109	108	101	107	122	126	114	99	125
Pima	10,035	868	807	854	768	782	793	922	901	853	800	804	883
Pinal	4,647	394	406	393	335	359	374	416	424	410	387	366	383
Santa Cruz	589	47	54	51	49	52	44	40	52	41	51	53	55
Yavapai	1,693	152	143	142	140	116	144	147	152	111	152	137	157
Yuma	2,972	266	253	257	236	194	215	212	265	269	289	254	262
Unknown	60†	11	11	*	*	*	*	*	*	*	*	*	*

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 5B-7
BIRTHS BY MOTHER'S RACE/ETHNICITY, THE PARTY PAYING FOR THE DELIVERY, AND COUNTY OF RESIDENCE, ARIZONA, 2020

			County of residence															
		ARIZONA	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
All racial/ethnic groups	Total	76,781	785	1,273	1,330	471	464	121	154	49,191	1,696	1,305	10,035	4,647	589	1,693	2,972	55
	AHCCCS	36,620	567	659	646	229	189	35	114	21,925	1,099	915	5,029	2,168	382	874	1,750	39
	IHS	620	37	0	43	81	44	0	7	168	6	22	87	114	0	0	11	0
	Private Insurance	32,652	129	329	537	136	200	77	22	22,970	448	306	3,908	2,058	136	644	746	6
	Self-pay	4,091	32	77	61	21	29	9	9	2,413	118	41	408	211	64	136	454	8
	Unknown	2,798	20	208	43	*	*	0	*	1,715	25	21	603	96	7	39	11	*
White non-Hispanic	Total	33,101	140†	602	580†	250†	250†	60†	70†	21,434	1,230†	480†	3,900†	2,273	40†	1,176	580†	50†
	AHCCCS	10,532	67	245	129	135	97	14	45	5,792	754	254	1,375	842	22	549	176	36
	IHS	50†	*	0	*	*	*	0	*	23	*	*	*	9	0	0	*	0
	Private Insurance	19,346	61	196	371	102	128	41	12	13,871	348	187	2,045	1,249	18	508	204	*
	Self-pay	2,000†	12	33	45	14	19	*	*	1,217	104	30	119	111	*	92	190	*
	Unknown	1,170†	*	128	31	*	*	0	*	531	19	7	353	62	0	27	6	*
Hispanic or Latino	Total	31,859	50†	578	195	90†	130	60†	60†	20,225	382	150†	4,984	1,724	540	435	2,260†	10†
	AHCCCS	19,481	26	372	109	61	70	20	45	12,166	288	108	3,050	1,012	355	292	1,506	*
	IHS	50†	0	0	0	*	0	0	0	17	0	0	12	15	0	0	*	0
	Private Insurance	9,296	14	114	73	18	51	32	7	6,069	77	39	1,476	598	116	99	512	*
	Self-pay	1,710†	*	39	9	*	8	*	*	952	12	*	264	77	62	36	234	*
	Unknown	1,320†	*	53	*	*	*	0	*	1,021	*	*	182	22	7	8	*	0
Black or African American	Total	4,770†	0	50†	18	0†	10†	0†	0†	3,889	20†	10†	480†	241	0†	10†	40	0†
	AHCCCS	3,090†	0	22	6	*	*	0	*	2,567	13	*	313	134	*	*	19	*
	IHS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Private Insurance	1,380†	0	*	10	*	*	*	*	1,121	*	*	122	88	*	6	7	0
	Self-pay	140†	0	*	0	0	*	0	0	101	0	0	*	13	0	*	14	0
	Unknown	160†	0	16	*	0	0	0	0	100	*	*	35	6	0	*	0	0
American Indian or Alaska Native	Total	4,090†	586	10†	500†	120†	80†	0†	30†	1,289	40†	658	380†	310†	0†	40†	50†	0
	AHCCCS	2,840†	472	8	394	27	20	*	20	886	31	549	225	146	*	23	36	0
	IHS	520†	35	0	38	79	43	0	*	127	*	21	72	90	0	0	6	0
	Private Insurance	600†	48	*	60	11	14	*	*	241	*	72	70	62	0	12	*	0
	Self-pay	80†	18	0	*	*	*	*	*	25	0	9	*	*	0	*	*	0
	Unknown	50†	13	*	*	0	0	0	0	10	0	7	*	6	0	*	0	0
Asian or Pacific Islander	Total	2,970†	10†	40†	40†	10†	0†	0	0†	2,350†	30†	10†	305	100†	0†	30†	44	0†
	AHCCCS	680†	*	12	8	*	0	0	*	514	13	*	66	34	*	7	13	*
	IHS	0†	0	0	0	0	0	0	0	*	0	0	0	0	0	0	0	0
	Private Insurance	2,030†	6	13	23	*	*	0	*	1,668	14	*	195	61	*	19	18	0
	Self-pay	160†	0	*	*	0	0	0	0	118	*	0	16	*	0	*	13	0
	Unknown	90†	0	8	*	0	0	0	0	53	0	*	28	0	0	*	0	0

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; The Arizona Health Care Cost Containment System (AHCCCS) is the State's Medicaid program. IHS is the Indian Health Service.

TABLE 5B-8
BIRTHS BY MOTHER'S RACE/ETHNICITY, CHILD'S GENDER, AND COUNTY OF RESIDENCE, ARIZONA, 2020

	All racial/ethnic groups			White non-Hispanic			Hispanic or Latino			Black or African American			American Indian or Alaska Native			Asian or Pacific Islander		
	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F
ARIZONA	76,781	39,077	37,704	33,101	16,762	16,339	31,859	16,259	15,600	4,766	2,417	2,349	4,087	2,118	1,969	2,968	1,521	1,447
Apache	785	429	356	144	77	67	47	25	22	0	0	0	586	321	265	10†	6	*
Cochise	1,273	646	627	602	289	313	578	318	260	45	16	29	12	6	6	36	17	19
Coconino	1,330	707	623	581	321	260	195	111	84	18	7	11	501	248	253	35	20	15
Gila	471	238	233	254	131	123	87	46	41	0†	*	*	119	53	66	10†	*	*
Graham	464	222	242	246	112	134	130	73	57	10†	*	*	78	30	48	0†	*	*
Greenlee	121	58	63	60	26	34	55	27	28	0†	*	0	0†	*	*	0	0	0
La Paz	154	84	70	65	37	28	56	31	25	0†	*	*	27	14	13	0†	*	*
Maricopa	49,191	25,017	24,174	21,434	10,832	10,602	20,225	10,326	9,899	3,889	1,974	1,915	1,289	674	615	2,354	1,211	1,143
Mohave	1,696	873	823	1,227	627	600	382	196	186	19	11	8	39	21	18	29	18	11
Navajo	1,305	673	632	479	248	231	153	80	73	10†	*	*	658	338	320	10†	*	6
Pima	10,035	5,086	4,949	3,895	1,994	1,901	4,984	2,507	2,477	475	235	240	376	205	171	305	145	160
Pinal	4,647	2,346	2,301	2,273	1,144	1,129	1,724	864	860	241	130	111	309	160	149	100	48	52
Santa Cruz	589	293	296	42	18	24	540	272	268	0†	0	*	0†	*	0	0†	*	*
Yavapai	1,693	853	840	1,176	596	580	435	215	220	14	6	8	38	20	18	30	16	14
Yuma	2,972	1,530	1,442	577	293	284	2,261	1,165	1,096	40	21	19	50	24	26	44	27	17
Unknown	55	22	33	46	17	29	10†	*	*	0†	*	0	0	0	0	0†	*	0

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 5B-9
NUMBER OF BIRTHS BY MOTHER'S AGE GROUP AND COUNTY OF RESIDENCE, ARIZONA, 2020

	Total	Mother's age group									
		<15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45+	Unknown
ARIZONA	76,781	30†	1,000†	2,911	16,020	23,135	20,947	10,347	2,240†	150†	2
Apache	790†	0	15	41	207	223	176	97	24	*	0
Cochise	1,270†	0	24	76	319	384	310	133	25	*	0
Coconino	1,330†	*	19	37	288	379	373	191	38	*	0
Gila	470†	0	15	30	144	119	108	41	13	*	0
Graham	460†	*	17	26	139	165	81	25	10	0	0
Greenlee	120†	0	*	8	41	37	21	10	*	0	0
La Paz	150†	0	*	13	37	44	39	14	*	0	0
Maricopa	49,191	17	578	1,733	9,518	14,553	14,025	7,112	1,556	99	0
Mohave	1,700†	0	21	67	491	532	369	171	42	*	0
Navajo	1,310†	0	29	71	353	378	305	140	28	*	0
Pima	10,035	6	113	387	2,077	3,090	2,754	1,329	261	18	0
Pinal	4,650†	0	73	176	1,114	1,504	1,156	505	114	*	0
Santa Cruz	590†	0	10	32	119	204	146	63	12	*	0
Yavapai	1,690†	*	17	84	383	522	435	189	54	7	0
Yuma	2,970†	*	59	130	785	993	638	316	49	*	0
Unknown	60†	0	0	0	*	8	11	11	12	6	*

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 5B-10
BIRTHS BY MOTHER'S AGE GROUP, RACE/ETHNICITY, AND COUNTY OF RESIDENCE, ARIZONA, 2020

		Total	Mother's age group									
			<15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45+	Un-known
ARIZONA	Total	76,781	30†	995	2,911	16,020	23,135	20,947	10,347	2,244	150†	0†
	White non-Hispanic	33,101	*	166	724	5,397	9,911	10,439	5,285	1,087	89	*
	Hispanic or Latino	31,859	22	650	1,741	8,199	9,874	7,201	3,364	770	38	0
	Black or African American	4,766	*	56	200	1,086	1,429	1,206	626	145	17	0
	American Indian or Alaska Native	4,087	*	112	226	1,092	1,155	978	427	91	*	0
	Asian or Pacific Islander	2,968	0	11	20	246	766	1,123	645	151	6	0
Apache	Total	790†	0	20†	40†	210†	220†	180†	100†	20†	0†	0
	White non-Hispanic	140†	0	*	12	33	46	34	14	*	*	0
	Hispanic or Latino	50†	0	*	*	16	8	8	8	0	*	0
	Black or African American	0	0	0	0	0	0	0	0	0	0	0
	American Indian or Alaska Native	586	0	12	25	157	168	131	72	21	0	0
	Asian or Pacific Islander	10†	0	0	0	*	*	*	*	0	0	0
Cochise	Total	1,270†	0	20†	80†	320†	380†	310†	133	30†	0†	0
	White non-Hispanic	600†	0	*	30	142	174	155	80	14	*	0
	Hispanic or Latino	578	0	19	40	160	185	131	35	8	0	0
	Black or African American	50†	0	0	*	8	17	*	9	*	0	0
	American Indian or Alaska Native	10†	0	0	*	*	*	*	0	0	0	0
	Asian or Pacific Islander	40†	0	0	*	*	*	16	9	*	0	0
Coconino	Total	1,330†	0†	20†	37	290†	380†	373	190†	40†	0†	0
	White non-Hispanic	580†	0	*	9	94	161	179	111	21	*	0
	Hispanic or Latino	200†	0	*	10	54	63	43	15	*	*	0
	Black or African American	20†	0	0	0	*	*	9	*	0	0	0
	American Indian or Alaska Native	500†	*	10	18	132	144	126	59	11	0	0
	Asian or Pacific Islander	40†	0	0	0	*	7	16	*	*	0	0
Gila	Total	470†	0	20†	30	140†	120†	110†	40†	10†	0†	0
	White non-Hispanic	250†	0	6	13	71	69	59	27	8	*	0
	Hispanic or Latino	90†	0	*	6	39	15	20	*	*	0	0
	Black or African American	0†	0	0	0	*	*	*	*	0	0	0
	American Indian or Alaska Native	120†	0	7	11	32	33	25	8	*	0	0
	Asian or Pacific Islander	10†	0	0	0	*	*	*	*	0	0	0
Graham	Total	460†	0†	20†	30†	140†	170†	80†	30†	10†	0	0
	White non-Hispanic	250†	0	6	12	79	86	39	19	*	0	0
	Hispanic or Latino	130†	*	6	10	39	50	22	*	*	0	0
	Black or African American	10†	0	0	0	*	0	*	*	*	0	0
	American Indian or Alaska Native	80†	0	*	*	19	28	17	*	*	0	0
	Asian or Pacific Islander	0†	0	0	0	0	*	*	0	*	0	0
Greenlee	Total	120†	0	0†	10†	40†	40†	20†	10†	0†	0	0
	White non-Hispanic	60†	0	0	*	16	16	15	8	*	0	0
	Hispanic or Latino	60†	0	*	*	22	20	*	*	*	0	0
	Black or African American	0†	0	0	0	0	0	*	*	0	0	0
	American Indian or Alaska Native	0†	0	0	0	*	*	0	0	0	0	0
	Asian or Pacific Islander	0	0	0	0	0	0	0	0	0	0	0
La Paz	Total	150†	0	0†	10†	37	40†	40†	10†	0†	0	0
	White non-Hispanic	70†	0	0	*	16	22	20	*	*	0	0
	Hispanic or Latino	60†	0	*	7	15	11	13	7	*	0	0
	Black or African American	0†	0	0	0	0	0	*	*	0	0	0
	American Indian or Alaska Native	30†	0	*	*	6	9	*	*	*	0	0
	Asian or Pacific Islander	0†	0	0	0	0	*	0	*	0	0	0
Maricopa	Total	49,191	20†	578	1,733	9,518	14,553	14,025	7,112	1,556	100†	0
	White non-Hispanic	21,434	0	78	352	2,973	6,302	7,188	3,734	756	51	0
	Hispanic or Latino	20,225	16	412	1,114	5,158	6,112	4,620	2,217	551	25	0
	Black or African American	3,890†	*	49	172	884	1,172	978	505	113	15	0
	American Indian or Alaska Native	1,290†	0	31	82	328	361	326	136	23	*	0
	Asian or Pacific Islander	2,354	0	8	13	175	606	913	520	113	6	0

TABLE 5B-10 (continued)
BIRTHS BY MOTHER'S AGE GROUP, RACE/ETHNICITY, AND COUNTY OF RESIDENCE, ARIZONA, 2020

		Total	Mother's age group									
			<15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45+	Un-known
Mohave	Total	1,700†	0	21	70†	490†	530†	369	170†	40†	0†	0
	White non-Hispanic	1,230†	0	10	49	348	397	270	119	31	*	0
	Hispanic or Latino	382	0	11	16	116	119	79	33	8	0	0
	Black or African American	20†	0	0	*	*	*	6	*	0	0	0
	American Indian or Alaska Native	40†	0	0	*	18	7	8	*	*	0	0
	Asian or Pacific Islander	30†	0	0	0	*	*	6	12	*	0	0
Navajo	Total	1,310†	0	30†	71	350†	380†	310†	140†	30†	0†	0
	White non-Hispanic	480†	0	*	21	130	139	116	60	8	*	0
	Hispanic or Latino	150†	0	*	12	47	47	29	11	*	0	0
	Black or African American	10†	0	0	0	*	*	*	*	*	0	0
	American Indian or Alaska Native	658	0	22	38	173	191	152	67	15	0	0
	Asian or Pacific Islander	10†	0	0	0	*	0	6	*	0	0	0
Pima	Total	10,035	10†	110†	390†	2,077	3,090	2,754	1,329	261	20†	0
	White non-Hispanic	3,895	0	17	89	606	1,177	1,266	614	117	9	0
	Hispanic or Latino	4,980†	*	76	258	1,228	1,587	1,183	541	100	7	0
	Black or African American	480†	0	*	14	110	143	115	73	15	*	0
	American Indian or Alaska Native	380†	*	15	24	103	103	81	40	8	0	0
	Asian or Pacific Islander	310†	0	*	*	30	80	109	61	21	0	0
Pinal	Total	4,650†	0	70†	180†	1,114	1,504	1,156	505	114	10†	0
	White non-Hispanic	2,270†	0	22	59	477	789	604	265	53	*	0
	Hispanic or Latino	1,720†	0	42	89	479	537	375	164	37	*	0
	Black or African American	240†	0	*	8	56	64	72	26	12	0	0
	American Indian or Alaska Native	309	0	6	17	89	81	79	31	6	0	0
	Asian or Pacific Islander	100†	0	0	*	13	33	26	19	6	0	0
Santa Cruz	Total	590†	0	10†	30†	120†	200†	150†	60†	10†	0†	0
	White non-Hispanic	40†	0	*	*	6	7	17	*	*	*	0
	Hispanic or Latino	540†	0	9	31	111	196	127	56	8	*	0
	Black or African American	0†	0	0	0	*	0	*	0	0	0	0
	American Indian or Alaska Native	0†	0	0	0	*	0	0	0	0	0	0
	Asian or Pacific Islander	0†	0	0	0	0	*	0	*	0	0	0
Yavapai	Total	1,690†	0†	17	80†	380†	522	440†	190†	50†	7	0
	White non-Hispanic	1,180†	*	8	53	265	351	304	149	38	7	0
	Hispanic or Latino	435	0	9	30	104	140	102	36	14	0	0
	Black or African American	10†	0	0	0	*	6	*	*	0	0	0
	American Indian or Alaska Native	40†	*	0	0	8	13	15	*	0	0	0
	Asian or Pacific Islander	30†	0	0	*	*	12	10	*	*	0	0
Yuma	Total	2,970†	0†	60†	130†	785	993	638	320†	50†	0†	0
	White non-Hispanic	580†	0	*	17	137	171	164	67	16	*	0
	Hispanic or Latino	2,260†	*	51	110	611	780	443	235	30	0	0
	Black or African American	40†	0	*	*	11	16	8	*	*	0	0
	American Indian or Alaska Native	50†	0	*	*	19	12	10	*	*	0	0
	Asian or Pacific Islander	40†	0	*	0	7	14	13	8	*	0	0
Unknown	Total	60†	0	0	0	10†	10†	10†	10†	10†	6	0†
	White non-Hispanic	50†	0	0	0	*	*	9	10	11	6	*
	Hispanic or Latino	10†	0	0	0	0	*	*	*	*	0	0
	Black or African American	0†	0	0	0	*	0	0	0	0	0	0
	American Indian or Alaska Native	0	0	0	0	0	0	0	0	0	0	0
	Asian or Pacific Islander	0†	0	0	0	0	0	*	0	0	0	0

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 5B-11
BIRTHS BY TRIMESTER OF PREGNANCY PRENATAL CARE BEGAN AND MOTHER'S COUNTY OF RESIDENCE, ARIZONA, 2020

	Total		No care		1st trimester		2nd trimester		3rd trimester		Unknown	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
ARIZONA	76,781	100.0	1,882	2.5	52,793	68.8	13,943	18.2	5,115	6.7	3,050†	0.2
Apache	785	100.0	27	3.4	500	63.7	166	21.1	61	7.8	31	3.9
Cochise	1,273	100.0	83	6.5	683	53.7	320	25.1	171	13.4	16	1.3
Coconino	1,330	100.0	22	1.7	842	63.3	206	15.5	66	5.0	194	14.6
Gila	471	100.0	19	4.0	301	63.9	85	18.0	44	9.3	22	4.7
Graham	464	100.0	14	3.0	327	70.5	74	15.9	44	9.5	*	**
Greenlee	121	100.0	0	0.0	86	71.1	22	18.2	13	10.7	0	0.0
La Paz	154	100.0	11	7.1	70	45.5	24	15.6	13	8.4	36	23.4
Maricopa	49,191	100.0	786	1.6	35,358	71.9	8,245	16.8	2,592	5.3	2,210	4.5
Mohave	1,696	100.0	32	1.9	1,153	68.0	325	19.2	95	5.6	91	5.4
Navajo	1,305	100.0	26	2.0	859	65.8	275	21.1	75	5.7	70	5.4
Pima	10,035	100.0	487	4.9	6,185	61.6	2,213	22.1	1,092	10.9	58	0.6
Pinal	4,647	100.0	80	1.7	3,246	69.9	799	17.2	287	6.2	235	5.1
Santa Cruz	589	100.0	62	10.5	298	50.6	129	21.9	97	16.5	*	**
Yavapai	1,693	100.0	26	1.5	1,239	73.2	312	18.4	72	4.3	44	2.6
Yuma	2,972	100.0	193	6.5	1,630	54.8	733	24.7	389	13.1	27	0.9
Unknown	55	100.0	14	25.5	16	29.1	15	27.3	*	**	6	10.9

Notes: * Cell suppressed due to non-zero count less than 6; ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 5B-12
BIRTHS BY NUMBER OF PRENATAL VISITS AND COUNTY OF RESIDENCE, ARIZONA, 2020

	Total		Number of prenatal visits											
			No visits		1-4 visits		5-8 visits		9-12 visits		13+ visits		Unknown	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
ARIZONA	76,781	100.0	1,882	2.5	4,130	5.4	13,989	18.2	32,839	42.8	22,421	29.2	1,520†	2.0
Apache	785	100.0	27	3.4	74	9.4	206	26.2	295	37.6	158	20.1	25	3.2
Cochise	1,273	100.0	83	6.5	116	9.1	285	22.4	504	39.6	276	21.7	9	0.7
Coconino	1,330	100.0	22	1.7	75	5.6	231	17.4	520	39.1	313	23.5	169	12.7
Gila	471	100.0	19	4.0	50	10.6	134	28.5	163	34.6	101	21.4	*	**
Graham	464	100.0	14	3.0	41	8.8	104	22.4	191	41.2	112	24.1	*	**
Greenlee	121	100.0	0	0.0	6	5.0	41	33.9	53	43.8	21	17.4	0	0.0
La Paz	154	100.0	11	7.1	8	5.2	48	31.2	43	27.9	38	24.7	6	3.9
Maricopa	49,191	100.0	786	1.6	2,065	4.2	8,581	17.4	22,154	45.0	14,606	29.7	999	2.0
Mohave	1,696	100.0	32	1.9	62	3.7	294	17.3	800	47.2	485	28.6	23	1.4
Navajo	1,305	100.0	26	2.0	114	8.7	290	22.2	516	39.5	315	24.1	44	3.4
Pima	10,035	100.0	487	4.9	920	9.2	2,001	19.9	3,722	37.1	2,885	28.7	20	0.2
Pinal	4,647	100.0	80	1.7	226	4.9	750	16.1	1,678	36.1	1,741	37.5	172	3.7
Santa Cruz	589	100.0	62	10.5	80	13.6	150	25.5	220	37.4	77	13.1	0	0.0
Yavapai	1,693	100.0	26	1.5	56	3.3	225	13.3	749	44.2	614	36.3	23	1.4
Yuma	2,972	100.0	193	6.5	232	7.8	635	21.4	1,220	41.0	674	22.7	18	0.6
Unknown	55	100.0	14	25.5	*	**	14	25.5	11	20.0	*	**	6	10.9

Notes: * Cell suppressed due to non-zero count less than 6; ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 5B-13
BIRTHS BY MOTHER'S EDUCATION AND COUNTY OF RESIDENCE, ARIZONA, 2020

	Total	Mother's education							
		8th Grade or less	Some High School	High School/GED	Some College	Associate Degree	Bachelor's Degree	Postgraduate Education	Unknown
ARIZONA	76,781	1,950†	9,470	20,771	17,523	6,690†	13,260†	6,660†	450†
Apache	785	7	117	242	251	87	51	25	*
Cochise	1,273	28	169	380	316	137	166	76	*
Coconino	1,330	16	134	359	293	101	248	173	6
Gila	471	*	87	177	112	42	32	15	*
Graham	464	7	65	141	135	70	34	11	*
Greenlee	121	0	13	42	33	13	12	8	0
La Paz	154	*	43	64	29	*	*	*	*
Maricopa	49,191	1,390	5,636	12,468	10,672	4,167	9,642	4,951	265
Mohave	1,696	36	309	627	397	137	118	57	15
Navajo	1,305	16	221	452	360	138	88	28	*
Pima	10,035	187	1,231	2,757	2,351	854	1,639	940	76
Pinal	4,647	71	631	1,460	1,270	450	589	157	19
Santa Cruz	589	33	98	150	127	75	78	27	*
Yavapai	1,693	32	240	529	452	149	208	77	6
Yuma	2,972	122	475	921	721	268	351	112	*
Unknown	55	0	*	*	*	*	*	0	43

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 5B-14
BIRTHS TO UNWED MOTHERS BY AGE GROUP AND COUNTY OF RESIDENCE, ARIZONA, 2020

	Total	Mother's age group							
		<15	15-19	20-24	25-29	30-34	35-39	40-44	45+
ARIZONA	34,527	30†	3,600†	11,002	9,985	6,330†	2,880†	680†	30†
Apache	546	0	55	167	153	106	51	13	*
Cochise	562	0	92	199	144	89	33	*	0
Coconino	647	*	50	210	178	134	62	11	*
Gila	291	0	42	105	66	57	17	*	0
Graham	206	*	39	75	55	28	*	*	0
Greenlee	36	0	*	23	6	*	0	0	0
La Paz	103	0	17	24	28	26	7	*	0
Maricopa	21,221	17	2,139	6,609	6,209	3,923	1,846	460	18
Mohave	922	0	83	347	243	166	63	19	*
Navajo	757	0	91	251	213	137	59	*	*
Pima	4,701	6	454	1,491	1,379	884	400	82	*
Pinal	2,160	0	233	737	597	384	170	38	*
Santa Cruz	296	0	40	82	105	50	14	*	0
Yavapai	732	*	88	231	201	139	51	18	*
Yuma	1,346	*	167	451	408	203	98	18	0
Unknown	1	0	0	0	0	0	0	*	0

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 5B-15
BIRTHS TO UNWED MOTHERS BY RACE/ETHNICITY, EDUCATION, AND COUNTY OF RESIDENCE, ARIZONA, 2020

	Total	Race/ethnicity					Education							
		White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander	8th Grade or less	Some High School	High School/GED	Some College	Associate Degree	Bachelor's Degree	Postgraduate Education	Unknown
ARIZONA	34,527	10,293	17,533	3,000†	3,220†	490†	1,070†	7,063	12,793	8,420	2,460†	1,940†	630†	160†
Apache	546	53	23	0	468	*	*	98	194	172	46	21	7	*
Cochise	562	215	315	17	6	9	13	121	228	134	35	22	9	0
Coconino	647	153	98	7	387	*	10	111	255	174	40	36	18	*
Gila	291	126	60	*	101	*	*	75	128	60	20	*	*	*
Graham	206	69	80	*	54	0	*	53	82	52	9	*	0	0
Greenlee	36	14	21	0	*	0	0	8	18	9	*	0	0	0
La Paz	103	41	36	*	23	*	*	33	46	14	*	*	*	*
Maricopa	21,221	6,050	11,258	2,545	1,000	368	764	4,197	7,666	5,129	1,546	1,379	435	105
Mohave	922	665	207	14	29	7	25	230	379	188	52	32	7	9
Navajo	757	165	80	*	509	0	11	179	292	190	58	20	6	*
Pima	4,701	1,289	2,806	239	314	53	95	941	1,801	1,192	328	230	90	24
Pinal	2,160	783	951	145	259	22	48	484	837	528	142	86	25	10
Santa Cruz	296	14	279	*	0	*	17	63	94	61	37	20	*	0
Yavapai	732	499	196	*	27	6	14	177	263	200	39	33	6	0
Yuma	1,346	156	1,123	15	39	13	54	293	510	317	100	56	16	0
Unknown	1	*	0	0	0	0	0	0	0	0	0	0	0	*

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 5B-16
LOW-BIRTHWEIGHT BIRTHS BY COUNTY OF RESIDENCE, ARIZONA, 2010-2020

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ARIZONA[a]	6,155	5,949	5,946	5,849	6,069	6,093	6,186	6,109	6,106	5,829	5,650
Apache	75	67	60	53	66	53	79	73	79	66	76
Cochise	142	135	123	122	129	133	130	105	105	103	92
Coconino	131	144	140	117	123	143	128	136	112	101	94
Gila	59	49	35	49	44	66	49	59	56	49	42
Graham	27	41	40	47	43	42	48	41	47	42	42
Greenlee	10	6	6	7	7	8	8	16	14	12	11
La Paz	*	12	13	14	16	12	14	7	13	16	13
Maricopa	3,851	3,720	3,731	3,707	3,854	3,896	3,965	3,956	3,881	3,667	3,583
Mohave	141	100	104	111	114	140	128	126	123	112	134
Navajo	154	143	136	131	134	128	130	146	125	123	92
Pima	853	841	842	845	860	788	803	794	887	851	819
Pinal	330	319	333	298	339	322	292	311	325	327	302
Santa Cruz	58	48	51	46	38	41	58	41	33	40	51
Yavapai	115	139	142	139	121	125	144	134	120	135	111
Yuma	204	185	190	163	179	193	210	163	184	185	182

Notes: * Cell suppressed due to non-zero count less than 6; [a] Includes records with unknown county of residence.

TABLE 5B-17
LOW-BIRTHWEIGHT BIRTH RATIOS[a] IN THE URBAN AND RURAL COUNTIES OF ARIZONA, 2010-2020

County of residence	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ARIZONA	70.7	69.8	69.4	68.8	70.0	71.7	73.3	74.8	75.8	73.6	73.6
URBAN COUNTIES	**70.2**	**69.3**	**68.7**	**68.2**	**70.1**	**70.7**	**72.3**	**73.8**	**75.5**	**73.1**	**73.1**
Maricopa	71.0	69.7	68.5	68.8	69.7	71.4	73.4	75.4	75.1	71.9	72.8
Pima	70.1	70.8	70.9	70.6	75.5	68.7	70.4	72.4	83.2	82.2	81.6
Pinal[b]	66.1	69.2	71.5	65.3	72.6	72.3	65.3	70.9	72.3	72.7	65.0
Yuma	63.2	57.8	60.9	52.3	58.5	64.0	69.9	55.1	60.7	62.8	61.2
RURAL COUNTIES	**73.8**	**72.8**	**73.3**	**72.9**	**69.8**	**77.7**	**79.6**	**81.3**	**77.7**	**77.1**	**76.7**
Apache	68.2	62.6	64.5	55.7	64.8	55.6	77.3	77.2	86.8	73.7	96.8
Cochise	79.7	81.1	72.2	75.9	78.5	84.9	84.9	78.9	77.9	76.6	72.3
Coconino	73.8	81.3	82.9	72.0	72.3	90.8	79.3	90.3	74.7	73.9	70.7
Gila	88.1	79.0	57.5	83.1	67.8	113.8	82.6	109.1	112.7	103.6	89.2
Graham	50.9	67.7	76.2	78.3	71.3	72.4	86.0	77.4	91.6	85.2	90.5
Greenlee	95.2	50.4	52.6	56.0	48.6	51.9	53.7	102.6	107.7	96.8	90.9
La Paz	25.0	69.8	63.7	68.6	75.1	60.3	62.8	36.1	69.5	86.0	84.4
Mohave	69.7	51.0	59.9	63.7	62.2	75.9	71.0	72.7	68.7	64.9	79.0
Navajo	88.7	87.1	83.3	84.4	83.3	84.4	86.8	96.9	90.6	90.8	70.5
Santa Cruz	83.7	69.2	76.0	70.7	63.4	66.0	90.3	64.8	53.5	66.8	86.6
Yavapai	63.3	76.0	79.7	76.4	62.3	66.6	77.1	74.6	67.8	74.8	65.6

Notes: [a] Per 1,000 live births; [b] Pinal county became part of the Phoenix-Mesa-Scottsdale Metropolitan Area in 1993. This metropolitan area includes all of Maricopa and Pinal counties.

TABLE 5B-18
LOW-BIRTHWEIGHT BIRTHS BY MOTHER'S RACE/ETHNICITY AND COUNTY OF RESIDENCE, ARIZONA, 2020

	Total	Mother's race/ethnicity				
		White non Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander
ARIZONA	5,650	2,250†	2,220†	610†	290†	290†
Apache	76	18	*	0	52	*
Cochise	92	43	42	*	0	*
Coconino	94	41	17	*	31	*
Gila	42	23	*	*	14	0
Graham	42	16	21	*	*	0
Greenlee	11	*	6	0	0	0
La Paz	13	*	7	0	*	0
Maricopa	3,583	1,413	1,370	496	79	225
Mohave	134	98	24	*	*	*
Navajo	92	35	9	0	48	0
Pima	819	286	411	59	28	35
Pinal	302	135	97	34	26	10
Santa Cruz	51	*	45	*	0	0
Yavapai	111	77	30	*	*	*
Yuma	182	45	127	*	*	*
Unknown	6	*	0	0	0	*

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 5B-19
LOW-BIRTHWEIGHT BIRTHS BY MOTHER'S AGE GROUP AND COUNTY OF RESIDENCE, ARIZONA, 2020

	Total	Mother's age group							
		<15	15-19	20-24	25-29	30-34	35-39	40-44	45+
ARIZONA	5,650	0†	310†	1,110†	1,583	1,490†	900†	230†	30†
Apache	76	0	*	17	24	14	11	*	0
Cochise	92	0	9	18	29	23	10	*	0
Coconino	94	0	6	20	24	32	6	*	*
Gila	42	0	*	14	7	16	*	*	0
Graham	42	*	*	15	12	6	*	*	0
Greenlee	11	0	0	*	6	*	*	0	0
La Paz	13	0	0	*	6	*	*	0	0
Maricopa	3,583	*	185	645	1,007	988	591	149	16
Mohave	134	0	9	39	36	23	21	6	0
Navajo	92	0	7	28	23	20	10	*	0
Pima	819	*	43	175	223	195	146	30	6
Pinal	302	0	13	64	82	83	48	12	0
Santa Cruz	51	0	*	6	15	16	7	*	0
Yavapai	111	0	6	21	34	28	17	*	0
Yuma	182	0	19	48	54	38	22	*	0
Unknown	6	0	0	0	*	*	*	0	*

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 5B-20
TOTAL BIRTHS AND LOW-BIRTHWEIGHT BIRTHS BY THE PARTY PAYING FOR THE DELIVERY AND COUNTY OF RESIDENCE, ARIZONA, 2020

				ARIZONA	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
TOTAL	ALL GROUPS	Weight at birth	<2,500 g	5,650	76	92	94	42	42	11	13	3,583	134	92	819	302	51	111	182	6
			2,500+ g	71,068	707	1,180	1,236	429	422	110	140	45,568	1,555	1,211	9,211	4,344	537	1,579	2,790	49
			Unknown	60†	*	*	0	0	0	0	*	40	7	*	*	*	*	*	0	0
		Total		76,781	785	1,273	1,330	471	464	121	154	49,191	1,696	1,305	10,035	4,647	589	1,693	2,972	55
Payer for birth	AHCCCS[a]	Weight at birth	<2,500 g	2,980†	50	55	51	24	20	*	9	1,763	100	67	471	153	33	76	97	*
			2,500+ g	33,631	516	604	595	205	169	33	105	20,153	999	847	4,556	2,014	349	798	1,653	35
			Unknown	10†	*	0	0	0	0	0	0	9	0	*	*	*	0	0	0	0
		Total		36,620	567	659	646	229	189	40†	114	21,925	1,099	915	5,029	2,168	382	874	1,750	40†
	IHS	Weight at birth	<2,500 g	50†	9	0	*	*	*	0	0	14	*	*	6	6	0	0	0	0
			2,500+ g	570†	28	0	40	77	42	0	7	154	*	20	81	108	0	0	11	0
			Unknown	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		Total		620	37	0	40†	80†	40†	0	7	168	10†	20†	87	114	0	0	11	0
	Private insurance	Weight at birth	<2,500 g	2,240†	14	21	36	12	20	9	*	1,583	30	19	281	124	15	24	47	0
			2,500+ g	30,402	115	308	501	124	180	68	19	21,377	418	287	3,626	1,934	120	620	699	6
			Unknown	10†	0	0	0	0	0	0	0	10	0	0	*	0	*	0	0	0
		Total		32,652	129	329	537	136	200	77	20†	22,970	448	306	3,908	2,058	136	644	746	6
	Self-pay	Weight at birth	<2,500 g	210†	0	*	*	*	0	0	*	114	*	*	26	8	*	*	37	*
			2,500+ g	3,853	31	73	59	19	29	9	7	2,280	109	37	382	203	61	130	417	7
			Unknown	30†	*	0	0	0	0	0	*	19	6	*	0	0	0	*	0	0
		Total		4,091	32	80†	60†	20†	29	9	10†	2,413	120†	40†	408	211	60†	140†	454	10†
	Unknown	Weight at birth	<2,500 g	180†	*	12	*	0	0	0	0	109	0	*	35	11	0	7	*	*
			2,500+ g	2,610†	17	195	41	*	*	0	*	1,604	24	20	566	85	7	31	10	*
			Unknown	10†	0	*	0	0	0	0	0	*	*	0	*	0	0	*	0	0
		Total		2,800†	20†	208	40†	0†	0†	0	0†	1,715	25	20†	603	96	7	39	10†	0†

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] The Arizona Health Care Containment System (AHCCCS) is the State's Medicaid Program.

TABLE 5B-21
DISTRIBUTION OF LOW-BIRTHWEIGHT (LBW) BIRTHS AND LBW RISK BY NUMBER OF PRENATAL VISITS AND COUNTY OF RESIDENCE, ARIZONA, 2020

			Prenatal visits						Total
			No visits	1-4 visits	5-8 visits	9-12 visits	13+ visits	Unknown	
Apache	Births <2,500 grams (LBW)	Count	6	13	18	21	11	7	76
		Share of LBW births[a]	7.9%	17.1%	23.7%	27.6%	14.5%	9.2%	100.0%
		LBW risk[b]	22.2%	17.6%	8.7%	7.1%	7.0%	28.0%	9.7%
	Total births	Count	27	74	206	295	158	25	785
Cochise	Births <2,500 grams (LBW)	Count	12	9	30	22	16	*	92
		Share of LBW births[a]	13.0%	9.8%	32.6%	23.9%	17.4%	3.3%	100.0%
		LBW risk[b]	14.5%	7.8%	10.5%	4.4%	5.8%	33.3%	7.2%
	Total births	Count	83	116	285	504	276	9	1,273
Coconino	Births <2,500 grams (LBW)	Count	*	*	20	37	17	12	90†
		Share of LBW births[a]	3.2%	5.3%	21.3%	39.4%	18.1%	12.8%	100.0%
		LBW risk[b]	13.6%	6.7%	8.7%	7.1%	5.4%	7.1%	7.1%
	Total births	Count	22	75	231	520	313	169	1,330
Gila	Births <2,500 grams (LBW)	Count	6	*	17	7	7	*	40†
		Share of LBW births[a]	14.3%	7.1%	40.5%	16.7%	16.7%	4.8%	100.0%
		LBW risk[b]	31.6%	6.0%	12.7%	4.3%	6.9%	50.0%	8.9%
	Total births	Count	19	50	134	163	101	*	471
Graham	Births <2,500 grams (LBW)	Count	*	7	*	15	14	0	40†
		Share of LBW births[a]	4.8%	16.7%	9.5%	35.7%	33.3%	0.0%	100.0%
		LBW risk[b]	14.3%	17.1%	3.8%	7.9%	12.5%	0.0%	9.1%
	Total births	Count	14	41	104	191	112	*	464
Greenlee	Births <2,500 grams (LBW)	Count	0	0	7	*	0	0	10†
		Share of LBW births[a]	0.0%	0.0%	63.6%	36.4%	0.0%	0.0%	100.0%
		LBW risk[b]	0.0%	0.0%	17.1%	7.5%	0.0%	0.0%	9.1%
	Total births	Count	0	6	41	53	21	0	121
La Paz	Births <2,500 grams (LBW)	Count	0	*	7	*	0	*	10†
		Share of LBW births[a]	0.0%	23.1%	53.9%	15.4%	0.0%	7.7%	100.0%
		LBW risk[b]	0.0%	37.5%	14.6%	4.7%	0.0%	16.7%	8.4%
	Total births	Count	11	8	48	43	38	6	154
Maricopa	Births <2,500 grams (LBW)	Count	149	337	1,030	1,291	674	102	3,583
		Share of LBW births[a]	4.2%	9.4%	28.8%	36.0%	18.8%	2.9%	100.0%
		LBW risk[b]	19.0%	16.3%	12.0%	5.8%	4.6%	10.2%	7.3%
	Total births	Count	786	2,065	8,581	22,154	14,606	999	49,191
Mohave	Births <2,500 grams (LBW)	Count	8	9	39	52	23	*	134
		Share of LBW births[a]	6.0%	6.7%	29.1%	38.8%	17.2%	2.2%	100.0%
		LBW risk[b]	25.0%	14.5%	13.3%	6.5%	4.7%	13.0%	7.9%
	Total births	Count	32	62	294	800	485	23	1,696
Navajo	Births <2,500 grams (LBW)	Count	*	16	25	26	13	7	90†
		Share of LBW births[a]	5.4%	17.4%	27.2%	28.3%	14.1%	7.6%	100.0%
		LBW risk[b]	19.2%	14.0%	8.6%	5.0%	4.1%	15.9%	7.0%
	Total births	Count	26	114	290	516	315	44	1,305
Pima	Births <2,500 grams (LBW)	Count	67	167	217	218	146	*	819
		Share of LBW births[a]	8.2%	20.4%	26.5%	26.6%	17.8%	0.5%	100.0%
		LBW risk[b]	13.8%	18.2%	10.8%	5.9%	5.1%	20.0%	8.2%
	Total births	Count	487	920	2,001	3,722	2,885	20	10,035
Pinal	Births <2,500 grams (LBW)	Count	18	38	84	94	59	9	302
		Share of LBW births[a]	6.0%	12.6%	27.8%	31.1%	19.5%	3.0%	100.0%
		LBW risk[b]	22.5%	16.8%	11.2%	5.6%	3.4%	5.2%	6.5%
	Total births	Count	80	226	750	1,678	1,741	172	4,647
Santa Cruz	Births <2,500 grams (LBW)	Count	10	6	19	12	*	0	50†
		Share of LBW births[a]	19.6%	11.8%	37.3%	23.5%	7.8%	0.0%	100.0%
		LBW risk[b]	16.1%	7.5%	12.7%	5.5%	5.2%	0.0%	8.7%
	Total births	Count	62	80	150	220	77	0	589
Yavapai	Births <2,500 grams (LBW)	Count	*	9	31	35	27	*	110†
		Share of LBW births[a]	3.6%	8.1%	27.9%	31.5%	24.3%	4.5%	100.0%
		LBW risk[b]	15.4%	16.1%	13.8%	4.7%	4.4%	21.7%	6.6%
	Total births	Count	26	56	225	749	614	23	1,693
Yuma	Births <2,500 grams (LBW)	Count	25	27	51	50	26	*	182
		Share of LBW births[a]	13.7%	14.8%	28.0%	27.5%	14.3%	1.7%	100.0%
		LBW risk[b]	13.0%	11.6%	8.0%	4.1%	3.9%	16.7%	6.1%
	Total births	Count	193	232	635	1,220	674	18	2,972
Unknown	Births <2,500 grams (LBW)	Count	*	*	0	0	0	*	10†
		Share of LBW births[a]	66.7%	16.7%	0.0%	0.0%	0.0%	16.7%	100.0%
		LBW risk[b]	28.6%	20.0%	0.0%	0.0%	0.0%	16.7%	10.9%
	Total births	Count	14	*	14	11	*	6	60†

Notes:* Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Percent distribution of LBW births by number of prenatal visits; [b] Number of LBW births per 100 births in specified prenatal care group.

TABLE 5B-22
AVERAGE NUMBER[a] OF PRENATAL VISITS DURING PREGNANCY ACCORDING TO SELECTED CHARACTERISTICS OF NEWBORNS AND MOTHERS GIVING BIRTH BY COUNTY OF RESIDENCE, ARIZONA, 2020

	Total	Marital status			Payer for births					Mother's race/ethnicity					Length of gestation				Weight at birth			Newborn intensive care	
		Married	Unmarried	Unknown	AHCCCS[b]	IHS	Private insurance	Self-pay	Unknown	White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander	<37 weeks	37-41 weeks	42+ weeks	Unknown	<2,500 grams	2,500+ grams	Unknown	Yes	No
ARIZONA	10.9	11.3	10.4	9.9	10.4	8.6	11.6	10.5	11.2	11.3	10.7	10.5	9.4	11.2	9.4	11.1	11.1	10.5	9.4	11.0	8.6	9.8	11.0
Apache	9.7	10.4	9.4	7.9	9.6	8.1	10.9	8.0	8.9	9.9	10.4	0.0	9.5	10.9	9.1	9.8	0.0	1.0	8.7	9.8	12.5	8.3	9.8
Cochise	9.8	10.3	9.3	9.2	9.3	0.0	10.6	8.5	10.5	10.4	9.3	9.6	9.3	9.7	8.5	10.0	8.5	6.0	9.2	9.9	1.0	8.3	10.0
Coconino	10.4	11.2	9.6	7.1	9.7	10.2	11.2	11.0	10.0	11.1	10.8	10.4	9.5	11.3	9.7	10.5	12.7	11.3	10.0	10.5	0.0	10.1	10.5
Gila	9.6	10.5	9.0	9.0	9.6	6.3	11.4	9.7	11.3	10.4	11.0	10.8	6.8	10.4	8.3	9.8	0.0	9.0	9.4	9.6	0.0	7.7	9.7
Graham	10.2	10.7	9.5	13.7	10.3	7.3	11.0	9.1	4.0	10.9	10.2	10.3	7.7	10.8	10.1	10.2	9.0	0.0	11.2	10.1	0.0	10.1	10.2
Greenlee	9.2	9.3	9.1	0.0	8.5	0.0	9.4	10.2	0.0	9.8	8.8	13.0	5.5	0.0	6.9	9.5	0.0	0.0	7.5	9.4	0.0	7.5	9.4
La Paz	9.8	11.6	9.0	9.0	9.5	7.5	11.4	13.7	11.0	9.8	10.3	14.5	8.0	14.0	7.6	10.1	0.0	0.0	6.6	10.2	0.0	6.1	10.1
Maricopa	11.1	11.4	10.7	10.4	10.6	8.2	11.6	10.7	11.3	11.4	10.9	10.7	9.7	11.4	9.6	11.2	11.4	9.5	9.6	11.2	9.4	10.1	11.1
Mohave	10.9	11.4	10.5	10.8	10.7	11.0	11.5	10.6	9.5	11.1	10.7	9.3	9.4	10.6	9.6	11.0	9.5	20.0	9.4	11.0	1.0	9.5	11.0
Navajo	10.1	10.8	9.6	8.0	9.8	9.2	11.0	9.5	10.7	10.9	10.7	10.8	9.3	12.6	8.2	10.3	4.5	7.0	8.3	10.2	3.0	9.0	10.2
Pima	10.5	11.1	9.8	8.8	9.7	8.5	11.4	9.9	11.5	11.2	10.2	9.5	8.4	10.4	8.7	10.7	10.5	20.0	8.7	10.6	6.0	9.2	10.7
Pinal	11.6	11.8	11.3	9.9	11.2	10.7	12.2	10.8	11.4	11.9	11.5	10.7	10.4	11.1	10.0	11.7	15.8	11.0	9.6	11.7	0.0	10.7	11.7
Santa Cruz	8.9	9.0	8.8	10.0	8.8	0.0	9.5	7.6	10.7	10.0	8.8	5.5	10.0	7.0	8.5	8.9	2.0	0.0	8.3	8.9	15.0	9.0	8.9
Yavapai	11.3	11.7	10.8	10.5	10.9	0.0	12.1	10.6	11.2	11.6	10.9	10.8	10.0	10.8	9.9	11.4	11.6	15.3	9.9	11.4	8.0	10.3	11.4
Yuma	10.2	10.5	9.8	10.1	9.7	8.4	11.1	10.7	10.8	11.0	10.0	10.3	9.5	10.2	8.7	10.3	6.0	0.0	8.6	10.3	0.0	9.4	10.3
Unknown	8.7	0.0	7.0	8.7	7.8	0.0	11.2	11.3	8.0	8.6	9.5	16.0	0.0	2.0	6.7	8.9	0.0	0.0	2.0	8.9	0.0	6.8	8.9

Notes: [a] The arithmetic mean value for the number of prenatal visits in specified group; Excluded are cases with no prenatal care and/or unspecified number of prenatal visits; [b] The Arizona Health Care Cost Containment System (AHCCCS) is the State's Medicaid program.

TABLE 5B-23
BIRTHS BY GESTATIONAL AGE AND BIRTHWEIGHT BY MOTHER'S COUNTY OF RESIDENCE, ARIZONA, 2020

	Total				Gestational age							
		Gestational age			Preterm, <37 weeks				37 weeks or more			
	Total	Preterm, <37 weeks	37 weeks or more	Un-known	Total	<2,500 grams	2,500+ grams	Un-known	Total	<2,500 grams	2,500+ grams	Un-known
ARIZONA	76,781	7,256	69,389	140†	7,256	3,914	3,330†	10†	69,389	1,720†	67,636	30†
Apache	785	96	685	*	96	46	50	0	685	30	653	*
Cochise	1,273	111	1,155	7	111	62	49	0	1,155	29	1,125	*
Coconino	1,330	105	1,218	7	105	58	47	0	1,218	35	1,183	0
Gila	471	61	407	*	61	30	31	0	407	12	395	0
Graham	464	50	413	*	50	29	21	0	413	13	400	0
Greenlee	121	12	109	0	10†	9	*	0	109	*	107	0
La Paz	154	20	133	*	20	12	8	0	133	*	131	*
Maricopa	49,191	4,650	44,474	67	4,650	2,518	2,125	7	44,474	1,058	43,397	19
Mohave	1,696	144	1,546	6	144	73	71	0	1,546	61	1,482	*
Navajo	1,305	141	1,160	*	141	61	80	0	1,160	31	1,127	*
Pima	10,035	962	9,059	14	962	555	406	*	9,059	261	8,797	*
Pinal	4,647	427	4,209	11	427	211	216	0	4,209	89	4,120	0
Santa Cruz	589	55	534	0	55	27	28	0	534	24	509	*
Yavapai	1,693	142	1,543	8	142	80	62	0	1,543	31	1,511	*
Yuma	2,972	269	2,701	*	269	137	132	0	2,701	45	2,656	0
Unknown	55	11	43	*	10†	6	*	0	43	0	43	0

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 5B-24
NEWBORNS ADMITTED TO NEWBORN INTENSIVE CARE UNITS BY GESTATIONAL AGE, BIRTHWEIGHT, AND MOTHER'S COUNTY OF RESIDENCE, ARIZONA, 2020

	Total	Gestational age			Weight at birth		
		Preterm, <37 weeks	Not Preterm	Unknown	<2,500 grams	2,500+ grams	Unknown
ARIZONA	6,006	3,253	2,730†	20†	2,703	3,300†	10†
Apache	72	44	27	*	39	33	0
Cochise	120	56	64	0	47	72	*
Coconino	76	54	21	*	43	33	0
Gila	32	26	6	0	20	12	0
Graham	35	17	18	0	16	19	0
Greenlee	10†	9	*	0	8	*	0
La Paz	10†	8	*	0	8	*	0
Maricopa	3,452	1,933	1,508	11	1,586	1,864	*
Mohave	89	54	34	*	52	36	*
Navajo	102	52	50	0	38	64	0
Pima	1,187	532	648	7	483	702	*
Pinal	352	192	160	0	158	194	0
Santa Cruz	41	25	16	0	22	19	0
Yavapai	143	85	57	*	63	80	0
Yuma	270	161	109	0	117	153	0
Unknown	20†	*	10	0	*	12	0

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 5B-25
MEDICAL AND OTHER RISK FACTORS BY MOTHER'S COUNTY OF RESIDENCE, ARIZONA, 2020

	ARIZONA	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
Total	21,243	351	391	406	143	123	27	17	12,644	295	479	3,824	1,198	138	328	865	14
Births with medical risk factors																	
Pre-existing diabetes	940†	35	*	26	10	9	0	*	562	18	31	99	66	10	13	55	0
Gestational diabetes	7,330†	124	124	159	37	34	7	6	4,583	114	179	1,085	481	33	105	254	*
Pre-existing hypertension	1,230†	18	27	31	12	*	0	*	718	18	22	223	71	14	15	56	*
Gestational hypertension	6,810†	121	115	162	45	32	7	*	4,268	67	168	1,037	398	38	88	266	*
Eclampsia	100†	0	*	*	0	*	0	0	62	*	*	22	*	*	0	*	0
Previous preterm birth	3,290†	44	77	39	24	15	7	*	1,746	48	94	665	157	30	82	258	*
Other previous poor pregnancy outcome	3,820†	61	103	17	9	26	10	*	1,910	14	20	1,449	85	25	28	61	*
Gonorrhea	280†	10	*	*	8	*	*	*	160	6	12	24	22	*	*	23	*
Syphilis	210†	*	*	*	8	*	0	0	122	6	19	24	14	*	0	11	0
Chlamydia	1,980†	62	36	46	20	20	*	*	1,153	35	61	254	138	13	24	113	*
Hepatitis B	100†	0		*	0	*	0	0	69	*	0	22	*	0	*	*	0
Hepatitis C	200†	0	*	*	6	*	0	0	109	7	*	52	*	0	10	*	0
Substance use																	
Non-smoker	73,299	604	1,173	1,263	407	411	105	139	47,729	1,320	1,192	9,549	4,413	582	1,522	2,867	23
Light smoker (less than 10 cigarettes per day)	1,640†	14	61	25	34	30	6	*	775	102	54	268	128	*	81	46	10
Heavy smoker (10 or more cigarettes per day)	1,150†	6	31	11	28	21	7	6	522	111	22	170	97	*	86	22	7
Unknown	690†	161	8	31	*	*	*	*	165	163	37	48	9	*	*	37	15
Total births	76,781	785	1,273	1,330	471	464	121	154	49,191	1,696	1,305	10,035	4,647	589	1,693	2,972	55

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 5B-26
OBSTETRIC PROCEDURES AND METHOD OF DELIVERY BY MOTHER'S COUNTY OF RESIDENCE, ARIZONA, 2020

	ARIZONA	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
Total	40,055	442	614	724	275	287	73	32	25,064	770	704	5,975	2,348	309	820	1,603	15
Obstetric procedures																	
Induction of labor	24,362	272	388	499	170	181	41	22	15,420	508	419	3,179	1,546	169	594	945	9
Augmentation of labor	22,538	201	302	350	126	108	31	12	14,574	295	297	3,345	1,215	196	259	1,219	8
Cervical cerclage	170†	*	*	*	*	*	0	0	104	*	*	29	10	0	*	11	0
Tocolysis	420†	15	8	*	8	*	0	0	218	*	46	94	16	0	*	*	*
External cephalic version successful	80†	*	*	*	*	0	0	0	45	0	*	17	*	0	0	*	0
External cephalic version failed	130†	6	0	9	*	0	*	0	75	*	7	15	*	0	*	6	0
Method of delivery																	
Vaginal	52,858	599	908	990	303	335	82	114	33,807	1,091	963	6,888	3,163	357	1,155	2,071	32
C-Section	21,801	175	336	302	126	111	34	36	14,178	474	299	2,834	1,381	181	467	848	19
Forceps	290†	0	6	*	8	0	0	0	174	7	*	67	12	8	6	*	0
Vacuum	1,830†	11	23	36	34	18	*	*	1,032	124	42	246	91	43	65	52	*

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 5B-27
COMPLICATIONS OF LABOR AND/OR DELIVERY BY MOTHER'S COUNTY OF RESIDENCE, ARIZONA, 2020

	ARIZONA	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
Total	23,556	271	429	410	195	99	34	23	15,015	289	317	3,648	1,214	175	357	1,064	16
Complications of labor and/or delivery																	
Premature rupture of the membranes	4,020†	47	97	92	33	12	*	*	2,151	43	29	1,034	225	42	58	144	0
Precipitous labor	4,910†	92	130	67	35	16	6	*	2,939	58	103	1,021	157	32	42	202	*
Prolonged labor	2,140†	25	64	60	22	*	*	*	1,200	37	38	514	104	*	19	49	0
Breech presentation	3,030†	32	56	52	16	17	7	*	1,936	48	36	445	157	29	66	129	*
Chorioamnionitis	1,440†	*	17	31	6	*	*	*	869	15	8	230	71	22	7	154	0
Meconium staining of the amniotic fluid	5,550†	51	58	67	37	45	12	*	3,584	55	76	653	388	30	67	417	*
Fetal intolerance	6,700†	40	70	105	102	14	8	*	4,985	71	45	571	347	42	143	144	*
Maternal transfusion	510†	14	6	18	7	*	*	0	244	*	21	53	56	*	*	69	*
Third or fourth degree perineal laceration	400†	*	*	14	*	*	0	0	245	8	7	60	9	6	12	20	0
Ruptured uterus	40†	*	0	0	0	0	0	0	23	*	*	9	*	0	*	0	0
Unplanned Hysterectomy	30†	0		0	0	0	0	0	22	*	0	*	*	0	*	*	0
Admission to intensive care unit	130†	*	*	8	*	*	0	0	77	*	*	9	14	0	0	7	*
Unplanned surgery following delivery	170†	*	7	*	*	0	0	0	86	*	8	25	8	*	*	22	0

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 5B-28
ABNORMAL CONDITIONS OF THE NEWBORN BY MOTHER'S COUNTY OF RESIDENCE, ARIZONA, 2020

	ARIZONA	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
Total	3,470†	62	77	74	42	27	6	*	1,802	90	109	569	252	33	130	182	9
Abnormal conditions of the newborn																	
Assisted ventilation immediately after delivery	2,530†	36	49	61	34	15	*	*	1,308	68	79	405	194	21	119	129	8
Assisted ventilation for more than 6 hours	1,600†	26	26	19	12	10	*	*	859	18	48	296	114	12	70	85	*
Surfactant replacement therapy	320†	*	6	*	6	0	0	*	157	7	*	73	33	*	7	10	*
Suspected neonatal sepsis	1,560†	18	33	16	15	10	*	*	858	39	45	255	115	17	42	80	*
Seizure or serious neurologic dysfunction	30†	*	*	*	0	0	0	0	10	*	0	11	*	*	*	*	0
Significant birth injury	60†	*	*	*	0	*	*	0	24	*	*	9	8	*	*	*	*

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 5B-29
BIRTHS WITH CONGENITAL ANOMALIES MENTIONED ON BIRTH CERTIFICATE BY COUNTY OF RESIDENCE, ARIZONA, 2020

	ARIZONA	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
Total	300†	*	9	7	*	*	*	*	154	11	*	50	26	*	11	14
Congenital anomalies of the newborn																
Anencephalus	10†	*	0	0	0	0	0	0	*	*	0	*	0	0	*	0
Spina bifida / Meningocele	10†	0	*	0	0	0	0	0	7	0	0	*	0	*	0	*
Cyanotic congenital heart disease	40†	*	0	0	0	*	0	0	28	0	0	9	*	0	0	*
Congential diaphragmatic hernia	0†	0	*	0	0	0	0	0	*	0	0	0	0	0	0	0
Omphalocele / Gastroschisis	30†	*	0	*	0	0	0	0	20	0	0	*	*	0	0	*
Limb reduction defect	20†	0	*	0	0	0	0	0	7	0	*	*	*	0	*	*
Cleft lip / palate	70†	0	*	0	*	*	0	0	30	6	*	12	6	*	*	*
Down syndrome	50†	*	*	*	0	0	0	0	27	0	0	*	7	0	0	*
Suspected chromosomal disorder	50†	*	0	*	0	0	*	0	31	0	0	8	*	0	*	*
Hypospadias	20†	0	0	*	0	0	0	0	*	0	0	*	*	0	*	*
Unknown congenital anomalies	40†	*	*	*	*	*	0	*	13	*	*	7	*	*	*	*

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 5B-30
RATES OF OCCURRENCE[a] FOR SELECTED CHARACTERISTICS OF NEWBORNS AND MOTHERS GIVING BIRTH BY COUNTY OF RESIDENCE, ARIZONA, 2020

Characteristics	Total	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
Births with complications of labor and/or delivery	30.7	34.5	33.7	30.8	41.4	21.3	28.1	14.9	30.5	17.0	24.3	36.4	26.1	29.7	21.1	35.8
Births with medical risk factors	27.7	44.7	30.7	30.5	30.4	26.5	22.3	11.0	25.7	17.4	36.7	38.1	25.8	23.4	19.4	29.1
Preterm births (gestational age <37 weeks)	9.5	12.2	8.7	7.9	13.0	10.8	9.9	13.0	9.5	8.5	10.8	9.6	9.2	9.3	8.4	9.1
Births with abnormal conditions of the newborn	4.5	7.9	6.0	5.6	8.9	5.8	5.0	3.2	3.7	5.3	8.4	5.7	5.4	5.6	7.7	6.1
Low birthweight births (<2,500 grams)	7.4	9.7	7.2	7.1	8.9	9.1	9.1	8.4	7.3	7.9	7.0	8.2	6.5	8.7	6.6	6.1
Very low birthweight births (<1,500 grams)	1.1	0.8	1.4	0.8	1.5	0.4	1.7	3.2	1.1	1.2	1.4	1.3	0.9	0.8	1.8	1.2
Births with congenital anomalies of the newborn	0.4	0.6	0.7	0.5	0.4	0.9	0.8	0.6	0.3	0.6	0.4	0.5	0.6	0.5	0.6	0.5
Tobacco use during pregnancy	3.6	2.5	7.2	2.7	13.2	11.0	10.7	6.5	2.6	12.6	5.8	4.4	4.8	1.0	9.9	2.3
C-section	28.4	22.3	26.4	22.7	26.8	23.9	28.1	23.4	28.8	27.9	22.9	28.2	29.7	30.7	27.6	28.5
Infants admitted to newborn intensive care units	7.8	9.2	9.4	5.7	6.8	7.5	9.1	5.8	7.0	5.2	7.8	11.8	7.6	7.0	8.4	9.1
Women giving birth who received prenatal care in the 1st trimester	68.8	63.7	53.7	63.3	63.9	70.5	71.1	45.5	71.9	68.0	65.8	61.6	69.9	50.6	73.2	54.8
Public sources of payment for birth[b]	48.5	76.9	51.8	51.8	65.8	50.2	28.9	78.6	44.9	65.2	71.8	51.0	49.1	64.9	51.6	59.3
Births to unmarried mothers	45.0	69.6	44.1	48.6	61.8	44.4	29.8	66.9	43.1	54.4	58.0	46.8	46.5	50.3	43.2	45.3

Notes: [a] per 100 births; [b] Includes both Arizona Health Care Cost Containment System (AHCCCS) and Indian Health Services (IHS).

5C

FETAL AND PERINATAL DEATHS

TABLE 5C-1
PERINATAL DEATHS AND PERINATAL MORTALITY RATES[a] BY COUNTY OF MOTHER'S RESIDENCE, ARIZONA, 2020

	Live births + reportable spontaneous fetal losses of 28 or more weeks of gestation	Number of infant deaths of less than 7 days	Number of reportable spontaneous fetal losses of 28 or more weeks of gestation	Total Perinatal Deaths	
				Count	Rate
ARIZONA	77,004	211	223	434	5.6
Apache	786	*	*	*	**
Cochise	1,277	*	*	9	7.0
Coconino	1,333	*	*	*	**
Gila	474	*	*	*	**
Graham	467	*	*	*	**
Greenlee	121	0	0	0	0.0
La Paz	155	0	*	*	**
Maricopa	49,322	121	131	252	5.1
Mohave	1,702	6	6	12	7.1
Navajo	1,314	*	9	12	9.1
Pima	10,063	31	28	59	5.9
Pinal	4,667	11	20	31	6.6
Santa Cruz	590	0	*	*	**
Yavapai	1,698	8	*	13	7.7
Yuma	2,980	17	8	25	8.4
Unknown	55	*	0	*	NA

Notes: * Cell suppressed due to non-zero count less than 6; ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; [a] The number of perinatal deaths per 1,000 live births + fetal losses at 28 or more weeks of gestation.

TABLE 5C-2
REPORTABLE SPONTANEOUS FETAL LOSSES[a] BY GESTATIONAL AGE, WEIGHT IN GRAMS, AND COUNTY OF RESIDENCE, ARIZONA, 2020

	Total	Gestational age[b]		Weight in grams					
		20-27 weeks	28+ weeks	<350 grams	350-499	500-2,499	2,500-3,999	4,000+	Unknown
ARIZONA	477	254	223	103	73	210	71	12	8
Apache	0†	*	*	*	0	*	0	0	0
Cochise	10†	*	*	*	*	*	0	0	0
Coconino	10†	*	*	*	0	*	*	0	0
Gila	10†	*	*	*	0	*	0	*	0
Graham	10†	*	*	*	*	*	*	0	0
Greenlee	0	0	0	0	0	0	0	0	0
La Paz	0†	0	*	0	0	*	0	0	0
Maricopa	300	169	131	66	48	134	43	6	*
Mohave	10†	*	6	0	*	6	*	0	0
Navajo	10†	*	9	0	*	11	*	0	0
Pima	70†	37	28	18	12	20	9	*	*
Pinal	30†	11	20	7	*	10	7	*	0
Santa Cruz	0†	*	*	0	0	*	0	0	0
Yavapai	10†	*	*	*	*	*	*	0	0
Yuma	20†	8	8	*	*	10	*	0	*

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Includes spontaneous terminations of pregnancy at 20 or more weeks of gestation (or if gestational age is unknown, the deaths of fetuses of at least 350 grams in weight), excludes abortions; [b] For statistical purposes, fetal deaths are classified according to gestational age; a death that occurs at 20 or more weeks of gestation constitutes a fetal death, and after 28 weeks it is considered a late fetal death.

TABLE 5C-3
REPORTABLE SPONTANEOUS FETAL DEATHS[a] AND FETAL DEATH RATES[b] BY COUNTY OF MOTHER'S RESIDENCE AND YEAR, ARIZONA, 2010-2020

	Number of fetal deaths											Fetal death rates										
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ARIZONA	443	470	470	545	519	524	486	481	472	489	477	5.1	5.5	5.4	6.4	6.0	6.1	5.7	5.9	5.8	6.1	6.2
Apache	*	6	*	8	10	*	*	10	*	*	*	**	5.6	**	8.3	9.7	**	**	10.5	**	**	**
Cochise	11	15	9	6	10	12	10	*	10	11	7	6.1	9.0	5.3	3.7	6.1	7.6	6.5	**	7.4	8.1	5.5
Coconino	*	15	10	6	*	9	13	9	7	15	*	**	8.4	5.9	3.7	**	5.7	8.0	5.9	4.6	10.9	**
Gila	*	6	6	7	7	*	8	*	*	*	8	**	9.6	9.8	11.7	10.8	**	13.3	**	**	**	16.7
Graham	0	*	*	*	*	*	*	*	*	*	7	0.0	**	**	**	**	**	**	**	**	**	14.9
Greenlee	0	0	0	*	0	0	*	*	0	*	0	0.0	0.0	0.0	**	0.0	0.0	**	**	0.0	**	0.0
La Paz	*	0	*	*	*	0	*	*	*	*	*	**	0.0	**	**	**	0.0	**	**	**	**	**
Maricopa	289	299	285	363	315	330	314	303	300	308	300	5.3	5.6	5.2	6.7	5.7	6.0	5.8	5.7	5.8	6.0	6.1
Mohave	8	10	12	11	20	11	17	15	11	10	10	4.0	5.1	6.9	6.3	10.9	5.9	9.3	8.6	6.1	5.8	5.9
Navajo	8	8	12	10	14	7	13	14	14	8	14	4.6	4.9	7.3	6.4	8.7	4.6	8.6	9.2	10.1	5.9	10.6
Pima	64	56	64	73	76	72	55	71	52	63	65	5.2	4.7	5.4	6.1	6.4	6.2	4.8	6.4	4.9	6.0	6.4
Pinal	24	22	33	21	28	28	19	32	35	27	31	4.8	4.8	7.1	4.6	6.2	6.2	4.2	7.2	7.7	6.0	6.6
Santa Cruz	*	*	*	*	*	*	*	*	*	*	*	**	**	**	**	**	**	**	**	**	**	**
Yavapai	10	7	*	16	11	13	12	7	14	10	9	5.5	3.8	**	8.7	5.6	6.9	6.4	3.9	7.9	5.5	5.3
Yuma	15	21	26	14	14	27	10	7	12	18	16	4.6	6.5	8.3	4.5	4.6	8.9	3.3	2.4	3.9	6.1	5.4
Unknown	*	*	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes: * Cell suppressed due to non-zero count less than 6; ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; [a] Includes spontaneous terminations of pregnancy at 20 or more weeks of gestation (or if gestational age is unknown, the deaths of fetuses of at least 350 grams in weight), excludes abortions; [b] Per 1,000 live births plus reportable spontaneous fetal deaths.

TABLE 5C-4
REPORTABLE SPONTANEOUS FETAL LOSSES[a] BY COUNTY OF RESIDENCE OF MOTHER, RACE, AND SEX OF CHILD
ARIZONA, 2020

	All groups				White non-Hispanic				Hispanic or Latino				Black or African American				American Indian or Alaska Native				Asian or Pacific Islander			
	Total	Male	Female	Un-known	Total	Male	Female	Un-known	Total	Male	Female	Un-known	Total	Male	Female	Un-known	Total	Male	Female	Un-known	Total	Male	Female	Un-known
ARIZONA[b]	477	219	236	22	186	86	95	5	177	80	85	12	50	24	24	2	41	21	18	2	23	8	14	1
Apache	0†	*	*	0	0†	0	*	0	0	0	0	0	0	0	0	0	0†	*	0	0	0	0	0	0
Cochise	10†	*	*	0	0†	0	*	0	0†	*	*	0	0	0	0	0	0	0	0	0	0†	*	0	0
Coconino	10†	0	*	0	0†	0	*	0	0	0	0	0	0	0	0	0	0†	0	*	0	0	0	0	0
Gila	10†	*	*	0	0†	0	*	0	0†	0	*	0	0	0	0	0	10†	*	*	0	0	0	0	0
Graham	10†	*	6	0	0†	*	*	0	0†	0	*	0	0	0	0	0	0†	0	*	0	0	0	0	0
Greenlee	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
La Paz	0†	0	*	0	0	0	0	0	0	0	0	0	0	0	0	0	0†	0	*	0	0	0	0	0
Maricopa	300	145	144	11	120	61	55	*	109	51	54	*	36	17	17	*	20†	11	*	*	20†	*	13	0
Mohave	10†	*	6	0	10†	*	*	0	0†	*	0	0	0	0	0	0	0†	0	*	0	0	0	0	0
Navajo	10†	*	8	*	0†	*	*	0	0†	*	*	0	0†	0	*	0	0†	*	*	*	0	0	0	0
Pima	65	27	32	6	26	9	16	*	30	13	12	*	10†	*	*	0	0†	*	*	0	0†	0	*	0
Pinal	31	16	12	*	10†	*	*	0	10†	*	*	*	10†	*	*	0	0†	*	*	0	0†	*	0	*
Santa Cruz	0†	0	*	0	0	0	0	0	0†	0	*	0	0	0	0	0	0	0	0	0	0	0	0	0
Yavapai	10†	*	*	*	10†	*	*	0	0†	0	*	*	0	0	0	0	0	0	0	0	0	0	0	0
Yuma	16	9	7	0	0†	*	0	0	14	7	7	0	0	0	0	0	0	0	0	0	0†	*	0	0

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Include spontaneous terminations of pregnancy at 20 or more weeks of gestation (or if gestational age is unknown, the deaths of fetuses of at least 350 grams in weight), excludes abortions; T: total; M: male; F: female; [b] Totals may include cases with unknown or unspecified gender.

TABLE 5C-5
REPORTABLE SPONTANEOUS FETAL LOSSES[a] BY MOTHER'S AGE GROUP AND COUNTY OF RESIDENCE, ARIZONA, 2020

	Total	Mother's age group								
		<15	15-17	18-19	20-24	25-29	30-34	35-39	40-44	45+
ARIZONA	477	2	10	16	107	123	116	86	14	3
Apache	0†	0	0	0	0	*	*	0	0	0
Cochise	10†	0	0	0	*	0	0	*	0	0
Coconino	10†	0	0	0	*	*	*	*	0	0
Gila	10†	0	0	0	0	*	*	*	0	0
Graham	10†	0	0	0	*	*	*	0	0	0
Greenlee	0	0	0	0	0	0	0	0	0	0
La Paz	0†	0	0	0	0	0	*	0	0	0
Maricopa	300†	*	6	11	62	77	79	55	7	*
Mohave	10†	0	0	0	*	*	*	0	0	0
Navajo	10†	0	0	*	*	*	*	*	0	0
Pima	70†	*	*	*	14	16	14	11	*	*
Pinal	30†	0	*	0	6	7	9	6	*	0
Santa Cruz	0†	0	0	0	*	*	0	0	0	0
Yavapai	10†	0	0	0	*	*	0	*	0	0
Yuma	20†	0	*	0	*	7	*	*	0	0

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Includes spontaneous terminations of pregnancy at 20 or more weeks of gestation (or if gestational age is unknown, the deaths of fetuses of at least 350 grams in weight), excludes abortions.

5D

ABORTIONS

TABLE 5D-1
RESIDENT ABORTIONS TO WOMEN BY COUNTY OF RESIDENCE, ARIZONA, 2010-2020

County of Residence	Year											% Change		
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2019 to 2020	2014 to 2018	2010 to 2020
Number of Abortions														
ARIZONA	**11,059**	**13,606**	**13,129**	**13,254**	**12,747**	**12,479**	**13,170**	**12,336**	**12,362**	**13,003**	**13,186**	**1.4**	**-3.0**	**19.2**
Apache	19	15	16	12	8	17	18	14	14	9	16	77.8	75.0	-15.8
Cochise	107	162	140	101	47	105	103	97	109	123	119	-3.3	131.9	11.2
Coconino	274	184	166	147	159	231	210	207	159	173	176	1.7	0.0	-35.8
Gila	28	41	34	54	33	50	64	55	40	50	30	-40.0	21.2	7.1
Graham	15	12	33	17	15	16	20	18	25	20	27	35.0	66.7	80.0
Greenlee	22	41	47	67	9	8	10	10	7	9	7	-22.2	-22.2	-68.2
La Paz	6	11	7	16	7	14	10	11	11	29	21	-27.6	57.1	250.0
Maricopa	7,774	10,280	8,809	8,385	8,727	8,504	9,076	8,384	8,290	8,911	9,587	7.6	-5.0	23.3
Mohave	22	43	41	26	19	18	24	19	13	20	20	0.0	-31.6	-9.1
Navajo	69	77	72	66	41	49	69	66	55	48	66	37.5	34.1	-4.3
Pima	1,844	2,039	2,196	2,109	1,979	1,555	1,816	1,611	1,587	1,681	1,621	-3.6	-19.8	-12.1
Pinal	217	313	417	346	315	366	345	400	362	394	464	17.8	14.9	113.8
Santa Cruz	31	35	32	23	26	26	35	45	34	42	32	-23.8	30.8	3.2
Yavapai	204	181	176	214	165	193	234	222	186	193	182	-5.7	12.7	-10.8
Yuma	151	172	79	90	67	49	43	29	31	33	26	-21.2	-53.7	-82.8
Unknown	276	0	864	1,581	1,130	1,278	1,093	1,148	1,439	1,268	792	NA	NA	NA
Abortion Rates[a]														
ARIZONA	**8.8**	**10.7**	**10.3**	**10.3**	**9.8**	**9.5**	**10.0**	**9.2**	**9.1**	**9.4**	**9.6**	**2.1**	**-7.1**	**9.1**
Apache	1.4	1.1	1.2	0.9	0.6	1.3	1.4	1.0	1.0	0.7	1.3	85.7	66.7	-7.1
Cochise	4.8	7.3	6.3	4.5	2.2	4.9	4.9	4.7	5.2	5.7	5.8	1.8	136.4	20.8
Coconino	8.7	5.9	5.3	4.7	4.8	6.8	6.1	5.9	4.5	4.8	4.8	0.0	-6.3	-44.8
Gila	3.7	5.4	4.6	7.3	4.4	6.6	8.6	7.3	5.3	6.5	4.0	-38.5	20.5	8.1
Graham	2.2	1.8	4.8	2.4	2.1	2.3	2.8	2.6	3.6	2.8	3.8	35.7	71.4	72.7
Greenlee	14.2	26.5	29.8	33.2	4.6	3.9	4.9	4.6	3.5	4.5	3.9	-13.3	-23.9	-72.5
La Paz	2.5	4.4	2.9	6.6	2.8	5.6	3.9	4.2	4.2	10.7	10.2	-4.7	50.0	308.0
Maricopa	9.8	12.9	11.0	10.4	10.6	10.2	10.8	9.8	9.6	10.1	10.7	5.9	-9.4	9.2
Mohave	0.8	1.5	1.4	0.9	0.7	0.6	0.8	0.7	0.5	0.7	0.7	0.0	-28.6	-12.5
Navajo	3.6	4.0	3.8	3.5	2.2	2.6	3.6	3.5	2.9	2.5	3.6	44.0	31.8	0.0
Pima	9.6	10.5	11.4	10.9	10.1	7.9	9.3	8.2	7.9	8.3	8.0	-3.6	-21.8	-16.7
Pinal	3.2	4.6	6.0	4.9	4.6	5.3	4.9	5.6	4.9	5.2	6.5	25.0	6.5	103.1
Santa Cruz	3.4	3.8	3.5	2.5	2.8	2.8	3.7	4.8	3.5	4.3	3.7	-14.0	25.0	8.8
Yavapai	6.8	6.0	5.9	7.1	5.6	6.5	7.9	7.4	6.1	6.3	5.9	-6.3	8.9	-13.2
Yuma	4.0	4.4	2.0	2.2	1.7	1.2	1.1	0.7	0.8	0.8	0.7	-12.5	-52.9	-82.5
Abortion Ratio[b]														
ARIZONA	**127**	**160**	**153**	**156**	**147**	**147**	**156**	**151**	**153**	**164**	**172**	**4.9**	**4.1**	**35.4**
Apache	17	14	17	13	8	18	18	15	15	10	20	100.0	87.5	17.6
Cochise	60	97	82	63	29	67	67	73	81	92	93	1.1	179.3	55.0
Coconino	154	104	98	90	93	147	130	137	106	127	132	3.9	14.0	-14.3
Gila	42	66	56	92	51	86	108	102	80	106	64	-39.6	56.9	52.4
Graham	28	20	63	28	25	28	36	34	49	41	58	41.5	96.0	107.1
Greenlee	210	345	412	536	63	52	67	64	54	73	58	-20.5	-14.3	-72.4
La Paz	30	64	34	78	33	70	45	57	59	156	136	-12.8	78.8	353.3
Maricopa	143	193	162	156	158	156	168	160	160	175	195	11.4	1.3	36.4
Mohave	11	22	24	15	10	10	13	11	7	12	12	0.0	-30.0	9.1
Navajo	40	47	44	42	25	32	46	44	40	35	51	45.7	60.0	27.5
Pima	152	172	185	176	167	136	159	147	149	162	162	0.0	-10.8	6.6
Pinal	43	68	90	76	70	82	77	91	80	88	100	13.6	14.3	132.6
Santa Cruz	45	50	48	35	43	42	55	71	55	70	54	-22.9	27.9	20.0
Yavapai	112	99	99	118	85	103	125	124	105	107	108	0.9	23.5	-3.6
Yuma	47	54	25	29	22	16	14	10	10	11	9	-18.2	-54.5	-80.9

Notes: * Cell suppressed due to count less than 6; ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Number of abortions obtained per 1,000 women from 15 - 44 years of age; [b] Number of abortions obtained per 1,000 live birth.

TABLE 5D-2
ABORTIONS BY COUNTY OF RESIDENCE AND AGE GROUP, ARIZONA, 2020

County[a]	≤ 19 years		20-29 years		≥ 30 years	
	Count	Percent	Count	Percent	Count	Percent
Apache	*	**	7	0.1	7	0.2
Cochise	13	1.1	72	0.9	34	0.8
Coconino	19	1.6	101	1.3	56	1.3
Gila	*	**	16	0.2	10	0.2
Graham	*	**	17	0.2	8	0.2
Greenlee	*	**	*	**	*	**
La Paz	*	**	11	0.1	8	0.2
Maricopa	842	69.1	5,596	73.2	3,149	72.8
Mohave	*	**	14	0.2	*	**
Navajo	12	1.0	30	0.4	24	0.6
Pima	160	13.1	962	12.6	499	11.5
Pinal	46	3.8	254	3.3	164	3.8
Santa Cruz	*	**	19	0.2	9	0.2
Yavapai	23	1.9	92	1.2	67	1.5
Yuma	*	**	16	0.2	8	0.2
Unknown	84	6.9	432	5.7	276	6.4
Border region[b]	179	14.7	1,069	14.0	550	12.7
Non-border region	955	78.4	6,143	80.4	3,498	80.9
Arizona	**1,220†**	**100.0**	**7,640†**	**100.0**	**4,320†**	**100.0**

Notes: * Cell suppressed due to count less than 6; ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Residence indicates patient county of residence; [b] Border region includes Cochise, Pima, Santa Cruz, and Yuma counties.

TABLE 5D-3
RESIDENT ABORTIONS BY COUNTY OF RESIDENCE, RACE/ETHNICITY, MARITAL STATUS, AND EDUCATION, ARIZONA, 2020

	Total	Race/ethnicity							Marital status		Education/highest grade completed		
		White non-Hispanic	Hispanic or Latino	Black or African American	American Indian or Alaska Native	Asian or Pacific Islander	Multiple race	Unknown	Married	Unmarried	Primary/Secondary (0-12)	College (1-4 or 5+)	Not stated/unknown
ARIZONA	13,186	4,680†	5,350†	1,590†	370†	550†	320†	310†	1,920†	11,262	3,820	3,050†	6,321
Apache	20†	7	*	0	6	0	*	0	*	11	6	*	6
Cochise	120†	50	40	10	*	6	6	*	24	95	28	12	79
Coconino	180†	84	43	*	32	7	*	*	14	162	18	21	137
Gila	30†	16	*	0	6	*	*	0	*	26	12	*	14
Graham	30†	10	14	0	*	*	0	*	*	26	6	7	14
Greenlee	10†	*	*	0	*	*	0	0	0	7	0	*	6
La Paz	20†	9	9	*	*	0	0	0	*	20	7	*	12
Maricopa	9,587	3,337	3,820	1,308	221	419	233	249	1,362	8,225	2,849	2,411	4,327
Mohave	20†	15	*	*	*	*	0	0	*	19	8	*	9
Navajo	70†	19	12	*	28	*	*	*	*	61	17	10	39
Pima	1,621	589	783	103	32	47	42	25	270	1,351	321	268	1,032
Pinal	460†	184	181	61	15	*	10	8	85	379	140	103	221
Santa Cruz	30†	*	28	0	0	0	0	*	0	32	8	*	21
Yavapai	180†	117	48	*	*	*	*	*	20	162	58	34	90
Yuma	30†	10	16	0	0	0	0	0	*	25	8	*	14
Unknown[a]	792	232	343	103	21	56	19	18	131	661	334	158	300

Notes: * Cell suppressed due to count less than 6; † Sum rounded to nearest tens unit due to addend less than 6; [a] Unknown county describes an Arizona resident whose county of residence is unknown.

TABLE 5D-4
ABORTIONS BY COUNTY OF RESIDENCE AND GESTATIONAL AGE GROUP, ARIZONA, 2020

	TOTAL	Gestational Age[a]		
		≤13 weeks	14 to 20 weeks	≥21 weeks
		Count	Count	Count
Arizona	13,186	12,027	990†	170†
Apache	20†	12	*	*
Cochise	120†	108	10	*
Coconino	180†	165	10	*
Gila	30†	28	*	*
Graham	30†	26	*	0
Greenlee	10†	6	*	0
La Paz	20†	19	*	0
Maricopa	9,587	8,750	720	117
Mohave	20†	18	*	*
Navajo	70†	58	6	*
Pima	1,621	1,489	111	21
Pinal	460†	432	28	*
Santa Cruz	30†	31	*	0
Yavapai	180†	167	13	*
Yuma	30†	23	*	0
Unknown[a]	792	695	79	18

Notes: * Cell suppressed due to count less than 6; † Sum rounded to nearest tens unit due to addend less than 6.

5E

TRENDS AND PATTERNS IN MORTALITY

TABLE 5E-1
MORTALITY BY COUNTY OF RESIDENCE AND YEAR, ARIZONA, 2010-2020

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ARIZONA	45,871	47,547	48,459	49,929	51,074	54,152	56,480	57,261	59,206	60,161	75,700
Apache	544	584	471	607	601	646	653	689	692	734	1,165
Cochise	1,218	1,183	1,204	1,266	1,201	1,305	1,342	1,344	1,360	1,404	1,637
Coconino	678	722	707	702	732	814	857	859	858	830	1,149
Gila	661	682	655	696	747	814	832	723	754	817	975
Graham	302	245	300	275	283	251	278	305	336	287	382
Greenlee	55	71	64	46	52	69	52	65	66	66	75
La Paz	200	186	225	247	253	254	270	320	317	307	366
Maricopa	24,438	25,467	25,785	26,906	27,711	28,945	30,311	30,798	32,091	32,637	40,748
Mohave	2,368	2,424	2,482	2,686	2,540	3,024	3,181	3,144	3,387	3,347	4,009
Navajo	819	899	897	976	937	907	1,010	1,059	1,137	1,196	1,735
Pima	8,163	8,392	8,713	8,592	8,725	9,241	9,492	9,527	9,846	9,977	12,290
Pinal	2,258	2,380	2,440	2,457	2,629	2,968	2,991	3,110	3,147	3,334	4,293
Santa Cruz	262	247	303	286	275	294	301	297	278	335	464
Yavapai	2,436	2,496	2,616	2,724	2,772	2,918	2,955	3,114	3,121	3,071	3,717
Yuma	1,279	1,350	1,386	1,320	1,425	1,427	1,506	1,491	1,631	1,634	2,443
Unknown	190	219	211	143	191	275	449	416	185	185	252

TABLE 5E-2
MORTALITY BY COUNTY OF OCCURRENCE, ARIZONA, 2010-2020

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ARIZONA[a]	47,616	49,208	50,254	51,997	53,097	56,386	58,708	59,446	62,688	63,701	79,353
Apache	401	350	351	332	362	384	399	440	412	410	608
Cochise	929	878	901	892	893	957	1,023	961	976	1,007	1,164
Coconino	852	930	890	822	936	1,009	1,041	1,044	1,096	1,096	1,317
Gila	552	559	557	560	601	653	655	576	629	643	766
Graham	253	193	241	223	236	199	233	259	289	258	324
Greenlee	39	40	28	28	29	43	31	31	31	41	47
La Paz	172	173	173	165	179	197	193	265	234	230	268
Maricopa	27,041	28,001	28,442	28,360	30,135	31,490	33,037	33,832	35,105	35,852	45,307
Mohave	2,460	2,511	2,594	2,612	2,572	2,825	2,996	2,998	3,142	3,040	3,734
Navajo	577	675	692	716	669	735	776	802	874	862	1,144
Pima	9,171	9,385	9,749	9,143	9,571	10,116	10,353	10,555	10,703	10,880	13,467
Pinal	1,384	1,604	1,558	1,495	1,760	1,912	1,996	2,017	1,988	2,048	2,840
Santa Cruz	194	167	193	172	180	200	197	194	184	212	255
Yavapai	2,264	2,373	2,478	2,504	2,606	2,727	2,785	2,959	2,891	2,823	3,456
Yuma	1,326	1,369	1,407	1,234	1,461	1,447	1,525	1,514	1,651	1,680	2,381
Unknown	0	0	0	0	11	1,492	1,468	999	2,483	2,619	2,275

Note: [a] Totals include those resident deaths occurring out-of-state.

TABLE 5E-3
RESIDENT DEATHS BY PLACE OF OCCURRENCE AND NON-RESIDENT DEATHS BY COUNTY OF OCCURRENCE IN ARIZONA, 2020

County of residence	County of occurrence															AZ residents died in Arizona	Arizona resident, died elsewhere	Total, Arizona residents
	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma			
Apache	524	0	68	9	*	0	*	263	0	67	7	*	0	6	0	948	217	1,170†
Cochise	0	1,097	0	0	*	0	0	48	*	0	456	*	*	0	*	1,609	28	1,640†
Coconino	*	*	869	8	0	0	0	174	*	16	7	*	0	33	0	1,117	32	1,150†
Gila	0	0	6	654	20	0	0	250	0	8	14	8	0	*	0	964	11	980†
Graham	*	*	*	*	281	*	0	29	0	0	58	*	0	0	0	379	*	380†
Greenlee	*	0	0	0	10	43	0	*	0	0	16	0	0	0	0	75	0	80†
La Paz	0	0	*	0	0	0	212	69	44	*	*	0	0	*	*	331	35	370†
Maricopa	8	*	41	31	*	*	*	39,918	9	28	70	125	*	53	6	40,302	446	40,750†
Mohave	0	0	11	0	0	0	*	169	3,431	*	6	0	0	15	*	3,641	368	4,010†
Navajo	35	*	177	32	0	0	0	423	*	982	21	7	0	9	*	1,691	44	1,740†
Pima	*	6	0	*	*	*	0	142	8	*	11,973	30	6	7	*	12,186	104	12,290†
Pinal	*	*	*	10	0	0	*	1,475	*	*	188	2,554	0	*	*	4,243	50	4,290†
Santa Cruz	0	*	0	0	0	0	0	19	0	0	217	0	226	0	0	463	*	460†
Yavapai	0	*	52	*	0	0	*	316	8	*	9	*	*	3,258	*	3,660	57	3,720†
Yuma	*	0	*	0	0	0	*	233	6	0	43	*	0	*	2,116	2,404	39	2,440†
Unknown	0	0	*	*	0	0	0	124	*	0	14	8	0	6	0	157	95	250†
AZ resident	580†	1,120†	1,230†	760†	320†	50†	230†	43,660†	3,520†	1,120†	13,100†	2,750†	240†	3,390†	2,140†	74,170†	1,530	75,700
Non-resident	32	49	87	10	*	0	43	1,650	219	27	367	95	19	62	243	5,180†		
Total deaths in Arizona[a]	610†	1,160†	1,320†	770†	320†	50†	270†	45,310†	3,730†	1,140†	13,470†	2,840†	260†	3,460†	2,380†	79,353		

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Total deaths includes deaths that occurred out of Arizona and records with unknown county of occurrence.

TABLE 5E-4
MORTALITY RATES[a] BY COUNTY OF RESIDENCE AND YEAR, ARIZONA, 2010-2020

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ARIZONA	717.6	738.5	745.7	758.7	766.0	752.9	826.3	822.0	836.7	836.8	1054.8
Apache	760.6	811.2	651.4	841.0	836.3	894.6	905.3	947.6	943.7	1022.2	1763.8
Cochise	927.3	906.3	920.8	967.1	926.5	1010.8	1045.6	1046.9	1043.6	1073.3	1302.1
Coconino	504.4	538.2	526.4	517.3	525.2	574.9	601.2	596.3	589.4	563.6	788.6
Gila	1233.3	1272.9	1221.4	1296.8	1377.7	1496.2	1531.3	1315.8	1372.3	1481.2	1829.2
Graham	811.4	649.7	804.0	726.1	738.6	652.4	725.8	796.9	881.3	745.9	988.7
Greenlee	651.9	847.3	744.3	421.5	496.4	653.7	498.4	593.0	628.2	636.1	784.4
La Paz	976.1	897.3	1076.5	1177.4	1193.1	1199.1	1270.8	1481.6	1448.1	1390.1	2206.5
Maricopa	640.2	662.6	663.8	682.1	691.3	710.1	732.7	729.5	747.3	747.2	918.4
Mohave	1182.9	1209.5	1222.2	1319.3	1245.1	1470.0	1545.9	1498.6	1590.5	1542.5	1873.5
Navajo	762.2	838.4	831.2	897.9	858.2	827.0	914.7	951.8	1008.5	1060.0	1625.0
Pima	832.7	851.0	879.8	862.6	866.3	915.5	936.9	928.5	952.0	955.0	1175.4
Pinal	600.9	619.4	626.9	623.9	663.5	730.2	723.7	727.3	714.3	732.4	1002.5
Santa Cruz	552.5	513.6	621.9	581.1	555.0	584.8	595.1	576.6	530.6	630.2	971.0
Yavapai	1154.3	1181.6	1236.4	1277.1	1287.2	1339.9	1342.0	1381.8	1363.1	1321.5	1567.9
Yuma	653.4	673.5	675.5	630.6	672.1	663.7	691.7	672.7	724.2	710.6	1193.3

Notes: [a] Crude death rates; number of deaths per 100,000 population.

TABLE 5E-5
TRENDS IN AGE-ADJUSTED[a] MORTALITY RATES FOR ALL CAUSES BY COUNTY OF RESIDENCE, ARIZONA, 2010-2020

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ARIZONA	679.9	699.6	687.2	687.8	676.0	691.3	696.6	679.3	688.6	676.6	842.2
Apache	869.4	940.7	721.4	905.6	881.2	928.2	913.5	937.2	916.6	960.9	1,658.8
Cochise	766.0	745.5	743.2	759.8	706.1	745.4	747.0	730.7	709.8	727.2	855.0
Coconino	699.4	671.6	717.1	671.5	657.2	660.6	696.5	691.4	678.5	638.6	858.3
Gila	820.1	876.0	801.1	869.0	890.4	958.9	959.5	831.1	872.3	914.9	1,141.2
Graham	919.8	726.4	897.1	786.5	827.7	696.7	756.1	820.7	854.5	719.6	953.6
Greenlee	669.5	889.5	745.3	421.8	536.7	693.2	522.8	616.5	585.7	631.1	747.0
La Paz	619.5	570.4	700.9	693.1	702.6	650.9	750.0	768.8	843.6	735.0	1,200.3
Maricopa	655.1	677.8	660.6	667.9	664.5	668.4	676.6	663.0	678.1	666.9	807.3
Mohave	799.7	824.8	813.3	845.8	776.7	888.4	904.9	847.3	862.6	833.6	996.1
Navajo	808.9	888.5	854.1	901.6	819.3	786.2	844.6	867.5	897.8	922.5	1,398.3
Pima	697.6	711.8	717.1	696.6	682.4	707.2	706.0	684.3	704.6	697.6	849.6
Pinal	642.0	668.5	648.4	636.2	608.3	650.1	604.9	590.2	577.3	573.3	763.6
Santa Cruz	561.0	519.3	602.8	550.5	517.2	521.1	510.0	475.5	441.2	507.1	747.5
Yavapai	708.8	722.6	747.3	760.4	738.1	755.8	737.6	750.1	724.9	706.1	828.0
Yuma	604.7	628.4	599.7	551.9	575.6	545.9	550.2	507.3	557.7	534.7	892.1

Notes: [a] Adjusted to the 2000 standard U.S. population; the rates are per 100,000 resident population in specified county.

TABLE 5E-6
NUMBER OF DEATHS BY RACE/ETHNICITY, GENDER, AND COUNTY OF RESIDENCE, ARIZONA, 2020

	All groups[b]			White non-Hispanic			Hispanic or Latino			Black or African American			American Indian or Alaska Native			Asian or Pacific Islander		
	Total[a]	Male	Female	Total[a]	Male	Female	Total	Male	Female	Total	Male	Female	Total[a]	Male	Female	Total	Male	Female
ARIZONA	75,700	41,431	34,269	54,148	28,990	25,158	12,504	7,277	5,227	2,930†	1,720†	1,210†	4,290†	2,410†	1,880†	1,200†	590†	610†
Apache	1,165	691	474	196	109	87	39	26	13	0	0	0	928	554	374	0	0	0
Cochise	1,637	918	719	1,186	671	515	368	206	162	39	27	12	10†	*	*	30†	*	21
Coconino	1,149	660	489	546	312	234	84	52	32	10†	9	*	500	282	218	10†	*	*
Gila	975	565	410	668	389	279	98	61	37	0†	*	0	200	111	89	0†	*	*
Graham	382	218	164	240	137	103	92	51	41	0†	0	*	46	28	18	0†	*	0
Greenlee	75	42	33	44	22	22	30	19	11	0	0	0	0	0	0	0†	*	0
La Paz	366	241	125	278	191	87	32	20	12	0†	0	*	46	25	21	0†	*	0
Maricopa	40,748	21,987	18,761	29,940	15,727	14,213	6,574	3,867	2,707	2,202	1,268	934	843	453	390	875	445	430
Mohave	4,009	2,292	1,717	3,597	2,062	1,535	245	135	110	33	23	10	60	30	30	32	14	18
Navajo	1,735	957	778	724	388	336	93	43	50	10†	*	*	899	515	384	0†	*	*
Pima	12,290	6,608	5,682	8,659	4,525	4,134	2,587	1,478	1,109	386	236	150	397	224	173	164	74	90
Pinal	4,293	2,445	1,848	3,121	1,764	1,357	658	396	262	186	110	76	247	127	120	49	23	26
Santa Cruz	464	259	205	123	65	58	335	190	145	0†	*	0	0†	*	0	0†	0	*
Yavapai	3,717	1,988	1,729	3,401	1,824	1,577	203	104	99	20†	11	*	48	25	23	26	14	12
Yuma	2,443	1,386	1,057	1,280	707	573	1,042	611	431	40	28	12	39	16	23	10†	*	7
Unknown	252	174	78	145	97	48	24	18	6	10†	*	*	28	17	11	0†	*	*

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Includes records with unknown gender; [b] Total for all groups includes records with unknown race/ethnicity.

TABLE 5E-7
NUMBER OF DEATHS BY MONTH AND COUNTY OF RESIDENCE, ARIZONA, 2020

	Total	Month of death											
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
ARIZONA	75,700	5,693	5,275	5,745	5,768	5,833	6,480†	8,240†	6,603	5,390†	5,566	6,048	9,050†
Apache	1,165	65	67	85	84	124	118	119	85	70	81	104	163
Cochise	1,637	114	134	106	124	99	131	170	140	105	149	141	224
Coconino	1,149	84	70	95	115	93	93	100	100	84	109	93	113
Gila	975	66	75	69	74	63	85	103	90	53	80	89	128
Graham	382	31	30	33	20	30	27	46	37	23	27	24	54
Greenlee	80†	6	7	8	8	6	*	*	9	*	7	8	*
La Paz	366	32	17	32	20	25	39	31	42	39	18	28	43
Maricopa	40,748	3,103	2,845	3,055	3,092	3,163	3,378	4,733	3,610	2,988	2,994	3,094	4,693
Mohave	4,009	305	286	309	301	328	372	420	364	269	287	338	430
Navajo	1,735	94	126	134	117	147	182	189	130	106	131	162	217
Pima	12,290	932	861	982	1,011	927	1,043	1,163	1,028	865	886	1,021	1,571
Pinal	4,293	347	294	340	336	356	353	416	382	306	314	346	503
Santa Cruz	464	23	28	40	20	24	49	54	43	35	24	51	73
Yavapai	3,717	302	274	281	277	266	306	353	303	261	303	330	461
Yuma	2,443	170	152	164	156	156	281	310	212	156	141	193	352
Unknown	252	19	9	12	13	26	22	32	28	27	15	26	23

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 5E-8
NUMBER OF DEATHS BY COUNTY OF RESIDENCE AND DECEDENT STATUS, ARIZONA, 2020

	IN HOSPITAL					NOT IN HOSPITAL				TOTAL
	In-patient	Out-patient[a]	Died on arrival	Status unknown	Subtotal	Nursing home[b]	Residence	Other[c]	Subtotal	
ARIZONA	19,771	3,860†	30†	26,555	50,218	6,200†	4,460†	14,824	25,482	75,700
Apache	535	80	*	291	910†	21	79	154	254	1,170†
Cochise	415	115	0	671	1,201	88	144	204	436	1,637
Coconino	395	56	*	372	820†	58	87	180	325	1,150†
Gila	281	43	*	334	660†	86	103	127	316	980†
Graham	99	17	0	177	293	14	43	32	89	382
Greenlee	15	*	0	36	50†	*	*	12	20†	80†
La Paz	103	16	0	176	295	20	11	40	71	366
Maricopa	10,534	2,201	9	12,707	25,451	3,936	2,207	9,154	15,297	40,748
Mohave	950	199	*	1,922	3,070†	254	287	395	936	4,010†
Navajo	613	88	*	580	1,290†	53	145	251	449	1,740†
Pima	2,912	413	*	4,740	8,070†	1,064	651	2,506	4,221	12,290†
Pinal	1,117	256	*	1,801	3,180†	293	193	632	1,118	4,290†
Santa Cruz	169	30	0	176	375	19	21	49	89	464
Yavapai	682	156	*	1,686	2,530†	252	291	649	1,192	3,720†
Yuma	852	157	0	878	1,887	21	172	363	556	2,443
Unknown	99	33	0	8	140	14	22	76	112	252

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Includes Emergency Room; [b] Includes other long-term care facilities; [c] Includes hospices.

TABLE 5E-9
BODY DISPOSITION BY COUNTY OF RESIDENCE AND YEAR, ARIZONA, 2010-2020

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ARIZONA	Burial	13,940	13,699	13,423	13,356	13,044	13,397	13,734	13,290	13,227	12,931	16,850
	Cremation	28,654	30,152	31,060	32,128	33,736	36,200	38,013	39,148	40,545	41,442	54,180
	Other	3,277	3,696	3,976	4,445	4,294	4,555	4,733	4,823	5,434	5,788	4,670
	TOTAL	45,871	47,547	48,459	49,929	51,074	54,152	56,480	57,261	59,206	60,161	75,700
Apache	Burial	430	454	347	425	431	497	470	484	506	524	911
	Cremation	94	92	96	103	118	118	120	142	139	152	214
	Other	20	38	28	79	52	31	63	63	47	58	40
	TOTAL	544	584	471	607	601	646	653	689	692	734	1,165
Cochise	Burial	360	307	328	322	277	334	304	285	268	254	314
	Cremation	812	827	805	877	882	914	981	994	1,015	1,082	1,259
	Other	46	49	71	67	42	57	57	65	77	68	64
	TOTAL	1,218	1,183	1,204	1,266	1,201	1,305	1,342	1,344	1,360	1,404	1,637
Coconino	Burial	317	340	307	311	306	345	368	368	357	337	528
	Cremation	342	355	379	348	387	442	454	462	472	445	584
	Other	19	27	21	43	39	27	35	29	29	48	37
	TOTAL	678	722	707	702	732	814	857	859	858	830	1,149
Gila	Burial	226	241	226	226	224	259	255	219	189	225	312
	Cremation	385	388	359	371	423	460	480	434	482	500	581
	Other	50	53	70	99	100	95	97	70	83	92	82
	TOTAL	661	682	655	696	747	814	832	723	754	817	975
Graham	Burial	187	146	165	169	133	145	151	158	183	128	184
	Cremation	101	88	119	97	136	99	118	129	133	141	188
	Other	14	11	16	9	14	7	9	18	20	18	10
	TOTAL	302	245	300	275	283	251	278	305	336	287	382
Greenlee	Burial	27	34	33	21	14	31	23	19	26	23	27
	Cremation	28	34	29	25	37	34	27	42	39	38	47
	Other	0	*	*	0	*	*	*	*	*	*	*
	TOTAL	55	70†	60†	46	50†	70†	50†	70†	70†	70†	80†
La Paz	Burial	54	48	58	58	48	44	52	68	79	63	60
	Cremation	118	107	111	142	172	179	178	198	184	184	262
	Other	28	31	56	47	33	31	40	54	54	60	44
	TOTAL	200	186	225	247	253	254	270	320	317	307	366
Maricopa	Burial	7,582	7,408	7,358	7,282	7,274	7,219	7,469	7,279	7,251	7,164	8,889
	Cremation	15,078	16,006	16,235	17,221	18,097	19,245	20,348	20,950	21,908	22,246	29,309
	Other	1,778	2,053	2,192	2,403	2,340	2,481	2,494	2,569	2,932	3,227	2,550
	TOTAL	24,438	25,467	25,785	26,906	27,711	28,945	30,311	30,798	32,091	32,637	40,748

TABLE 5E-9 (continued)
BODY DISPOSITION BY COUNTY OF RESIDENCE AND YEAR, ARIZONA, 2010-2020

		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Mohave	**Burial**	379	387	363	345	322	390	378	332	342	276	355
	Cremation	1,666	1,685	1,793	1,945	1,832	2,197	2,348	2,367	2,511	2,530	3,250
	Other	323	352	326	396	386	437	455	445	534	541	404
	TOTAL	2,368	2,424	2,482	2,686	2,540	3,024	3,181	3,144	3,387	3,347	4,009
Navajo	**Burial**	514	506	529	552	513	516	534	572	608	654	1,039
	Cremation	271	347	325	361	378	340	405	406	456	460	644
	Other	34	46	43	63	46	51	71	81	73	82	52
	TOTAL	819	899	897	976	937	907	1,010	1,059	1,137	1,196	1,735
Pima	**Burial**	2,143	2,084	2,007	2,017	1,894	1,964	1,944	1,794	1,860	1,752	2,223
	Cremation	5,524	5,805	6,168	5,989	6,265	6,686	6,896	7,075	7,262	7,502	9,479
	Other	496	503	538	586	566	591	652	658	724	723	588
	TOTAL	8,163	8,392	8,713	8,592	8,725	9,241	9,492	9,527	9,846	9,977	12,290
Pinal	**Burial**	689	679	678	638	684	704	693	700	661	691	855
	Cremation	1,379	1,478	1,515	1,578	1,708	1,979	2,023	2,128	2,171	2,303	3,116
	Other	190	223	247	241	237	285	275	282	315	340	322
	TOTAL	2,258	2,380	2,440	2,457	2,629	2,968	2,991	3,110	3,147	3,334	4,293
Santa Cruz	**Burial**	77	106	111	102	96	84	86	91	82	81	90
	Cremation	173	125	181	178	170	200	205	193	180	240	360
	Other	12	16	11	6	9	10	10	13	16	14	14
	TOTAL	262	247	303	286	275	294	301	297	278	335	464
Yavapai	**Burial**	448	438	422	426	391	395	375	384	376	332	400
	Cremation	1,795	1,845	1,949	1,970	2,075	2,172	2,231	2,388	2,353	2,362	2,972
	Other	193	213	245	328	306	351	349	342	392	377	345
	TOTAL	2,436	2,496	2,616	2,724	2,772	2,918	2,955	3,114	3,121	3,071	3,717
Yuma	**Burial**	386	396	366	409	358	381	442	345	378	371	588
	Cremation	826	888	924	845	954	968	973	1,035	1,135	1,140	1,755
	Other	67	66	96	66	113	78	91	111	118	123	100
	TOTAL	1,279	1,350	1,386	1,320	1,425	1,427	1,506	1,491	1,631	1,634	2,443
Unknown	**Burial**	121	125	125	53	79	89	190	192	61	56	75
	Cremation	62	82	72	78	102	167	226	205	105	117	160
	Other	7	12	14	12	10	19	33	19	19	12	17
	TOTAL	190	219	211	143	191	275	449	416	185	185	252

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 5E-10
BODY DISPOSITION BY COUNTY OF OCCURRENCE[a] IN ARIZONA IN 2020

				Total	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Out-of-state / Unknown
Total deaths occurring in Arizona	Total	Body disposition	Total	79,353	610†	1,164	1,320†	770†	320†	50†	270†	45,307	3,730†	1,140†	13,467	2,840	260†	3,460†	2,380†	2,275
			Burial	17,928	435	228	627	207	154	16	33	10,529	346	548	2,538	539	53	411	556	708
			Cremation	56,267	160	886	665	491	162	30	203	32,087	2,985	552	10,306	2,063	191	2,723	1,730	1,033
			Donated	4,220†	*	50	24	62	*	0	29	2,144	384	38	499	199	6	306	84	389
			Entombment	600†	0	0	*	*	0	0	0	466	*	*	68	12	*	14	9	23
			Other	310†	8	0	0	*	*	*	*	79	18	*	50	27	*	*	*	108
			Unknown	20†	0	0	0	0	0	0	0	*	0	0	6	0	0	*	0	14
Body moved outside state	No		Total	73,988	500†	1,116	1,220†	760†	310†	46	255	42,794	3,540†	1,100†	12,898	2,708	228	3,341	1,999	1,183
			Burial	14,378	333	188	555	203	147	16	25	8,361	213	505	2,072	451	38	314	251	706
			Cremation	54,901	159	880	636	489	162	30	201	31,916	2,949	552	10,261	2,052	184	2,713	1,655	62
			Donated	4,180†	*	48	24	62	*	0	29	2,125	378	38	498	196	6	303	84	378
			Entombment	510†	0	0	*	*	0	0	0	390	*	*	61	9	0	10	9	23
			Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
			Unknown	20†	0	0	0	0	0	0	0	*	0	0	6	0	0	*	0	14
	Yes		Total	5,370†	110†	50†	101	10†	10†	0†	10†	2,513	193	50†	570†	130†	30†	120†	380†	1,090†
			Burial	3,550†	102	40	72	*	7	0	8	2,168	133	43	466	88	15	97	305	*
			Cremation	1,370†	*	6	29	*	0	0	*	171	36	0	45	11	7	10	75	971
			Donated	50†	*	*	0	0	0	0	0	19	6	0	*	*	0	*	0	11
			Entombment	90†	0	0	0	0	0	0	0	76	0	0	7	*	*	*	0	0
			Other	310†	8	0	0	*	*	*	*	79	18	*	50	27	*	*	*	108

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Resident and non-resident deaths occurring in Arizona.

TABLE 5E-11
AGE-ADJUSTED[a] MORTALITY RATES FOR SELECTED LEADING CAUSES OF DEATH BY GENDER AND AVERAGE AGE AT DEATH FROM ALL CAUSES BY COUNTY OF RESIDENCE, ARIZONA, 2020

	ARIZONA	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
PER 100,000 TOTAL POPULATION (BOTH GENDERS):																
Total, all causes	842.2	1658.8	855.0	858.3	1141.2	953.6	747.0	1200.3	807.3	996.1	1398.3	849.6	763.6	747.5	828.0	892.1
Cardiovascular disease	205.3	235.3	219.7	145.9	287.6	230.6	215.4	353.2	201.2	263.2	253.5	201.8	200.8	136.7	189.9	205.8
Diseases of heart	152.9	186.9	168.1	107.1	228.7	166.6	178.9	291.4	148.5	209.5	188.7	146.8	154.0	102.0	142.7	149.9
Coronary heart disease	109.4	127.4	114.0	71.7	187.8	114.0	141.1	249.1	104.5	161.9	126.8	102.5	110.0	78.0	108.8	120.5
Malignant neoplasms	134.7	107.2	145.9	122.1	159.6	130.8	179.5	140.8	131.1	165.3	122.8	136.2	134.7	101.5	156.8	127.3
Lung cancer	26.8	11.8	34.6	17.1	30.4	32.5	54.5	22.9	25.8	39.7	21.5	25.5	27.3	16.7	33.3	24.5
Colorectal cancer	12.7	10.4	13.0	10.6	14.8	12.4	7.6	16.5	12.6	15.2	11.6	13.4	12.1	15.9	13.7	10.3
Breast cancer	9.9	2.9	12.9	12.3	10.8	8.1	0.0	12.9	10.0	13.2	12.4	9.0	10.0	8.8	11.8	7.3
Prostate cancer	8.3	5.3	9.4	8.9	10.0	4.5	11.7	1.8	8.0	9.8	9.7	8.1	8.4	2.9	11.7	6.2
Malignant melanoma of skin	2.3	1.4	1.3	1.7	5.8	2.1	0.0	0.0	2.5	2.8	0.7	1.8	1.4	0.0	4.4	1.3
Cervical cancer	0.9	1.4	0.5	1.1	0.0	0.0	0.0	0.0	0.9	0.9	1.4	1.0	1.2	0.0	0.4	1.1
COVID-19[±]	92.1	408.9	85.2	143.7	132.2	125.5	48.7	69.3	85.6	72.0	283.3	79.1	67.3	159.0	50.8	204.9
Accident (unintentional injury)	71.5	195.3	64.6	84.6	96.6	87.0	73.3	193.9	66.6	57.0	137.3	79.4	60.2	66.1	74.2	64.2
Accidental poisoning	36.2	80.9	34.9	47.7	32.0	29.9	29.4	82.6	35.1	13.4	66.2	41.1	29.4	39.8	32.6	29.6
Motor vehicle accident	14.0	46.3	7.7	19.7	25.1	28.1	32.2	83.2	11.4	18.7	33.2	15.6	16.1	10.0	21.0	17.1
Accidental falls	12.2	25.8	12.0	9.9	6.2	19.6	0.0	15.0	12.0	10.3	20.0	15.0	7.9	13.3	13.9	2.4
Accidental drowning	1.3	1.0	0.4	0.4	8.7	2.7	0.0	1.6	1.5	0.8	0.0	0.7	1.3	1.5	1.6	0.9
Chronic lower respiratory diseases	38.8	32.5	44.3	35.2	44.9	48.5	19.3	30.2	37.3	72.3	48.1	34.6	35.5	20.3	47.5	28.1
Alzheimer's disease	34.7	12.6	22.8	23.1	27.8	47.1	7.6	20.0	37.9	39.2	40.6	29.7	30.2	22.2	35.9	29.1
Cerebrovascular disease	34.6	31.3	34.2	24.1	34.5	43.8	36.5	47.2	34.5	38.5	45.4	38.2	28.9	22.9	32.6	28.7
Diabetes	27.9	83.5	26.8	30.8	39.4	57.4	30.1	39.5	26.1	25.9	52.2	28.6	32.8	29.0	17.4	34.0
Intentional self-harm (suicide)	18.2	50.9	22.3	26.9	40.6	13.4	43.8	11.9	15.6	28.7	43.5	20.1	15.5	7.8	30.7	10.8
Chronic liver disease and cirrhosis	17.4	80.5	16.9	24.9	56.2	34.4	36.9	62.9	13.2	27.7	71.1	19.3	17.2	18.7	22.8	13.6
Essential (primary) hypertension and hypertensive renal disease	12.2	13.4	10.5	9.5	14.1	12.1	0.0	6.2	12.9	7.6	15.0	10.4	13.9	10.6	8.6	19.1
Influenza and pneumonia	12.2	35.7	12.6	11.3	7.8	13.2	0.0	34.4	11.5	13.0	18.9	13.5	10.7	14.0	8.7	14.1
Parkinson's disease	10.8	10.7	7.6	12.2	10.9	5.1	0.0	3.8	12.4	7.3	9.9	10.3	9.4	6.1	7.2	7.0
Nephritis	8.4	10.8	12.2	9.3	12.8	12.5	48.7	15.4	6.9	13.9	20.0	9.6	9.0	7.9	7.0	9.2
Assault (homicide)	7.7	23.6	2.7	7.6	20.4	3.2	0.0	23.1	7.3	7.9	34.5	7.7	7.0	3.4	3.9	4.9
Septicemia	4.7	9.3	7.6	6.2	9.9	0.0	0.0	6.0	3.6	6.3	9.8	7.4	4.2	9.2	3.1	7.3
HIV disease	0.9	1.9	0.4	3.4	0.0	0.0	0.0	13.8	1.0	0.4	0.0	0.5	0.6	0.0	0.1	0.6
Injury by firearms	17.2	22.2	16.2	22.2	38.5	13.3	43.8	11.9	15.6	28.3	38.6	19.4	14.6	2.9	25.9	8.9
Drug-induced deaths	38.4	38.4	40.1	35.7	44.7	29.9	29.4	87.9	37.5	34.2	49.0	43.9	30.0	42.3	47.2	29.6
Opioid-induced deaths	27.6	26.1	25.5	22.8	25.6	15.6	20.9	37.0	28.4	19.3	25.5	31.5	21.7	37.3	36.8	3.4
Alcohol-induced deaths	20.4	154.6	16.1	58.8	45.3	28.3	12.6	98.3	14.7	37.9	112.5	19.8	15.8	9.8	27.6	8.9
AVERAGE AGE AT DEATH	72.1	64.8	74.1	66.5	71.0	70.4	68.5	71.0	72.1	73.7	67.4	73.3	70.9	73.4	75.8	71.7
MEDIAN AGE AT DEATH	76.0	68.0	76.0	70.0	74.0	74.0	76.0	74.0	76.0	76.0	71.0	77.0	74.0	75.5	78.0	75.0

TABLE 5E-11 (continued)
AGE-ADJUSTED[a] MORTALITY RATES FOR SELECTED LEADING CAUSES OF DEATH BY GENDER AND AVERAGE AGE AT DEATH FROM ALL CAUSES BY COUNTY OF RESIDENCE, ARIZONA, 2020

	ARIZONA	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
PER 100,000 MALES:																
Total, all causes	1002.1	2128.2	1004.5	1028.5	1409.5	1140.1	941.6	1670.1	961.7	1166.4	1622.0	1020.4	879.9	940.0	964.8	1049.6
Cardiovascular disease	246.9	289.5	244.4	194.3	361.9	327.0	225.2	521.4	242.8	331.3	292.7	243.3	235.1	146.5	217.7	235.6
Diseases of heart	192.2	231.5	190.3	147.3	301.0	245.4	178.3	439.8	186.8	277.3	237.6	184.4	185.0	111.2	176.0	185.7
Coronary heart disease	143.4	159.2	139.6	103.2	257.7	175.6	134.1	375.4	138.1	220.4	168.2	132.2	140.1	89.4	137.3	151.9
Malignant neoplasms	156.1	112.3	181.7	139.5	198.9	144.8	243.0	177.0	152.3	193.5	132.1	158.4	152.9	109.4	172.4	142.7
Lung cancer	29.9	9.0	47.5	21.3	36.1	37.1	73.2	22.5	27.9	40.9	19.0	31.1	31.0	24.4	34.6	27.4
Prostate cancer	18.5	12.5	20.1	19.4	22.3	10.2	26.2	3.1	18.3	19.9	21.9	18.5	17.3	6.8	25.6	12.7
Colorectal cancer	14.2	7.7	19.2	14.5	20.0	5.8	23.5	29.2	14.7	17.5	10.1	13.8	12.5	12.2	11.5	8.9
Malignant melanoma of skin	3.5	3.1	1.9	2.2	11.8	4.5	0.0	0.0	3.8	4.8	0.0	2.7	1.8	0.0	6.2	1.2
Breast cancer	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.7	1.5	0.1	0.0	0.0	0.0	0.0
COVID-19[±]	118.3	518.2	107.4	171.1	168.8	159.9	41.9	86.2	112.3	81.5	320.8	102.5	80.5	243.7	62.7	266.6
Accident (unintentional injury)	100.6	290.1	93.0	116.7	148.8	103.3	119.4	308.0	95.7	73.5	185.0	109.9	79.9	98.0	93.7	84.4
Accidental poisoning	52.9	136.8	43.4	72.8	48.7	41.4	54.4	142.0	52.7	13.3	96.9	57.6	39.6	65.5	41.9	40.9
Motor vehicle accident	20.2	59.5	13.3	25.8	43.5	34.3	38.8	138.3	16.8	27.9	39.7	23.1	22.4	2.8	28.2	21.8
Accidental falls	14.2	39.5	19.0	6.6	5.1	18.7	0.0	13.8	14.3	10.9	26.9	16.5	9.1	23.2	15.7	1.9
Accidental drowning	1.9	2.1	0.8	0.9	17.2	0.0	0.0	3.2	2.2	1.6	0.0	1.3	0.9	3.3	0.0	1.8
Chronic lower respiratory diseases	41.2	38.6	59.1	40.6	37.0	41.3	26.2	24.5	38.7	71.6	54.5	37.0	36.6	31.8	52.1	34.4
Diabetes	36.0	110.8	33.1	37.4	56.5	82.1	38.4	44.3	33.1	31.1	64.4	38.9	44.3	47.6	23.5	42.6
Cerebrovascular disease	34.8	38.4	37.5	31.6	35.6	53.6	47.0	59.4	35.5	38.0	38.9	38.1	29.9	25.0	26.2	27.4
Intentional self-harm (suicide)	28.8	74.3	35.5	46.6	52.0	24.9	87.1	24.6	25.0	41.5	68.1	31.0	23.7	14.3	51.0	17.0
Alzheimer's disease	27.1	14.1	18.3	21.2	23.9	28.0	0.0	12.6	29.7	27.9	25.0	23.6	22.4	7.5	31.5	23.4
Chronic liver disease and cirrhosis	21.6	90.1	18.1	31.9	65.7	37.1	24.6	115.0	17.0	37.3	73.8	23.8	20.1	21.3	28.4	17.5
Parkinson's disease	15.6	15.6	10.1	10.1	11.8	11.8	0.0	3.2	18.5	11.3	16.7	15.6	10.7	11.4	10.0	8.2
Influenza and pneumonia	15.1	50.1	14.4	15.8	9.1	23.5	0.0	41.7	14.2	16.4	22.6	17.0	13.5	15.0	11.6	16.9
Essential (primary) hypertension and hypertensive renal disease	13.3	11.3	9.5	13.5	12.2	16.0	0.0	8.7	14.0	9.0	13.5	13.1	16.9	10.3	9.3	13.4
Assault (homicide)	12.1	34.9	5.3	13.1	23.7	5.4	0.0	9.1	11.6	12.1	56.8	12.6	8.9	2.8	6.7	6.9
Nephritis	9.8	15.6	11.2	5.7	17.2	21.8	93.9	18.3	7.9	17.4	15.8	10.8	11.4	11.4	11.5	9.6
Septicemia	5.1	16.3	5.7	3.1	6.6	0.0	0.0	9.1	3.7	5.8	10.9	9.6	5.0	14.7	2.6	7.2
HIV disease	1.5	3.8	0.0	6.8	0.0	0.0	0.0	26.3	1.7	0.9	0.0	0.8	1.2	0.0	0.3	0.0
Injury by firearms	29.4	38.8	28.2	43.5	53.5	24.5	87.1	24.6	26.7	48.9	63.5	33.0	22.8	6.8	43.4	14.8
Drug-induced deaths	54.7	56.4	48.0	53.7	50.2	41.4	54.4	132.9	55.2	38.2	64.7	60.2	40.2	70.9	63.3	41.3
Opioid-induced deaths	39.4	35.9	26.1	37.5	33.9	27.2	38.8	38.2	41.6	23.4	33.0	42.3	31.1	60.1	51.4	5.4
Alcohol-induced deaths	27.7	208.8	15.3	78.9	59.6	33.0	24.6	188.8	19.9	49.3	148.1	30.0	20.3	15.2	33.9	12.2
AVERAGE AGE AT DEATH	69.5	61.9	72.1	63.4	69.0	68.3	66.3	69.3	69.0	72.4	64.4	70.7	69.2	72.8	73.9	70.4
MEDIAN AGE AT DEATH	73.0	65.0	75.0	67.0	72.0	73.0	76.0	72.0	73.0	75.0	68.0	74.0	73.0	74.0	77.0	74.0

TABLE 5E-11 (continued)
AGE-ADJUSTED[a] MORTALITY RATES FOR SELECTED LEADING CAUSES OF DEATH BY GENDER AND AVERAGE AGE AT DEATH FROM ALL CAUSES BY COUNTY OF RESIDENCE, ARIZONA, 2020

	ARIZONA	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
PER 100,000 FEMALES:																
Total, all causes	694.1	1223.5	709.6	694.1	880.8	779.9	603.7	740.9	668.1	824.9	1174.9	696.3	645.7	593.7	698.3	742.7
Cardiovascular disease	167.8	187.0	194.3	103.1	216.9	152.9	223.3	191.8	164.7	196.2	216.2	165.2	167.3	129.3	164.5	178.7
Diseases of heart	118.1	147.2	145.2	70.4	160.8	101.3	181.8	147.4	115.6	143.8	142.9	114.2	123.6	94.5	113.2	116.8
Coronary heart disease	79.4	98.6	88.5	42.8	121.5	65.1	151.4	127.4	76.0	105.4	90.2	76.5	80.4	68.2	83.6	91.2
Malignant neoplasms	117.2	106.4	114.3	109.9	123.9	119.6	156.3	106.2	114.5	137.7	115.4	118.4	117.7	94.8	143.6	112.9
Lung cancer	24.2	14.0	22.6	14.2	24.0	26.5	50.6	23.4	24.1	38.5	23.7	21.0	23.8	10.2	32.1	21.9
Breast cancer	18.5	5.8	25.5	23.6	21.0	16.2	0.0	25.4	18.2	25.4	21.7	16.8	19.8	16.1	22.3	14.0
Colorectal cancer	11.4	13.1	7.7	7.4	10.4	17.4	0.0	4.2	10.8	13.1	12.7	12.8	11.7	19.2	15.7	11.5
Cervical cancer	1.7	2.5	1.0	2.2	0.0	0.0	0.0	0.0	1.7	1.8	2.9	1.9	2.5	0.0	0.8	2.1
Malignant melanoma of skin	1.2	0.0	0.8	1.4	0.0	0.0	0.0	0.0	1.3	0.8	1.4	1.0	1.0	0.0	2.9	1.5
COVID-19[±]	69.2	309.0	64.3	118.9	97.6	92.5	51.5	49.9	63.2	62.8	247.5	59.7	55.0	88.9	40.2	146.8
Accident (unintentional injury)	42.4	98.7	36.0	52.1	43.7	63.3	25.3	79.3	38.0	39.9	88.9	49.9	37.6	39.8	54.4	42.3
Accidental poisoning	19.1	22.8	25.7	21.9	15.1	15.0	0.0	22.0	17.4	13.5	34.3	24.6	17.2	16.7	22.9	17.3
Accidental falls	10.5	13.0	5.3	12.8	6.8	17.3	0.0	16.6	10.1	9.7	13.3	13.9	6.7	5.5	12.2	2.9
Motor vehicle accident	7.8	32.7	1.8	14.0	6.5	21.9	25.3	29.1	6.0	9.0	27.0	8.4	9.0	17.6	13.8	11.6
Accidental drowning	0.8	0.0	0.0	0.0	0.0	4.9	0.0	0.0	0.9	0.0	0.0	0.2	1.8	0.0	3.2	0.0
Alzheimer's disease	40.5	11.8	26.4	24.6	30.5	61.3	11.2	28.4	43.6	50.2	53.5	34.3	37.5	33.7	39.5	34.6
Chronic lower respiratory diseases	36.8	28.9	31.4	31.0	52.6	56.6	11.2	35.8	36.1	73.0	43.2	32.9	34.5	11.0	43.2	22.4
Cerebrovascular disease	33.8	25.8	31.5	18.0	33.1	37.6	41.5	36.1	33.2	38.3	51.5	37.6	28.3	21.7	37.8	29.9
Diabetes	20.7	59.8	20.6	24.7	23.7	34.1	19.2	35.6	20.1	20.8	40.9	19.7	21.6	13.3	11.7	26.3
Chronic liver disease and cirrhosis	13.4	71.1	16.1	17.3	46.8	32.8	47.0	8.2	9.8	18.2	67.4	15.1	14.0	16.4	18.1	10.1
Essential (primary) hypertension and hypertensive renal disease	11.0	14.0	11.1	6.2	15.3	9.1	0.0	4.2	11.8	6.0	16.2	8.2	10.9	10.7	7.8	24.6
Influenza and pneumonia	9.6	24.6	10.9	6.6	6.7	4.0	0.0	28.0	9.3	9.5	15.2	10.6	7.9	13.6	6.4	11.5
Intentional self-harm (suicide)	8.0	26.9	8.7	7.4	29.3	0.0	0.0	0.0	6.7	15.8	17.5	9.8	6.3	2.4	10.4	4.5
Nephritis	7.2	8.0	12.9	11.6	8.5	4.5	18.3	14.4	6.1	10.2	23.5	8.7	6.5	5.8	3.4	8.8
Parkinson's disease	6.8	6.8	5.4	14.0	9.9	0.0	0.0	4.5	7.6	3.4	4.1	6.2	8.1	2.4	4.8	5.9
Septicemia	4.4	4.0	9.0	8.2	13.0	0.0	0.0	3.4	3.5	6.9	8.3	5.2	3.5	5.1	3.4	7.5
Assault (homicide)	3.2	11.6	0.0	1.9	17.1	0.0	0.0	36.1	3.0	3.5	11.1	2.8	4.6	4.3	1.1	2.6
HIV disease	0.3	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.3	0.0	0.0	0.0	1.2
Injury by firearms	5.2	6.3	4.0	0.7	23.6	0.0	0.0	0.0	4.8	7.0	12.4	6.1	5.3	0.0	8.3	2.6
Drug-induced deaths	21.7	18.6	31.8	16.8	39.2	15.0	0.0	40.6	19.7	29.5	32.6	27.7	17.7	16.7	29.7	16.6
Opioid-induced deaths	15.4	15.0	24.2	7.5	17.2	0.0	0.0	36.1	15.0	14.4	17.5	20.4	10.1	16.7	20.8	1.0
Alcohol-induced deaths	13.3	100.5	17.1	38.8	31.4	23.8	0.0	8.2	9.8	26.6	75.9	10.3	10.8	5.2	21.9	5.9
AVERAGE AGE AT DEATH	75.4	68.9	76.6	70.7	73.6	73.1	71.2	74.0	75.7	75.5	71.0	76.4	73.2	74.1	78.0	73.4
MEDIAN AGE AT DEATH	79.0	72.0	79.0	74.0	77.0	76.0	75.0	75.0	79.0	77.0	75.0	80.0	76.0	78.0	80.0	77.0

Notes: [a] Adjusted to the 2000 standard U.S. population; All rates are per 100,000 resident population; The rates based on fewer than 10 deaths (see Table 5E-12) are not statistically reliable; [±] The COVID-19 data collection began in mid-March 2020.

TABLE 5E-12
DEATHS BY COUNTY OF RESIDENCE AND GENDER FOR SELECTED 100+ CAUSES, ARIZONA, 2020

Cause of death (Tenth Revision, International Statistical Classification of Diseases)	ARIZONA	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
TOTAL DEATHS, BOTH GENDERS																	
Total, all causes	75,700	1,165	1,637	1,149	975	382	75	366	40,748	4,009	1,735	12,290	4,293	464	3,717	2,443	252
Salmonella infections	0†	0	0	0	0	0	0	0	*	0	0	0	0	0	0	0	0
Shigellosis and amebiasis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Certain other intestinal infections	210†	*	*	*	*	0	0	0	108	7	10	39	16	*	9	9	0
Enterocolitis due to Clostridium difficile	120†	*	*	0	*	0	0	0	58	*	6	26	7	*	*	*	0
Tuberculosis	20†	0	*	*	0	0	0	0	10	0	0	*	0	0	0	*	0
Respiratory tuberculosis	10†	0	*	0	0	0	0	0	7	0	0	*	0	0	0	*	0
Other tuberculosis	0†	0	0	*	0	0	0	0	*	0	0	0	0	0	0	0	0
Whooping cough	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Scarlet fever and erysipelas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Meningococcal infection	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Septicemia	430†	7	14	8	10	0	0	*	185	22	12	97	25	*	14	20	*
Syphilis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acute poliomyelitis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arthropod-borne encephalitis	0†	0	0	0	0	0	0	0	*	0	0	0	0	0	0	0	0
Measles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Viral hepatitis	100†	*	0	*	0	*	0	0	52	*	0	20	10	0	*	*	*
Human immunodeficiency virus (HIV) disease	70†	*	*	*	0	0	0	*	49	*	0	6	*	0	*	*	*
Malaria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other and unspecified infectious and parasitic diseases	400†	7	9	*	*	*	0	*	247	9	7	52	33	*	17	11	*
Malignant neoplasms	12,671	83	292	172	164	54	18	48	6,812	751	172	2,059	815	64	792	356	19
Malignant neoplasm of lip, oral cavity and pharynx	220†	*	*	*	*	*	0	*	114	20	*	30	20	*	11	*	*
Malignant neoplasm of esophagus	310†	*	7	*	*	*	*	*	158	25	*	54	21	*	26	7	0
Malignant neoplasm of stomach	220†	6	*	*	*	*	0	0	126	*	*	27	12	*	15	6	0
Malignant neoplasm of colon, rectum and anus	1,170†	8	26	14	14	*	*	*	653	68	16	190	70	9	66	25	*
Malignant neoplasm of liver and intrahepatic bile ducts	630†	*	17	11	6	*	0	*	321	35	10	125	37	*	29	26	*
Malignant neoplasm of pancreas	1,010†	11	18	12	15	*	*	*	551	47	15	178	55	7	55	26	*
Malignant neoplasm of larynx	70†	0	*	*	*	*	0	0	40	6	*	7	*	*	*	*	0
Malignant neoplasm of trachea, bronchus and lung	2,592	10	75	24	34	13	6	11	1,356	192	33	398	175	10	179	73	*
Malignant melanoma of skin	210†	*	*	*	*	*	0	0	129	10	*	28	7	0	21	*	0
Malignant neoplasm of breast	890†	*	19	17	10	*	0	*	509	51	16	126	56	6	55	20	*
Malignant neoplasm of cervix uteri	70†	*	*	*	0	0	0	0	42	*	*	12	7	0	*	*	0
Malignant neoplasm of corpus uteri and uterus, part unspecified	210†	*	6	*	*	0	0	0	119	*	*	41	14	0	13	*	0
Malignant neoplasm of ovary	300†	*	*	6	*	*	0	0	159	13	8	56	12	*	24	9	0
Malignant neoplasm of prostate	800†	*	20	12	11	*	*	*	417	48	13	129	52	*	63	20	0
Malignant neoplasm of kidney and renal pelvis	340†	*	6	6	11	*	*	*	162	15	6	61	25	*	27	6	0
Malignant neoplasm of bladder	420†	*	7	*	7	*	*	*	209	29	*	62	35	0	32	16	*

TABLE 5E-12 (continued)
DEATHS BY COUNTY OF RESIDENCE AND GENDER FOR SELECTED 100+ CAUSES, ARIZONA, 2020

Cause of death (Tenth Revision, International Statistical Classification of Diseases)	ARIZONA	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
TOTAL DEATHS, BOTH GENDERS																	
Malignant neoplasm of meninges, brain and other parts of central nervous system	390†	*	7	*	*	*	0	*	234	16	*	60	19	*	24	8	*
Malignant neoplasm of lymphoid, hematopoietic and related tissue	1,260†	11	27	18	13	*	0	*	693	57	20	224	87	6	61	39	*
Hodgkin's disease	20†	0	0	*	0	0	0	0	7	*	0	*	*	0	0	0	0
Non-Hodgkin's lymphoma	450†	*	11	*	*	*	0	*	250	17	10	72	33	*	23	17	*
Leukemia	500†	*	8	9	*	*	0	0	277	26	7	90	29	*	25	15	0
Multiple myeloma and immunoproliferative neoplasms	290†	*	8	*	*	*	0	0	157	13	*	57	22	0	12	7	0
Other and unspecified malignant neoplasms of lymphoid tissue	0†	0	0	0	0	0	0	0	*	0	0	0	0	0	*	0	0
All other and unspecified malignant neoplasm	1,560†	12	38	22	20	6	*	*	820	107	13	251	107	11	86	62	*
In situ neoplasms	420†	*	8	*	*	*	0	*	224	15	*	87	33	*	20	13	0
Anemias	50†	0	*	0	0	0	0	0	30	6	*	11	0	0	*	*	0
Diabetes	2,560†	64	53	42	29	23	*	9	1,360	103	68	416	193	17	82	97	*
Nutritional deficiencies	620†	*	8	11	*	*	0	*	224	72	16	103	18	0	150	8	*
Malnutrition	600†	*	8	6	*	*	0	*	219	72	14	102	14	0	147	6	*
Other nutritional deficiencies	20†	0	0	*	0	0	0	0	*	0	*	*	*	0	*	*	0
Obesity	240†	*	*	*	0	*	*	*	140	13	*	46	11	*	11	*	0
Meningitis	20†	0	0	*	0	0	0	*	12	0	*	*	0	0	0	0	0
Parkinson's disease	1,020†	8	16	15	12	*	0	*	625	35	13	164	57	*	39	23	*
Alzheimer's disease	3,240†	9	46	26	30	19	*	11	1,917	179	52	479	167	14	184	97	*
Major cardiovascular diseases	19,063	178	436	194	272	92	22	135	10,300	1,141	341	3,091	1,158	89	957	604	53
Diseases of heart	14,185	142	330	144	210	67	18	112	7,598	914	253	2,250	884	66	719	438	40
Acute rheumatic fever and chronic rheumatic heart disease	90†	*	*	*	0	0	0	0	45	*	*	17	*	*	*	*	*
Hypertensive heart disease	1,620†	10	29	14	29	*	0	*	925	39	16	249	147	6	110	30	*
Hypertensive heart and renal disease	180†	*	7	0	*	*	*	0	94	10	0	33	13	*	7	8	0
Ischemic heart disease	8,586	89	199	84	149	41	14	88	4,444	668	157	1,342	488	45	435	323	20
Acute myocardial infarction	1,899	41	64	21	27	14	9	7	924	76	48	340	88	12	98	122	8
Other acute ischemic heart disease	100†	0	6	0	*	0	0	0	17	*	*	16	*	*	0	49	0
Other forms of chronic ischemic heart disease	6,590†	48	129	63	121	27	*	81	3,503	589	108	986	399	30	337	152	12
Atherosclerotic cardiovascular disease	1,740†	15	29	15	43	10	0	12	933	266	8	219	109	*	65	8	*
All other forms of chronic ischemic heart disease	4,850†	33	100	48	78	17	*	69	2,570	323	100	767	290	25	272	144	7
Other heart diseases	3,710†	41	91	44	31	19	*	19	2,090	193	79	609	232	12	163	74	14
Acute and subacute endocarditis	40†	*	*	0	0	0	0	0	23	*	*	7	*	0	*	*	0
Diseases of pericardium and acute myocarditis	20†	0	*	0	0	*	0	0	8	6	0	*	*	0	0	0	0
Heart failure	990†	15	35	*	12	*	*	6	544	60	27	159	65	*	41	13	*
All other forms of heart disease	2,660†	25	54	40	19	14	*	13	1,515	124	51	441	164	9	120	57	10
Essential (primary) hypertension and hypertensive renal disease	1,130†	10	23	12	15	*	0	*	663	34	20	160	78	7	41	60	0
Cerebrovascular diseases	3,230†	24	70	31	37	17	*	17	1,767	164	62	588	171	15	166	81	11

TABLE 5E-12 (continued)
DEATHS BY COUNTY OF RESIDENCE AND GENDER FOR SELECTED 100+ CAUSES, ARIZONA, 2020

Cause of death (Tenth Revision, International Statistical Classification of Diseases)	ARIZONA	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
TOTAL DEATHS, BOTH GENDERS																	
Atherosclerosis	110†	*	*	*	*	0	0	0	53	*	*	19	6	0	8	13	0
Other diseases of circulatory system	410†	*	11	6	7	*	0	*	219	26	*	74	19	*	23	12	*
Aortic aneurysm and dissection	200†	0	8	*	*	*	0	*	108	15	*	35	7	*	11	*	*
Other disease of arteries, arterioles and capillaries	210†	*	*	*	*	*	0	*	111	11	*	39	12	0	12	9	*
Other disorders of circulatory system	150†	*	*	*	9	0	0	*	70	13	*	23	*	0	13	*	0
Influenza and pneumonia	1,110†	25	25	15	9	6	0	*	591	53	26	203	62	7	38	37	8
Influenza	100†	*	0	*	*	*	0	0	53	*	6	16	*	0	*	*	*
Pneumonia	1,010†	21	25	11	8	*	0	*	538	51	20	187	57	7	36	32	7
COVID-19±	8,430†	300	170	199	118	50	*	32	4,377	324	365	1,180	387	103	252	542	26
Other acute lower respiratory infections	10†	0	0	0	0	0	0	0	*	*	0	0	0	0	0	0	0
Acute bronchiolitis	0†	0	0	0	0	0	0	0	*	*	0	0	0	0	0	0	0
Unspecified acute lower respiratory infection	0†	0	0	0	0	0	0	0	*	*	0	0	0	0	0	0	0
Chronic lower respiratory diseases	3,700†	25	94	48	50	20	*	15	1,929	327	67	544	217	13	251	88	8
Bronchitis, chronic and unspecified	10†	*	0	0	0	0	0	0	*	0	*	*	0	0	0	*	0
Emphysema	180†	*	*	8	0	*	*	0	78	15	*	42	*	0	15	9	*
Asthma	120†	*	0	*	0	0	0	*	82	*	*	15	8	0	*	*	0
Other chronic lower respiratory diseases	3,390†	19	90	39	50	18	*	14	1,765	309	64	483	206	13	231	76	7
Pneumoconioses and chemical effects	10†	0	0	0	0	0	0	0	*	0	0	*	0	0	*	0	0
Pneumonitis due to solids and liquids	190†	0	8	*	*	0	0	*	104	6	*	37	13	*	*	*	*
Other disease of respiratory system	1,090†	20	19	14	14	*	0	6	613	44	16	192	66	*	51	32	*
Peptic ulcer	110†	*	*	*	*	*	0	*	56	6	*	16	7	*	8	*	0
Diseases of appendix	10†	0	0	0	0	0	0	0	8	0	0	*	*	0	0	0	*
Hernia	40†	*	*	0	0	0	*	0	18	*	*	13	*	0	*	0	*
Chronic liver disease and cirrhosis	1,430†	51	26	30	30	14	*	10	658	85	78	227	90	12	71	31	10
Alcoholic liver disease	910†	37	15	24	17	9	*	8	425	55	60	136	51	*	42	14	7
Other chronic liver disease and cirrhosis	520†	14	11	6	13	*	*	*	233	30	18	91	39	7	29	17	*
Cholelithiasis and other disorders of gallbladder	100†	6	0	0	0	0	0	*	41	6	*	23	9	*	6	*	0
Nephritis, nephrotic syndrome and nephrosis	770†	9	24	11	12	*	*	6	353	56	25	145	51	*	35	26	*
Acute and rapidly progressive nephritic and nephrotic syndrome	10†	0	0	0	0	0	0	0	*	0	0	*	0	0	*	0	0
Chronic glomerulonephritis	10†	0	0	0	0	0	0	0	8	0	0	0	*	0	*	0	0
Renal failure	750†	9	24	11	12	*	*	6	342	56	25	141	50	*	33	26	*
Others disorders of kidney	0†	0	0	0	0	0	0	0	*	0	0	0	0	0	0	0	0
Infections of kidney	30†	*	0	0	0	0	0	0	15	0	*	*	0	*	*	*	0
Hyperplasia of prostate	10†	0	0	0	0	*	0	0	8	*	*	*	0	0	0	0	0
Inflammatory diseases of female pelvic organs	0†	*	0	0	0	0	0	0	*	0	0	*	0	0	0	0	0
Pregnancy, childbirth and the puerperium	40†	*	*	*	0	*	0	*	18	*	*	6	*	0	*	*	0
Pregnancy with abortive outcome	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE 5E-12 (continued)
DEATHS BY COUNTY OF RESIDENCE AND GENDER FOR SELECTED 100+ CAUSES, ARIZONA, 2020

Cause of death (Tenth Revision, International Statistical Classification of Diseases)	ARIZONA	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
TOTAL DEATHS, BOTH GENDERS																	
Other complications of pregnancy, childbirth and the puerperium	40†	*	*	*	0	*	0	*	18	*	*	6	*	0	*	*	0
Perinatal conditions	190†	0	*	*	*	*	0	0	117	*	*	32	15	0	*	15	*
Congenital anomalies, deformations and chromosomal abnormalities	220†	*	*	*	0	*	0	*	133	*	*	28	14	*	10	7	*
Symptoms, signs, abnormal findings	1,040†	55	16	23	10	*	0	7	676	17	31	116	31	9	23	10	11
Total accidents	5,377	116	91	113	53	34	7	36	3,052	166	131	899	260	32	199	137	51
Transport accidents	1,130†	36	14	28	14	12	*	12	570	41	34	186	68	6	50	36	14
Motor vehicle accidents	1,040†	28	12	26	14	11	*	12	521	41	32	169	67	*	46	36	12
Other land transport accidents	40†	6	*	*	0	0	*	0	17	0	*	8	*	0	*	0	*
Water, air, space	50†	*	*	*	0	*	0	0	32	0	0	9	0	*	*	0	0
Nontransport accidents	4,250†	80	77	85	39	22	*	24	2,482	125	97	713	192	26	149	101	37
Falls	1,127	16	23	14	7	8	0	8	613	47	23	234	45	8	71	8	*
Accidental discharge of firearms	10†	0	0	0	0	0	0	0	*	0	0	*	*	0	*	0	0
Accidental drowning and submersion	100†	*	*	*	*	*	0	*	69	*	0	8	6	*	*	*	*
Accidental exposure to smoke, fire and flames	50†	*	*	*	*	*	0	*	21	*	*	11	*	0	0	*	0
Accidental poisoning	2,480†	46	41	61	13	11	*	10	1,538	21	56	401	115	17	66	55	29
Other and unspecified nontransport accidents	490†	16	10	8	12	*	0	*	239	54	15	57	24	0	9	35	*
Intentional self-harm (suicide)	1,360†	30	31	40	19	*	*	*	709	73	42	223	68	*	80	21	6
By discharge of firearms	830†	8	21	25	14	*	*	*	426	48	16	142	43	*	58	12	*
By other means	530†	22	10	15	*	*	0	0	283	25	26	81	25	*	22	9	*
Assault (homicide)	530†	13	*	9	9	*	0	*	317	15	29	77	28	*	7	9	*
By discharge of firearms	380†	*	*	*	6	*	0	0	248	12	19	57	17	*	*	7	*
By other means	140†	8	*	*	*	0	0	*	69	*	10	20	11	*	*	*	*
Legal intervention	30†	*	0	*	0	0	0	0	13	*	*	*	*	0	*	0	0
Events of undetermined intent	190†	*	*	8	*	0	0	*	64	45	6	17	*	*	26	*	*
Discharge of firearms	20†	0	0	*	0	0	0	0	10	*	0	*	0	0	0	0	0
Other and unspecified events of undetermined intent	170†	*	*	7	*	0	0	*	54	42	6	14	*	*	26	*	*
Operations of war	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Complications of medical and surgical care	130†	*	*	*	*	*	0	0	60	6	*	19	9	0	15	*	0
Injury by firearms	1,260†	14	23	31	20	*	*	*	699	68	36	206	63	*	66	19	*
Drug-induced deaths	2,670†	21	49	45	18	11	*	10	1,654	59	42	437	119	18	95	55	32
Opioid-induced deaths	1,880†	14	29	29	10	6	*	*	1,236	34	21	308	83	16	68	7	17
Alcohol-induced deaths	1,570†	95	22	75	22	11	*	14	703	107	116	223	75	6	75	17	12

TABLE 5E-12 (continued)
DEATHS BY COUNTY OF RESIDENCE AND GENDER FOR SELECTED 100+ CAUSES, ARIZONA, 2020

Cause of death (Tenth Revision, International Statistical Classification of Diseases)	ARIZONA	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
MALE DEATHS																	
Total, all causes	41,431	691	918	660	565	218	42	241	21,987	2,292	957	6,608	2,445	259	1,988	1,386	174
Salmonella infections	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shigellosis and amebiasis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Certain other intestinal infections	90†	*	*	*	*	0	0	0	50	*	*	13	10	0	*	*	0
Enterocolitis due to Clostridium difficile	50†	*	*	0	*	0	0	0	26	*	*	11	*	0	*	*	0
Tuberculosis	10†	0	0	*	0	0	0	0	*	0	0	*	0	0	0	*	0
Respiratory tuberculosis	10†	0	0	0	0	0	0	0	*	0	0	*	0	0	0	*	0
Other tuberculosis	0†	0	0	*	0	0	0	0	*	0	0	0	0	0	0	0	0
Whooping cough	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Scarlet fever and erysipelas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Meningococcal infection	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Septicemia	210†	*	*	*	*	0	0	*	87	11	6	58	14	*	*	10	*
Syphilis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acute poliomyelitis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arthropod-borne encephalitis	0†	0	0	0	0	0	0	0	*	0	0	0	0	0	0	0	0
Measles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Viral hepatitis	60†	*	0	*	0	*	0	0	29	*	0	16	8	0	*	*	0
Human immunodeficiency virus (HIV) disease	60†	*	0	*	0	0	0	*	40	*	0	*	*	0	*	0	*
Malaria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other and unspecified infectious and parasitic diseases	240†	*	*	*	*	0	0	*	150	*	*	34	19	*	9	7	*
Malignant neoplasms	6,821	41	180	92	101	28	10	31	3,598	443	88	1,101	454	31	415	196	12
Malignant neoplasm of lip, oral cavity and pharynx	150†	*	*	*	0	0	0	*	78	15	*	22	17	0	9	*	*
Malignant neoplasm of esophagus	260†	*	6	*	*	*	*	*	133	21	*	46	18	*	21	*	0
Malignant neoplasm of stomach	130†	*	*	*	*	*	0	0	65	*	*	17	9	0	9	*	0
Malignant neoplasm of colon, rectum and anus	600†	*	18	9	10	*	*	*	345	39	7	90	34	*	27	10	*
Malignant neoplasm of liver and intrahepatic bile ducts	400†	*	14	8	*	*	0	*	194	26	6	78	25	*	18	18	*
Malignant neoplasm of pancreas	550†	8	14	9	9	*	*	*	303	23	9	85	30	*	26	16	*
Malignant neoplasm of larynx	60†	0	*	*	*	*	0	0	34	*	0	6	*	*	*	*	0
Malignant neoplasm of trachea, bronchus and lung	1,340†	*	50	13	20	7	*	6	664	100	14	222	96	7	88	39	*
Malignant melanoma of skin	150†	*	*	*	*	*	0	0	91	8	0	19	*	0	15	*	0
Malignant neoplasm of breast	10†	0	0	0	0	0	0	0	7	*	*	*	0	0	0	0	0
Malignant neoplasm of prostate	800†	*	20	12	11	*	*	*	417	48	13	129	52	*	63	20	0
Malignant neoplasm of kidney and renal pelvis	240†	*	*	*	6	*	*	*	125	8	*	42	17	*	21	6	0
Malignant neoplasm of bladder	320†	*	6	*	*	*	0	*	157	23	*	50	26	0	25	13	*

TABLE 5E-12 (continued)
DEATHS BY COUNTY OF RESIDENCE AND GENDER FOR SELECTED 100+ CAUSES, ARIZONA, 2020

Cause of death (Tenth Revision, International Statistical Classification of Diseases)	ARIZONA	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
MALE DEATHS																	
Malignant neoplasm of meninges, brain and other parts of central nervous system	230†	*	*	*	*	0	0	*	139	9	*	37	10	*	12	6	*
Malignant neoplasm of lymphoid, hematopoietic and related tissue	750†	*	14	10	10	*	0	*	401	39	17	131	58	*	37	21	0
Hodgkin's disease	10†	0	0	*	0	0	0	0	*	*	0	*	*	0	0	0	0
Non-Hodgkin's lymphoma	270†	*	8	*	*	*	0	*	145	12	7	38	24	*	11	10	0
Leukemia	310†	*	*	*	*	0	0	0	163	17	7	57	21	*	20	9	0
Multiple myeloma and immunoproliferative neoplasms	160†	*	*	*	*	0	0	0	87	9	*	32	11	0	6	*	0
Other and unspecified malignant neoplasms of lymphoid tissue	0†	0	0	0	0	0	0	0	*	0	0	0	0	0	0	0	0
All other and unspecified malignant neoplasm	840†	*	21	8	14	*	*	*	445	74	6	126	55	6	41	33	0
In situ neoplasms	230†	*	*	*	*	*	0	*	120	10	0	53	19	*	14	*	0
Anemias	20†	0	*	0	0	0	0	0	7	*	*	*	0	0	*	0	0
Diabetes	1,550†	39	32	25	20	16	*	*	797	59	43	259	128	13	49	60	*
Nutritional deficiencies	230†	*	*	*	0	*	0	0	66	34	*	39	7	0	66	*	0
Malnutrition	230†	*	*	*	0	*	0	0	65	34	*	38	6	0	66	*	0
Other nutritional deficiencies	0†	0	0	0	0	0	0	0	*	0	0	*	*	0	0	0	0
Obesity	140†	*	*	0	0	0	0	*	87	8	*	24	6	0	6	*	0
Meningitis	10†	0	0	*	0	0	0	0	7	0	*	*	0	0	0	0	0
Parkinson's disease	660†	*	10	*	6	*	0	*	410	27	10	108	33	*	25	13	*
Alzheimer's disease	1,100†	*	17	10	12	*	0	*	639	61	14	161	60	*	73	38	*
Major cardiovascular diseases	10,406	99	230	124	158	60	10	95	5,530	696	187	1,636	664	42	506	329	40
Diseases of heart	8,097	81	178	96	128	45	8	79	4,258	585	151	1,240	519	32	408	258	31
Acute rheumatic fever and chronic rheumatic heart disease	30†	0	*	*	0	0	0	0	16	0	0	7	*	0	0	*	*
Hypertensive heart disease	780†	6	12	8	16	*	0	*	437	19	6	109	86	*	50	14	*
Hypertensive heart and renal disease	80†	*	*	0	*	*	*	0	47	*	0	14	6	0	*	*	0
Ischemic heart disease	5,295	52	121	60	95	28	6	61	2,727	444	102	787	307	22	268	198	17
Acute myocardial infarction	1,150†	26	35	18	16	9	*	7	566	48	30	195	56	*	60	72	6
Other acute ischemic heart disease	60†	0	*	0	0	0	0	0	9	*	*	13	*	*	0	30	0
Other forms of chronic ischemic heart disease	4,080†	26	83	42	79	19	*	54	2,152	393	71	579	250	16	208	96	11
Atherosclerotic cardiovascular disease	1,160†	10	20	13	30	7	0	11	614	193	6	127	69	*	44	*	*
All other forms of chronic ischemic heart disease	2,930†	16	63	29	49	12	*	43	1,538	200	65	452	181	13	164	92	7
Other heart diseases	1,910†	22	43	27	16	12	*	14	1,031	118	43	323	116	6	88	41	9
Acute and subacute endocarditis	30†	0	0	0	0	0	0	0	18	*	0	7	*	0	*	*	0
Diseases of pericardium and acute myocarditis	10†	0	0	0	0	*	0	0	*	*	0	*	*	0	0	0	0
Heart failure	530†	7	18	*	6	*	*	*	290	37	14	92	28	0	25	*	*
All other forms of heart disease	1,332	15	25	24	10	9	0	10	718	77	29	223	85	6	62	32	7
Essential (primary) hypertension and hypertensive renal disease	560†	*	10	8	6	*	0	*	321	20	9	89	46	*	20	21	0
Cerebrovascular diseases	1,470†	12	36	19	19	10	*	12	800	78	25	259	88	7	64	36	7

TABLE 5E-12 (continued)
DEATHS BY COUNTY OF RESIDENCE AND GENDER FOR SELECTED 100+ CAUSES, ARIZONA, 2020

Cause of death (Tenth Revision, International Statistical Classification of Diseases)	ARIZONA	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
MALE DEATHS																	
Atherosclerosis	50†	*	*	0	*	0	0	0	21	*	*	8	*	0	*	8	0
Other diseases of circulatory system	220†	*	*	*	*	*	0	*	130	11	*	40	9	0	11	6	*
Aortic aneurysm and dissection	120†	0	*	*	*	*	0	*	74	7	0	19	*	0	7	*	*
Other disease of arteries, arterioles and capillaries	100†	*	*	0	0	*	0	*	56	*	*	21	*	0	*	*	*
Other disorders of circulatory system	90†	*	0	*	7	0	0	*	37	8	*	12	*	0	11	*	0
Influenza and pneumonia	630†	15	14	11	*	*	0	*	327	31	15	114	38	*	22	21	*
Influenza	50†	*	0	*	*	*	0	0	30	0	*	7	*	0	*	*	*
Pneumonia	580†	12	14	8	*	*	0	*	297	31	13	107	36	*	20	20	*
COVID-19±	4,980†	173	100	112	70	30	*	22	2,591	181	196	686	232	71	153	343	18
Other acute lower respiratory infections	0†	0	0	0	0	0	0	0	*	*	0	0	0	0	0	0	0
Acute bronchiolitis	0†	0	0	0	0	0	0	0	*	*	0	0	0	0	0	0	0
Unspecified acute lower respiratory infection	0†	0	0	0	0	0	0	0	*	*	0	0	0	0	0	0	0
Chronic lower respiratory diseases	1,800†	13	59	25	19	8	*	7	894	166	34	260	111	9	129	52	8
Bronchitis, chronic and unspecified	10†	*	0	0	0	0	0	0	*	0	0	*	0	0	0	*	0
Emphysema	110†	*	*	*	0	*	*	0	45	10	0	25	0	0	8	6	*
Asthma	40†	0	0	0	0	0	0	0	30	*	0	6	*	0	*	0	0
Other chronic lower respiratory diseases	1,639	10	57	21	19	6	0	7	817	154	34	226	109	9	118	45	7
Pneumoconioses and chemical effects	10†	0	0	0	0	0	0	0	*	0	0	*	0	0	*	0	0
Pneumonitis due to solids and liquids	120†	0	6	*	0	0	0	*	69	*	*	21	7	*	*	*	0
Other disease of respiratory system	610†	12	9	9	*	0	0	*	348	23	10	102	39	*	33	13	*
Peptic ulcer	60†	0	*	*	*	0	0	*	29	*	*	6	6	*	*	*	0
Diseases of appendix	10†	0	0	0	0	0	0	0	*	0	0	*	0	0	0	0	0
Hernia	20†	0	0	0	0	0	*	0	8	*	*	*	0	0	*	0	*
Chronic liver disease and cirrhosis	860†	28	15	18	17	8	*	9	408	59	40	137	52	6	42	19	*
Alcoholic liver disease	570†	20	6	15	10	*	*	7	275	38	32	92	29	*	26	10	*
Other chronic liver disease and cirrhosis	290†	8	9	*	7	*	0	*	133	21	8	45	23	*	16	9	*
Cholelithiasis and other disorders of gallbladder	50†	*	0	0	0	0	0	0	18	*	*	12	*	*	*	*	0
Nephritis, nephrotic syndrome and nephrosis	410†	*	11	*	7	*	*	*	182	34	10	73	32	*	25	13	*
Acute and rapidly progressive nephritic and nephrotic syndrome	0†	0	0	0	0	0	0	0	*	0	0	*	0	0	0	0	0
Chronic glomerulonephritis	10†	0	0	0	0	0	0	0	*	0	0	0	0	0	*	0	0
Renal failure	400†	*	11	*	7	*	*	*	175	34	10	72	32	*	24	13	*
Others disorders of kidney	0†	0	0	0	0	0	0	0	*	0	0	0	0	0	0	0	0
Infections of kidney	10†	*	0	0	0	0	0	0	*	0	0	0	0	0	0	*	0
Hyperplasia of prostate	10†	0	0	0	0	*	0	0	8	*	*	*	0	0	0	0	0

TABLE 5E-12 (continued)
DEATHS BY COUNTY OF RESIDENCE AND GENDER FOR SELECTED 100+ CAUSES, ARIZONA, 2020

Cause of death (Tenth Revision, International Statistical Classification of Diseases)	ARIZONA	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
MALE DEATHS																	
Perinatal conditions	110†	0	*	*	0	*	0	0	67	*	*	18	9	0	0	9	0
Congenital anomalies, deformations and chromosomal abnormalities	110†	*	*	0	0	*	0	*	71	*	*	8	9	*	*	*	*
Symptoms, signs, abnormal findings	500†	40	6	11	8	0	0	*	292	10	21	66	14	7	9	*	7
Total accidents	3,677	85	67	78	39	22	6	26	2,120	101	90	594	181	22	118	90	38
Transport accidents	820†	23	12	19	12	8	*	10	421	31	22	138	51	*	35	24	10
Motor vehicle accidents	750†	18	10	17	12	7	*	10	382	31	20	123	50	*	32	24	8
Other land transport accidents	40†	*	*	*	0	0	*	0	15	0	*	7	*	0	*	0	*
Water, air, space	40†	*	*	*	0	*	0	0	24	0	0	8	0	*	*	0	0
Nontransport accidents	2,860†	62	55	59	27	14	*	16	1,699	70	68	456	130	20	83	66	28
Falls	590†	11	17	*	*	*	0	*	319	23	15	112	26	6	37	*	*
Accidental discharge of firearms	10†	0	0	0	0	0	0	0	*	0	0	*	*	0	0	0	0
Accidental drowning and submersion	70†	*	*	*	*	0	0	*	47	*	0	6	*	*	0	*	*
Accidental exposure to smoke, fire and flames	30†	*	*	0	*	*	0	*	11	*	*	8	*	0	0	*	0
Accidental poisoning	1,830†	39	27	46	10	9	*	8	1,153	10	42	285	84	13	39	39	22
Other and unspecified nontransport accidents	340†	10	9	7	8	0	0	*	167	34	9	43	16	0	7	21	*
Intentional self-harm (suicide)	1,070†	22	25	33	13	*	*	*	558	55	34	168	55	*	65	17	*
By discharge of firearms	710†	7	18	24	11	*	*	*	361	42	13	117	37	*	49	12	*
By other means	360†	15	7	9	*	*	0	0	197	13	21	51	18	*	16	*	*
Assault (homicide)	420†	10	*	8	*	*	0	*	252	11	24	63	19	*	6	7	*
By discharge of firearms	320†	*	*	*	*	*	0	0	208	9	16	49	13	*	*	*	*
By other means	100†	6	*	*	*	0	0	*	44	*	8	14	6	0	*	*	*
Legal intervention	30†	*	0	*	0	0	0	0	13	*	*	*	*	0	*	0	0
Events of undetermined intent	120†	*	0	6	*	0	0	*	43	26	*	12	*	*	17	*	*
Discharge of firearms	20†	0	0	*	0	0	0	0	8	*	0	*	0	0	0	0	0
Other and unspecified events of undetermined intent	110†	*	0	*	*	0	0	*	35	23	*	9	*	*	17	*	*
Operations of war	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Complications of medical and surgical care	70†	*	*	*	*	*	0	0	28	*	*	12	*	0	11	*	0
Injury by firearms	1,070†	12	20	30	14	*	*	*	592	59	30	173	53	*	55	17	*
Drug-induced deaths	1,910†	16	31	34	11	9	*	7	1,213	32	29	301	85	14	59	39	24
Opioid-induced deaths	1,360†	10	16	24	7	6	*	*	907	20	14	209	65	12	45	6	13
Alcohol-induced deaths	1,060†	64	11	50	14	7	*	13	471	72	75	164	49	*	47	12	7

TABLE 5E-12 (continued)
DEATHS BY COUNTY OF RESIDENCE AND GENDER FOR SELECTED 100+ CAUSES, ARIZONA, 2020

Cause of death (Tenth Revision, International Statistical Classification of Diseases)	ARIZONA	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
FEMALE DEATHS																	
Total, all causes	34,269	474	719	489	410	164	33	125	18,761	1,717	778	5,682	1,848	205	1,729	1,057	78
Salmonella infections	0†	0	0	0	0	0	0	0	*	0	0	0	0	0	0	0	0
Shigellosis and amebiasis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Certain other intestinal infections	120†	*	*	0	*	0	0	0	58	*	6	26	6	*	6	7	0
Enterocolitis due to Clostridium difficile	60†	*	*	0	*	0	0	0	32	*	*	15	*	*	*	*	0
Tuberculosis	10†	0	*	0	0	0	0	0	*	0	0	*	0	0	0	0	0
Respiratory tuberculosis	10†	0	*	0	0	0	0	0	*	0	0	*	0	0	0	0	0
Other tuberculosis	0†	0	0	0	0	0	0	0	*	0	0	0	0	0	0	0	0
Whooping cough	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Scarlet fever and erysipelas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Meningococcal infection	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Septicemia	210†	*	9	6	6	0	0	*	98	11	6	39	11	*	9	10	*
Syphilis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acute poliomyelitis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arthropod-borne encephalitis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Measles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Viral hepatitis	40†	0	0	*	0	0	0	0	23	*	0	*	*	0	*	0	*
Human immunodeficiency virus (HIV) disease	10†	0	*	0	0	0	0	0	9	0	0	*	0	0	0	*	0
Malaria	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other and unspecified infectious and parasitic diseases	160†	*	*	*	0	*	0	0	97	*	*	18	14	0	8	*	0
Malignant neoplasms	5,850	42	112	80	63	26	8	17	3,214	308	84	958	361	33	377	160	7
Malignant neoplasm of lip, oral cavity and pharynx	60†	0	*	*	*	*	0	*	36	*	*	8	*	*	*	*	0
Malignant neoplasm of esophagus	50†	*	*	0	0	0	0	0	25	*	*	8	*	0	*	*	0
Malignant neoplasm of stomach	90†	*	*	*	0	0	0	0	61	*	*	10	*	*	6	*	0
Malignant neoplasm of colon, rectum and anus	570†	*	8	*	*	*	0	*	308	29	9	100	36	6	39	15	*
Malignant neoplasm of liver and intrahepatic bile ducts	230†	*	*	*	*	*	0	*	127	9	*	47	12	0	11	8	0
Malignant neoplasm of pancreas	460†	*	*	*	6	0	*	*	248	24	6	93	25	*	29	10	*
Malignant neoplasm of larynx	10†	0	0	0	0	0	0	0	6	*	*	*	*	0	0	*	0
Malignant neoplasm of trachea, bronchus and lung	1,260†	6	25	11	14	6	*	*	692	92	19	176	79	*	91	34	0
Malignant melanoma of skin	60†	0	*	*	0	0	0	0	38	*	*	9	*	0	6	*	0
Malignant neoplasm of breast	880†	*	19	17	10	*	0	*	502	49	15	125	56	6	55	20	*
Malignant neoplasm of cervix uteri	70†	*	*	*	0	0	0	0	42	*	*	12	7	0	*	*	0
Malignant neoplasm of corpus uteri and uterus, part unspecified	210†	*	6	*	*	0	0	0	119	*	*	41	14	0	13	*	0
Malignant neoplasm of ovary	300†	*	*	6	*	*	0	0	159	13	8	56	12	*	24	9	0
Malignant neoplasm of kidney and renal pelvis	100†	*	*	*	*	*	0	*	37	7	*	19	8	*	6	0	0
Malignant neoplasm of bladder	100†	0	*	*	*	*	*	0	52	6	0	12	9	0	7	*	0

TABLE 5E-12 (continued)
DEATHS BY COUNTY OF RESIDENCE AND GENDER FOR SELECTED 100+ CAUSES, ARIZONA, 2020

Cause of death (Tenth Revision, International Statistical Classification of Diseases)	ARIZONA	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
FEMALE DEATHS																	
Malignant neoplasm of meninges, brain and other parts of central nervous system	160†	0	*	*	*	*	0	0	95	7	0	23	9	*	12	*	0
Malignant neoplasm of lymphoid, hematopoietic and related tissue	520†	6	13	8	*	*	0	*	292	18	*	93	29	*	24	18	*
Hodgkin's disease	0†	0	0	0	0	0	0	0	*	0	0	*	*	0	0	0	0
Non-Hodgkin's lymphoma	190†	*	*	*	*	0	0	*	105	*	*	34	9	*	12	7	*
Leukemia	190†	*	6	6	*	*	0	0	114	9	0	33	8	*	*	6	0
Multiple myeloma and immunoproliferative neoplasms	130†	*	*	*	*	*	0	0	70	*	0	25	11	0	6	*	0
Other and unspecified malignant neoplasms of lymphoid tissue	0†	0	0	0	0	0	0	0	*	0	0	0	0	0	*	0	0
All other and unspecified malignant neoplasm	720†	8	17	14	6	*	*	*	375	33	7	125	52	*	45	29	*
In situ neoplasms	190†	*	*	*	*	*	0	0	104	*	*	34	14	*	6	8	0
Anemias	40†	0	*	0	0	0	0	0	23	*	0	7	0	0	*	*	0
Diabetes	1,010†	25	21	17	9	7	*	*	563	44	25	157	65	*	33	37	*
Nutritional deficiencies	390†	*	*	7	*	0	0	*	158	38	11	64	11	0	84	7	*
Malnutrition	380†	*	*	*	*	0	0	*	154	38	9	64	8	0	81	*	*
Other nutritional deficiencies	20†	0	0	*	0	0	0	0	*	0	*	0	*	0	*	*	0
Obesity	100†	0	*	*	0	*	*	*	53	*	0	22	*	*	*	*	0
Meningitis	10†	0	0	0	0	0	0	*	*	0	0	*	0	0	0	0	0
Parkinson's disease	360†	*	6	10	6	0	0	*	215	8	*	56	24	*	14	10	0
Alzheimer's disease	2,130†	*	29	16	18	14	*	7	1,278	118	38	318	107	12	111	59	*
Major cardiovascular diseases	8,657	79	206	70	114	32	12	40	4,770	445	154	1,455	494	47	451	275	13
Diseases of heart	6,088	61	152	48	82	22	10	33	3,340	329	102	1,010	365	34	311	180	9
Acute rheumatic fever and chronic rheumatic heart disease	60†	*	*	*	0	0	0	0	29	*	*	10	0	*	*	*	0
Hypertensive heart disease	840†	*	17	6	13	*	0	*	488	20	10	140	61	*	60	16	*
Hypertensive heart and renal disease	100†	0	6	0	0	*	0	0	47	6	0	19	7	*	*	*	0
Ischemic heart disease	3,291	37	78	24	54	13	8	27	1,717	224	55	555	181	23	167	125	*
Acute myocardial infarction	750†	15	29	*	11	*	6	0	358	28	18	145	32	7	38	50	*
Other acute ischemic heart disease	40†	0	*	0	*	0	0	0	8	0	0	*	0	*	0	19	0
Other forms of chronic ischemic heart disease	2,510†	22	46	21	42	8	*	27	1,351	196	37	407	149	14	129	56	*
Atherosclerotic cardiovascular disease	590†	*	9	*	13	*	0	*	319	73	*	92	40	*	21	*	*
All other forms of chronic ischemic heart disease	1,920†	17	37	19	29	*	*	26	1,032	123	35	315	109	12	108	52	0
Other heart diseases	1,800†	19	48	17	15	7	*	*	1,059	75	36	286	116	6	75	33	*
Acute and subacute endocarditis	10†	*	*	0	0	0	0	0	*	*	*	0	0	0	*	0	0
Diseases of pericardium and acute myocarditis	10†	0	*	0	0	0	0	0	*	*	0	*	0	0	0	0	0
Heart failure	460†	8	17	*	6	*	0	*	254	23	13	67	37	*	16	8	*
All other forms of heart disease	1,330†	10	29	16	9	*	*	*	797	47	22	218	79	*	58	25	*
Essential (primary) hypertension and hypertensive renal disease	570†	6	13	*	9	*	0	*	342	14	11	71	32	*	21	39	0
Cerebrovascular diseases	1,750†	12	34	12	18	7	*	*	967	86	37	329	83	8	102	45	*

TABLE 5E-12 (continued)
DEATHS BY COUNTY OF RESIDENCE AND GENDER FOR SELECTED 100+ CAUSES, ARIZONA, 2020

Cause of death (Tenth Revision, International Statistical Classification of Diseases)	ARIZONA	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
FEMALE DEATHS																	
Atherosclerosis	60†	0	*	*	*	0	0	0	32	*	0	11	*	0	*	*	0
Other diseases of circulatory system	190†	0	6	*	*	*	0	*	89	15	*	34	10	*	12	6	0
Aortic aneurysm and dissection	80†	0	*	*	*	0	0	*	34	8	*	16	*	*	*	*	0
Other disease of arteries, arterioles and capillaries	110†	0	*	*	*	*	0	0	55	7	*	18	7	0	8	*	0
Other disorders of circulatory system	60†	0	*	*	*	0	0	0	33	*	*	11	*	0	*	0	0
Influenza and pneumonia	480†	10	11	*	*	*	0	*	264	22	11	89	24	*	16	16	*
Influenza	50†	*	0	*	0	0	0	0	23	*	*	9	*	0	0	*	0
Pneumonia	430†	9	11	*	*	*	0	*	241	20	7	80	21	*	16	12	*
COVID-19±	3,450†	127	70	87	48	20	*	10	1,786	143	169	494	155	32	99	199	8
Other acute lower respiratory infections	0†	0	0	0	0	0	0	0	*	0	0	0	0	0	0	0	0
Acute bronchiolitis	0†	0	0	0	0	0	0	0	*	0	0	0	0	0	0	0	0
Unspecified acute lower respiratory infection	0†	0	0	0	0	0	0	0	*	0	0	0	0	0	0	0	0
Chronic lower respiratory diseases	1,900†	12	35	23	31	12	*	8	1,035	161	33	284	106	*	122	36	0
Bronchitis, chronic and unspecified	0†	0	0	0	0	0	0	0	*	0	*	*	0	0	0	0	0
Emphysema	80†	0	*	*	0	0	0	0	33	*	*	17	*	0	7	*	0
Asthma	80†	*	0	*	0	0	0	*	52	*	*	9	6	0	*	*	0
Other chronic lower respiratory diseases	1,750†	9	33	18	31	12	*	7	948	155	30	257	97	*	113	31	0
Pneumoconioses and chemical effects	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pneumonitis due to solids and liquids	70†	0	*	0	*	0	0	0	35	*	*	16	6	0	*	0	*
Other disease of respiratory system	480†	8	10	*	9	*	0	*	265	21	6	90	27	*	18	19	*
Peptic ulcer	50†	*	*	*	0	*	0	0	27	*	0	10	*	*	*	*	0
Diseases of appendix	10†	0	0	0	0	0	0	0	*	0	0	0	*	0	0	0	*
Hernia	20†	*	*	0	0	0	0	0	10	*	0	8	*	0	*	0	0
Chronic liver disease and cirrhosis	560†	23	11	12	13	6	*	*	250	26	38	90	38	6	29	12	*
Alcoholic liver disease	330†	17	9	9	7	*	0	*	150	17	28	44	22	*	16	*	*
Other chronic liver disease and cirrhosis	230†	6	*	*	6	*	*	0	100	9	10	46	16	*	13	8	*
Cholelithiasis and other disorders of gallbladder	50†	*	0	0	0	0	0	*	23	*	*	11	*	*	*	0	0
Nephritis, nephrotic syndrome and nephrosis	360†	*	13	8	*	*	*	*	171	22	15	72	19	*	10	13	*
Acute and rapidly progressive nephritic and nephrotic syndrome	10†	0	0	0	0	0	0	0	*	0	0	*	0	0	*	0	0
Chronic glomerulonephritis	0†	0	0	0	0	0	0	0	*	0	0	0	*	0	0	0	0
Renal failure	350†	*	13	8	*	*	*	*	167	22	15	69	18	*	9	13	*
Others disorders of kidney	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Infections of kidney	20†	0	0	0	0	0	0	0	11	0	*	*	0	*	*	*	0
Inflammatory diseases of female pelvic organs	0†	*	0	0	0	0	0	0	*	0	0	*	0	0	0	0	0
Pregnancy, childbirth and the puerperium	40†	*	*	*	0	*	0	*	18	*	*	6	*	0	*	*	0
Pregnancy with abortive outcome	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TABLE 5E-12 (continued)
DEATHS BY COUNTY OF RESIDENCE AND GENDER FOR SELECTED 100+ CAUSES, ARIZONA, 2020

Cause of death (Tenth Revision, International Statistical Classification of Diseases)	ARIZONA	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
FEMALE DEATHS																	
Other complications of pregnancy, childbirth and the puerperium	40†	*	*	*	0	*	0	*	18	*	*	6	*	0	*	*	0
Perinatal conditions	80†	0	*	0	*	0	0	0	50	0	*	14	6	0	*	6	*
Congenital anomalies, deformations and chromosomal abnormalities	100†	*	*	*	0	0	0	0	62	*	*	20	*	*	*	*	0
Symptoms, signs, abnormal findings	540†	15	10	12	*	*	0	*	384	7	10	50	17	*	14	6	*
Total accidents	1,700†	31	24	35	14	12	*	10	932	65	41	305	79	10	81	47	13
Transport accidents	300†	13	*	9	*	*	*	*	149	10	12	48	17	*	15	12	*
Motor vehicle accidents	290†	10	*	9	*	*	*	*	139	10	12	46	17	*	14	12	*
Other land transport accidents	10†	*	0	0	0	0	0	0	*	0	0	*	0	0	0	0	0
Water, air, space	10†	*	0	0	0	0	0	0	8	0	0	*	0	0	*	0	0
Nontransport accidents	1,396	18	22	26	12	8	0	8	783	55	29	257	62	6	66	35	9
Falls	540†	*	6	9	*	*	0	*	294	24	8	122	19	*	34	*	*
Accidental discharge of firearms	0†	0	0	0	0	0	0	0	0	0	0	0	0	0	*	0	0
Accidental drowning and submersion	30†	0	0	0	0	*	0	0	22	0	0	*	*	0	*	0	0
Accidental exposure to smoke, fire and flames	20†	0	*	*	*	0	0	0	10	0	*	*	0	0	0	0	0
Accidental poisoning	650†	7	14	15	*	*	0	*	385	11	14	116	31	*	27	16	7
Other and unspecified nontransport accidents	150†	6	*	*	*	*	0	*	72	20	6	14	8	0	*	14	*
Intentional self-harm (suicide)	290†	8	6	7	6	0	0	0	151	18	8	55	13	*	15	*	*
By discharge of firearms	120†	*	*	*	*	0	0	0	65	6	*	25	6	0	9	0	*
By other means	170†	7	*	6	*	0	0	0	86	12	*	30	7	*	6	*	0
Assault (homicide)	110†	*	0	*	*	0	0	*	65	*	*	14	9	*	*	*	0
By discharge of firearms	60†	*	0	0	*	0	0	0	40	*	*	8	*	0	0	*	0
By other means	50†	*	0	*	*	0	0	*	25	*	*	6	*	*	*	0	0
Legal intervention	0†	0	0	0	0	0	0	0	0	0	0	0	0	0	*	0	0
Events of undetermined intent	70†	*	*	*	*	0	0	*	21	19	*	*	*	0	9	0	0
Discharge of firearms	0†	0	0	0	0	0	0	0	*	0	0	0	0	0	0	0	0
Other and unspecified events of undetermined intent	60†	*	*	*	*	0	0	*	19	19	*	*	*	0	9	0	0
Operations of war	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Complications of medical and surgical care	60†	0	*	*	0	*	0	0	32	*	0	7	*	0	*	*	0
Injury by firearms	190†	*	*	*	6	0	0	0	107	9	6	33	10	0	11	*	*
Drug-induced deaths	760†	*	18	11	7	*	0	*	441	27	13	136	34	*	36	16	8
Opioid-induced deaths	530†	*	13	*	*	0	0	*	329	14	7	99	18	*	23	*	*
Alcohol-induced deaths	510†	31	11	25	8	*	0	*	232	35	41	59	26	*	28	*	*

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; ± The COVID-19 data collection began in mid-March 2020.

TABLE 5E-13
RATES[a] FOR SELECTED LEADING CAUSES OF DEATH STATEWIDE AND BY COUNTY OF RESIDENCE, ARIZONA, 2020

	ARIZONA	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
Total, all causes	1054.8	1763.8	1302.1	788.6	1829.2	988.7	784.4	2206.5	918.4	1873.5	1625.0	1175.4	1002.5	971.0	1567.9	1193.3
Cardiovascular disease	265.6	269.5	346.8	133.2	510.3	238.1	230.1	813.9	232.2	533.2	319.4	295.6	270.4	186.2	403.7	295.0
Diseases of heart	197.7	215.0	262.5	98.8	394.0	173.4	188.2	675.2	171.3	427.1	237.0	215.2	206.4	138.1	303.3	213.9
Coronary heart disease	142.2	149.9	181.4	67.3	333.9	119.1	146.4	560.7	121.0	330.4	162.0	152.2	148.3	106.7	229.9	172.4
Malignant neoplasms	176.6	125.7	232.3	118.1	307.7	139.8	188.2	289.4	153.5	351.0	161.1	196.9	190.3	133.9	334.1	173.9
Lung cancer	36.1	15.1	59.7	16.5	63.8	33.6	62.7	66.3	30.6	89.7	30.9	38.1	40.9	20.9	75.5	35.7
Colorectal cancer	16.3	12.1	20.7	9.6	26.3	12.9	10.5	30.1	14.7	31.8	15.0	18.2	16.3	18.8	27.8	12.2
Breast cancer	12.5	3.0	15.1	11.7	18.8	7.8	0.0	18.1	11.5	23.8	15.0	12.1	13.1	12.6	23.2	9.8
Prostate cancer	11.1	6.1	15.9	8.2	20.6	5.2	10.5	6.0	9.4	22.4	12.2	12.3	12.1	4.2	26.6	9.8
Malignant melanoma of skin	3.0	1.5	2.4	2.1	9.4	2.6	0.0	0.0	2.9	4.7	0.9	2.7	1.6	0.0	8.9	1.5
Cervical cancer	1.0	1.5	0.8	1.4	0.0	0.0	0.0	0.0	0.9	1.9	0.9	1.1	1.6	0.0	0.8	1.0
COVID-19[±]	117.5	454.2	135.2	136.6	221.4	129.4	52.3	192.9	98.7	151.4	341.9	112.9	90.4	215.5	106.3	264.7
Accident (unintentional injury)	74.9	175.6	72.4	77.6	99.4	88.0	73.2	217.0	68.8	77.6	122.7	86.0	60.7	67.0	83.9	66.9
Accidental poisoning	34.6	69.6	32.6	41.9	24.4	28.5	31.4	60.3	34.7	9.8	52.4	38.4	26.9	35.6	27.8	26.9
Falls	15.7	24.2	18.3	9.6	13.1	20.7	0.0	48.2	13.8	22.0	21.5	22.4	10.5	16.7	29.9	3.9
Motor vehicle accident	14.4	42.4	9.5	17.8	26.3	28.5	31.4	72.3	11.7	19.2	30.0	16.2	15.6	10.5	19.4	17.6
Accidental drowning	1.4	1.5	0.8	0.7	5.6	2.6	0.0	6.0	1.6	0.9	0.0	0.8	1.4	2.1	0.8	1.0
Chronic lower respiratory diseases	51.5	37.9	74.8	32.9	93.8	51.8	20.9	90.4	43.5	152.8	62.8	52.0	50.7	27.2	105.9	43.0
Alzheimer's disease	45.1	13.6	36.6	17.8	56.3	49.2	10.5	66.3	43.2	83.7	48.7	45.8	39.0	29.3	77.6	47.4
Cerebrovascular disease	44.9	36.3	55.7	21.3	69.4	44.0	41.8	102.5	39.8	76.6	58.1	56.2	39.9	31.4	70.0	39.6
Diabetes	35.7	96.9	42.2	28.8	54.4	59.5	31.4	54.3	30.7	48.1	63.7	39.8	45.1	35.6	34.6	47.4
Chronic liver disease and cirrhosis	19.9	77.2	20.7	20.6	56.3	36.2	31.4	60.3	14.8	39.7	73.1	21.7	21.0	25.1	29.9	15.1
Intentional self-harm (suicide)	18.9	45.4	24.7	27.5	35.6	12.9	41.8	24.1	16.0	34.1	39.3	21.3	15.9	8.4	33.7	10.3
Essential (primary) hypertension	15.8	15.1	18.3	8.2	28.1	12.9	0.0	18.1	14.9	15.9	18.7	15.3	18.2	14.6	17.3	29.3
Influenza and pneumonia	15.5	37.9	19.9	10.3	16.9	15.5	0.0	24.1	13.3	24.8	24.4	19.4	14.5	14.6	16.0	18.1
Parkinson's disease	14.2	12.1	12.7	10.3	22.5	5.2	0.0	12.1	14.1	16.4	12.2	15.7	13.3	8.4	16.5	11.2
Nephritis	10.8	13.6	19.1	7.5	22.5	12.9	52.3	36.2	8.0	26.2	23.4	13.9	11.9	10.5	14.8	12.7
Assault (homicide)	7.3	19.7	3.2	6.2	16.9	2.6	0.0	18.1	7.1	7.0	27.2	7.4	6.5	4.2	3.0	4.4
Septicemia	5.9	10.6	11.1	5.5	18.8	0.0	0.0	12.1	4.2	10.3	11.2	9.3	5.8	10.5	5.9	9.8
HIV disease	1.0	1.5	0.8	2.7	0.0	0.0	0.0	12.1	1.1	0.9	0.0	0.6	0.7	0.0	0.4	1.0
Injury by firearms	17.6	21.2	18.3	21.3	37.5	12.9	41.8	24.1	15.8	31.8	33.7	19.7	14.7	4.2	27.8	9.3
Drug-induced deaths	37.2	31.8	39.0	30.9	33.8	28.5	31.4	60.3	37.3	27.6	39.3	41.8	27.8	37.7	40.1	26.9
Opioid-induced deaths	26.3	21.2	23.1	19.9	18.8	15.5	20.9	24.1	27.9	15.9	19.7	29.5	19.4	33.5	28.7	3.4
Alcohol-induced deaths	21.9	143.8	17.5	51.5	41.3	28.5	10.5	84.4	15.8	50.0	108.6	21.3	17.5	12.6	31.6	8.3

Notes: [a] These are crude mortality rates (the number of deaths per 100,000 population); [±] The COVID-19 data collection began in mid-March 2020.

TABLE 5E-14
PERCENT OF TOTAL DEATHS FOR SELECTED LEADING CAUSES OF DEATH STATEWIDE AND BY COUNTY OF RESIDENCE, ARIZONA, 2020

	ARIZONA	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
Total, all causes	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Cardiovascular disease	25.2	15.3	26.6	16.9	27.9	24.1	29.3	36.9	25.3	28.5	19.7	25.2	27.0	19.2	25.7	24.7
Diseases of heart	18.7	12.2	20.2	12.5	21.5	17.5	24.0	30.6	18.6	22.8	14.6	18.3	20.6	14.2	19.3	17.9
Coronary heart disease	13.5	8.5	13.9	8.5	18.3	12.0	18.7	25.4	13.2	17.6	10.0	12.9	14.8	11.0	14.7	14.4
Malignant neoplasms	16.7	7.1	17.8	15.0	16.8	14.1	24.0	13.1	16.7	18.7	9.9	16.8	19.0	13.8	21.3	14.6
Lung cancer	3.4	0.9	4.6	2.1	3.5	3.4	8.0	3.0	3.3	4.8	1.9	3.2	4.1	2.2	4.8	3.0
Colorectal cancer	1.5	0.7	1.6	1.2	1.4	1.3	1.3	1.4	1.6	1.7	0.9	1.5	1.6	1.9	1.8	1.0
Breast cancer	1.2	0.2	1.2	1.5	1.0	0.8	0.0	0.8	1.2	1.3	0.9	1.0	1.3	1.3	1.5	0.8
Prostate cancer	1.1	0.3	1.2	1.0	1.1	0.5	1.3	0.3	1.0	1.2	0.7	1.0	1.2	0.4	1.7	0.8
Malignant melanoma of skin	0.3	0.1	0.2	0.3	0.5	0.3	0.0	0.0	0.3	0.2	0.1	0.2	0.2	0.0	0.6	0.1
Cervical cancer	0.1	0.1	0.1	0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.0	0.1	0.1
COVID-19[±]	11.1	25.8	10.4	17.3	12.1	13.1	6.7	8.7	10.7	8.1	21.0	9.6	9.0	22.2	6.8	22.2
Accident (unintentional injury)	7.1	10.0	5.6	9.8	5.4	8.9	9.3	9.8	7.5	4.1	7.6	7.3	6.1	6.9	5.4	5.6
Accidental poisoning	3.3	3.9	2.5	5.3	1.3	2.9	4.0	2.7	3.8	0.5	3.2	3.3	2.7	3.7	1.8	2.3
Falls	1.5	1.4	1.4	1.2	0.7	2.1	0.0	2.2	1.5	1.2	1.3	1.9	1.0	1.7	1.9	0.3
Motor vehicle accident	1.4	2.4	0.7	2.3	1.4	2.9	4.0	3.3	1.3	1.0	1.8	1.4	1.6	1.1	1.2	1.5
Accidental drowning	0.1	0.1	0.1	0.1	0.3	0.3	0.0	0.3	0.2	0.0	0.0	0.1	0.1	0.2	0.1	0.1
Chronic lower respiratory diseases	4.9	2.1	5.7	4.2	5.1	5.2	2.7	4.1	4.7	8.2	3.9	4.4	5.1	2.8	6.8	3.6
Alzheimer's disease	4.3	0.8	2.8	2.3	3.1	5.0	1.3	3.0	4.7	4.5	3.0	3.9	3.9	3.0	5.0	4.0
Cerebrovascular disease	4.3	2.1	4.3	2.7	3.8	4.5	5.3	4.6	4.3	4.1	3.6	4.8	4.0	3.2	4.5	3.3
Diabetes	3.4	5.5	3.2	3.7	3.0	6.0	4.0	2.5	3.3	2.6	3.9	3.4	4.5	3.7	2.2	4.0
Chronic liver disease and cirrhosis	1.9	4.4	1.6	2.6	3.1	3.7	4.0	2.7	1.6	2.1	4.5	1.8	2.1	2.6	1.9	1.3
Intentional self-harm (suicide)	1.8	2.6	1.9	3.5	1.9	1.3	5.3	1.1	1.7	1.8	2.4	1.8	1.6	0.9	2.2	0.9
Essential (primary) hypertension	1.5	0.9	1.4	1.0	1.5	1.3	0.0	0.8	1.6	0.8	1.2	1.3	1.8	1.5	1.1	2.5
Influenza and pneumonia	1.5	2.1	1.5	1.3	0.9	1.6	0.0	1.1	1.5	1.3	1.5	1.7	1.4	1.5	1.0	1.5
Parkinson's disease	1.3	0.7	1.0	1.3	1.2	0.5	0.0	0.5	1.5	0.9	0.7	1.3	1.3	0.9	1.0	0.9
Nephritis	1.0	0.8	1.5	1.0	1.2	1.3	6.7	1.6	0.9	1.4	1.4	1.2	1.2	1.1	0.9	1.1
Assault (homicide)	0.7	1.1	0.2	0.8	0.9	0.3	0.0	0.8	0.8	0.4	1.7	0.6	0.7	0.4	0.2	0.4
Septicemia	0.6	0.6	0.9	0.7	1.0	0.0	0.0	0.5	0.5	0.5	0.7	0.8	0.6	1.1	0.4	0.8
HIV disease	0.1	0.1	0.1	0.3	0.0	0.0	0.0	0.5	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Injury by firearms	1.7	1.2	1.4	2.7	2.1	1.3	5.3	1.1	1.7	1.7	2.1	1.7	1.5	0.4	1.8	0.8
Drug-induced deaths	3.5	1.8	3.0	3.9	1.8	2.9	4.0	2.7	4.1	1.5	2.4	3.6	2.8	3.9	2.6	2.3
Opioid-induced deaths	2.5	1.2	1.8	2.5	1.0	1.6	2.7	1.1	3.0	0.8	1.2	2.5	1.9	3.4	1.8	0.3
Alcohol-induced deaths	2.1	8.2	1.3	6.5	2.3	2.9	1.3	3.8	1.7	2.7	6.7	1.8	1.7	1.3	2.0	0.7

Note: [±] The COVID-19 data collection began in mid-March 2020.

TABLE 5E-15
MORTALITY BY FIVE-YEAR AGE GROUPS AND COUNTY OF RESIDENCE, ARIZONA, 2020

	Total[a]	Infant's age group					Age group																				
		<1 day	1-6 days	7-27 days	28-365 days	Total <1 year	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-99	100+	Unknown
ARIZONA	75,700	150†	70†	50†	140†	400†	100†	50†	90†	390†	690†	910†	1,160†	1,280†	1,340†	1,770†	2,550†	4,100†	5,580†	6,767	8,670†	9,527	9,783	9,533	7,200†	3,206	610†	10†
Apache	1,165	*	*	*	*	10†	*	*	*	7	15	25	49	60	48	49	60	78	113	114	111	122	100	109	64	23	8	0
Cochise	1,637	*	0	*	*	10†	*	0	0	*	7	9	10	12	15	29	52	76	122	164	216	243	251	192	155	57	11	0
Coconino	1,149	*	0	*	*	0†	*	*	*	8	14	24	47	45	34	52	45	83	92	121	124	109	120	109	71	37	6	*
Gila	975	0	*	*	*	0†	*	0	*	*	6	16	12	20	15	23	42	48	76	107	126	128	125	114	72	28	*	0
Graham	382	*	0	0	*	0†	0	0	*	*	*	6	8	10	9	14	11	24	32	22	51	51	48	47	25	14	*	0
Greenlee	75	0	0	0	0	0	0	0	*	*	*	*	0	*	*	*	*	*	*	8	*	12	12	12	*	0	0	0
La Paz	366	0	0	*	0	0†	0	0	0	0	*	*	*	6	6	8	15	14	41	30	57	69	52	36	12	6	*	0
Maricopa	40,748	83	38	30	88	239	70	28	49	238	440	511	650	685	769	1,010	1,413	2,207	2,933	3,422	4,440	4,964	5,110	5,244	4,101	1,864	361	0
Mohave	4,009	*	*	0	*	10†	*	*	*	*	7	12	35	41	43	57	106	225	313	423	567	641	617	464	307	111	15	0
Navajo	1,735	*	*	*	*	10†	*	*	*	12	18	41	49	57	56	57	78	127	146	158	188	179	226	159	109	50	9	0
Pima	12,290	18	13	9	16	56	9	8	16	47	110	138	147	204	204	248	371	634	849	1,147	1,335	1,512	1,537	1,649	1,316	635	118	0
Pinal	4,293	9	*	6	6	20†	6	*	*	25	32	48	70	61	63	101	161	247	350	449	594	585	558	475	321	91	27	0
Santa Cruz	464	0	0	*	0	0†	0	*	0	*	*	*	7	*	*	8	13	32	40	49	57	45	61	69	46	17	*	0
Yavapai	3,717	6	*	*	*	10†	*	*	6	14	14	29	28	30	34	41	81	140	246	329	462	492	566	555	404	200	29	0
Yuma	2,443	11	6	0	6	23	*	*	*	14	18	29	28	30	33	58	78	130	198	205	308	351	387	282	185	70	9	0
Unknown	252	*	*	0	0	0†	0	0	0	*	*	6	14	11	8	13	18	34	28	19	27	24	13	17	*	*	0	*

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; * Includes records with unknown age.

TABLE 5E-16
INFANT MORTALITY BY YEAR AND COUNTY OF RESIDENCE, ARIZONA, 2010-2020

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ARIZONA	519	504	495	447	535	473	454	461	447	430	404
Apache	7	9	*	10	16	10	15	6	*	*	7
Cochise	15	9	9	13	8	12	6	8	*	10	9
Coconino	15	7	9	10	8	10	10	6	10	9	*
Gila	7	7	*	*	*	*	*	7	*	*	*
Graham	*	*	*	*	*	*	*	*	*	*	*
Greenlee	*	*	0	*	*	0	0	*	*	0	0
La Paz	*	*	*	*	*	*	*	*	*	*	*
Maricopa	312	310	323	285	342	291	291	300	274	250	239
Mohave	11	18	*	6	14	16	9	11	6	9	10
Navajo	9	14	14	7	11	13	*	15	19	10	9
Pima	74	57	59	58	65	48	53	43	61	61	56
Pinal	20	26	26	18	29	26	23	28	31	29	23
Santa Cruz	11	*	6	*	*	*	*	*	*	*	*
Yavapai	10	7	10	8	11	13	11	11	10	13	13
Yuma	20	27	18	18	18	23	14	9	15	20	23
Unknown	*	*	*	*	*	*	9	6	0	*	*

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 5E-17
INFANT MORTALITY RATES[a] BY COUNTY OF RESIDENCE, ARIZONA, 2010-2020

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ARIZONA	6.0	5.9	5.8	5.3	6.2	5.6	5.4	5.6	5.6	5.4	5.3
Apache	6.4	8.4	**	10.5	15.7	10.5	14.7	6.3	**	**	8.9
Cochise	8.4	5.4	5.3	8.1	4.9	7.7	3.9	6.0	**	7.4	7.1
Coconino	8.5	4.0	5.3	6.2	4.7	6.3	6.2	4.0	6.7	6.6	**
Gila	10.4	11.3	**	**	**	**	**	12.9	**	**	**
Graham	**	**	**	**	**	**	**	**	**	**	**
Greenlee	**	**	0.0	**	**	0.0	0.0	**	**	0.0	0.0
La Paz	**	**	**	**	**	**	**	**	**	**	**
Maricopa	5.8	5.8	5.9	5.3	6.2	5.3	5.4	5.7	5.3	4.9	4.9
Mohave	5.4	9.2	**	3.4	7.6	8.7	5.0	6.3	3.4	5.2	5.9
Navajo	5.2	8.5	8.6	4.5	6.8	8.6	**	10.0	13.8	7.4	6.9
Pima	6.1	4.8	5.0	4.8	5.5	4.2	4.6	3.9	5.7	5.9	5.6
Pinal	4.0	5.6	5.6	3.9	6.5	5.8	5.1	6.4	6.9	6.4	4.9
Santa Cruz	15.9	**	8.9	**	**	**	**	**	**	**	**
Yavapai	5.5	3.8	5.6	4.4	5.7	6.9	5.9	6.1	5.7	7.2	7.7
Yuma	6.2	8.4	5.8	5.8	5.9	7.6	4.7	3.0	5.0	6.8	7.7

Notes: ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; [a] The number of infant deaths per 1,000 live births.

TABLE 5E-18
INFANT MORTALITY BY COUNTY OF RESIDENCE, CHILD'S RACE/ETHNICITY, AND GENDER, ARIZONA, 2020

	Total			Race/ethnicity														
	Total[a]	Male	Female	White non-Hispanic			Hispanic or Latino			Black or African American			American Indian Alaska Native			Asian or Pacific Islander		
				T	M	F	T	M	F	T	M	F	T	M	F	T	M	F
ARIZONA	404	228	176	150†	90†	60†	150†	80†	70†	60†	30†	30†	30†	20†	20†	10†	10†	0†
Apache	7	*	*	0†	0	*	0†	*	0	0	0	0	10†	*	*	0	0	0
Cochise	9	6	*	0†	*	*	10†	*	*	0	0	0	0	0	0	0	0	0
Coconino	4	*	*	0†	*	0	0	0	0	0†	*	0	0†	*	*	0	0	0
Gila	4	*	*	0†	*	*	0	0	0	0	0	0	0†	*	0	0	0	0
Graham	2	*	*	0†	*	0	0	0	0	0	0	0	0†	0	*	0	0	0
Greenlee	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
La Paz	1	*	0	0†	*	0	0	0	0	0	0	0	0	0	0	0	0	0
Maricopa	239	131	108	84	52	32	89	46	43	46	21	25	10†	*	6	6	6	0
Mohave	10	9	*	10†	8	*	0†	*	0	0	0	0	0	0	0	0	0	0
Navajo	9	*	*	0†	*	0	0	0	0	0	0	0	10†	*	*	0	0	0
Pima	56	28	28	20	7	13	24	13	11	10†	*	*	0†	*	*	0†	0	*
Pinal	23	15	8	10†	*	*	10†	6	*	0†	*	*	0†	*	*	0†	*	0
Santa Cruz	1	0	*	0	0	0	0†	0	*	0	0	0	0	0	0	0	0	0
Yavapai	13	7	6	10†	*	6	0†	*	0	0	0	0	0	0	0	0	0	0
Yuma	23	14	9	10†	*	*	10†	8	*	0†	*	*	0	0	0	0	0	0

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Includes records with unknown race/ethnicity.

TABLE 5E-19
LEADING CAUSES OF INFANT DEATH BY COUNTY OF RESIDENCE, ARIZONA, 2020

	Total	County of residence															
		Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
Certain conditions originating in the perinatal period	190†	0	*	*	*	*	0	0	110	*	*	32	15	0	*	15	*
Short gestation and low birth weight	70†	0	*	0	0	*	0	0	48	0	0	10	7	0	*	*	0
Maternal complications	20†	0	0	0	0	0	0	0	13	0	0	*	0	0	0	*	0
Complications of placenta, cord and membrane	20†	0	0	*	*	0	0	0	8	0	0	*	*	0	*	0	*
Intrauterine hypoxia or birth asphyxia	10†	0	0	0	0	0	0	0	*	0	0	*	*	0	0	*	0
Respiratory distress syndrome	10†	0	0	0	0	0	0	0	*	0	0	*	*	0	0	0	0
Other respiratory condition	10†	0	0	0	0	0	0	0	*	*	0	*	*	0	0	0	0
Bacterial sepsis of newborn	10†	0	0	0	0	0	0	0	*	0	0	*	0	0	0	0	0
Atelectasis	0†	0	0	0	0	0	0	0	*	0	0	*	*	0	0	0	0
Congenital malformations	90†	*	*	0	0	0	0	*	50	*	*	13	*	*	*	*	*
of heart	20†	*	0	0	0	0	0	0	7	*	0	7	*	*	0	*	0
of brain, spinal cord or nervous system	10†	*	0	0	0	0	0	0	6	*	*	*	*	0	*	0	0
of respiratory system	10†	0	0	0	0	0	0	0	*	*	0	*	0	0	0	0	0
Other ill-defined and unspecified causes of mortality	30†	*	*	0	*	*	0	0	13	*	0	*	0	0	*	0	*
Accidents (unintentional injury)	20†	0	*	0	0	0	0	0	9	*	*	*	*	0	0	*	0
Mechanical suffocation	10†	0	*	0	0	0	0	0	9	*	0	0	0	0	0	0	0
Motor vehicle accidents	0†	0	0	0	0	0	0	0	0	0	*	*	0	0	0	0	0
Diseases of the circulatory system	20†	0	0	0	0	0	0	0	11	0	0	*	*	0	0	0	0
Sudden infant death syndrome	10†	0	0	*	*	0	0	0	7	0	*	0	0	0	*	0	0
Certain infectious and parasitic diseases	10†	0	0	0	0	0	0	0	9	0	0	0	0	0	*	*	0
Events of undetermined intent	10†	0	0	*	0	0	0	0	*	*	0	*	0	0	0	0	0
Diseases of the digestive system	10†	0	0	0	0	0	0	0	7	0	0	0	0	0	0	*	0
Assault (homicide)	0†	*	0	0	0	0	0	0	*	0	0	0	0	0	0	0	0
Influenza and pneumonia	0†	0	0	0	0	0	0	0	*	0	*	0	0	0	0	*	0
Diseases of the nervous system	0†	0	0	0	0	0	0	0	*	0	0	0	*	0	0	0	0
Total, all causes[a]	404	7	9	*	*	*	0	*	239	10	9	56	23	*	13	23	*

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Includes causes of death not shown above.

TABLE 5E-20
POSTNEONATAL MORTALITY BY COUNTY OF RESIDENCE, ARIZONA, 2010-2020

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ARIZONA[a]	189	173	163	158	181	179	153	174	136	164	139
Apache	*	*	*	6	*	*	9	*	*	*	*
Cochise	*	*	*	*	*	*	*	*	*	*	*
Coconino	*	*	0	*	*	*	*	*	*	*	*
Gila	*	*	*	*	*	*	0	*	*	*	*
Graham	0	0	*	*	*	0	0	*	0	*	*
Greenlee	*	0	0	*	*	0	0	*	*	0	0
La Paz	*	*	*	0	0	*	*	*	0	0	0
Maricopa	114	105	107	96	118	112	84	112	75	92	88
Mohave	*	*	*	*	*	9	*	*	*	*	*
Navajo	*	8	6	*	*	7	*	8	7	*	*
Pima	28	14	19	25	23	17	23	13	24	31	16
Pinal	8	8	8	8	10	11	14	9	9	9	6
Santa Cruz	*	*	*	0	0	0	*	*	0	*	0
Yavapai	*	*	*	*	*	*	*	7	*	*	*
Yuma	*	10	6	*	*	*	*	*	6	*	6

Notes: * Cell suppressed due to non-zero count less than 6; [a] Includes unknown county of residence.

TABLE 5E-21
POSTNEONATAL MORTALITY RATES[a] BY COUNTY OF RESIDENCE, ARIZONA , 2010-2020

County	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ARIZONA	2.2	2.0	1.9	1.9	2.1	2.1	1.8	2.1	1.7	2.1	1.8
Apache	**	**	**	6.3	**	**	8.8	**	**	**	**
Cochise	**	**	**	**	**	**	**	**	**	**	**
Coconino	**	**	0.0	**	**	**	**	**	**	**	**
Gila	**	**	**	**	**	**	0.0	**	**	**	**
Graham	0.0	0.0	**	**	**	0.0	0.0	**	0.0	**	**
Greenlee	**	0.0	0.0	**	**	0.0	0.0	**	**	0.0	0.0
La Paz	**	**	**	0.0	0.0	**	**	**	0.0	0.0	0.0
Maricopa	2.1	2.0	2.0	1.8	2.1	2.1	1.6	2.1	1.5	1.8	1.8
Mohave	**	**	**	**	**	4.9	**	**	**	**	**
Navajo	**	4.9	3.7	**	**	4.6	**	5.3	5.1	**	**
Pima	2.3	1.2	1.6	2.1	1.9	1.5	2.0	1.2	2.3	3.0	1.6
Pinal	1.6	1.7	1.7	1.8	2.2	2.5	3.1	2.1	2.0	2.0	1.3
Santa Cruz	**	**	**	0.0	0.0	0.0	**	**	0.0	**	0.0
Yavapai	**	**	**	**	**	**	**	3.9	**	**	**
Yuma	**	3.1	1.9	**	**	**	**	**	2.0	**	2.0

Notes: ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; [a] Post-neonatal deaths per 1,000 live births.

TABLE 5E-22
NEONATAL MORTALITY BY COUNTY OF RESIDENCE, ARIZONA, 2010-2020

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ARIZONA[a]	330	331	332	289	354	294	301	287	311	265	265
Apache	*	*	*	*	12	6	6	*	*	*	*
Cochise	14	*	7	11	6	10	*	*	*	7	6
Coconino	10	*	9	7	*	*	8	*	6	*	*
Gila	*	*	*	*	*	*	*	*	*	0	*
Graham	*	*	*	*	*	*	*	*	*	*	*
Greenlee	0	*	0	0	*	0	0	*	*	0	0
La Paz	*	0	*	*	*	0	0	*	*	*	*
Maricopa	198	205	216	189	224	179	207	188	199	158	151
Mohave	7	13	*	*	10	7	*	8	*	*	6
Navajo	*	6	8	*	7	6	*	7	12	7	*
Pima	46	43	40	33	42	31	30	30	37	30	40
Pinal	12	18	18	10	19	15	9	19	22	20	17
Santa Cruz	7	*	*	*	*	*	*	*	*	*	*
Yavapai	*	*	7	*	9	9	7	*	6	9	10
Yuma	17	17	12	14	14	18	11	*	9	16	17

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; a Includes unknown county of residence.

TABLE 5E-23
NEONATAL MORTALITY RATE[a] BY COUNTY OF RESIDENCE, ARIZONA, 2010-2020

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ARIZONA	3.8	3.9	3.9	3.4	4.1	3.5	3.6	3.5	3.9	3.4	3.5
Apache	**	**	**	**	11.8	6.3	5.9	**	**	**	**
Cochise	7.9	**	4.1	6.8	3.7	6.4	**	**	**	5.2	4.7
Coconino	5.6	**	5.3	4.3	**	**	5.0	**	4.0	**	**
Gila	**	**	**	**	**	**	**	**	**	0.0	**
Graham	**	**	**	**	**	**	**	**	**	**	**
Greenlee	0.0	**	0.0	0.0	**	0.0	0.0	**	**	0.0	0.0
La Paz	**	0.0	**	**	**	0.0	0.0	**	**	**	**
Maricopa	3.7	3.8	4.0	3.5	4.1	3.3	3.8	3.6	3.8	3.1	3.1
Mohave	3.5	6.6	**	**	5.5	3.8	**	4.6	**	**	3.5
Navajo	**	3.7	4.9	**	4.4	4.0	**	4.6	8.7	5.2	**
Pima	3.8	3.6	3.4	2.8	3.5	2.7	2.6	2.7	3.5	2.9	4.0
Pinal	2.4	3.9	3.9	2.2	4.2	3.4	2.0	4.3	4.9	4.4	3.7
Santa Cruz	10.1	**	**	**	**	**	**	**	**	**	**
Yavapai	**	**	3.9	**	4.6	4.8	3.7	**	3.4	5.0	5.9
Yuma	5.3	5.3	3.8	4.5	4.6	6.0	3.7	**	3.0	5.4	5.7

Notes: ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; [a] Number of neonatal deaths per 1,000 live births.

TABLE 5E-24
LEADING CAUSES OF DEATH AMONG CHILDREN (1-14 YEARS) BY COUNTY OF RESIDENCE, ARIZONA, 2020

	ARIZONA	County of residence														
		Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
Accidents (unintentional injury)	76	*	0	*	0	0	0	0	54	*	*	10	*	*	*	*
Motor vehicle accidents	40	*	0	*	0	0	0	0	24	*	*	6	0	*	*	0
Accidental drowning and submersion	20	0	0	0	0	0	0	0	16	0	0	*	*	0	0	*
Malignant neoplasms	25	0	0	0	0	*	0	0	15	*	0	*	*	0	*	*
Leukemia	10	0	0	0	0	*	0	0	*	*	0	0	*	0	0	*
Assault (homicide)	19	0	*	*	*	0	0	0	12	*	0	*	0	0	*	0
By other means	12	0	*	*	0	0	0	0	9	0	0	0	0	0	*	0
By discharge of firearms	7	0	0	0	*	0	0	0	*	*	0	*	0	0	0	0
Congenital malformations	18	0	0	0	0	0	0	0	13	0	*	*	*	0	0	*
Intentional self-harm (suicide)	17	0	0	0	0	0	*	0	6	*	*	*	*	0	*	0
COVID-19[±]	4	0	0	0	*	0	0	0	*	0	*	0	0	0	0	*
Septicemia	4	0	0	0	0	0	0	0	*	0	0	*	0	0	0	0
Influenza and pneumonia	3	0	0	0	0	0	0	0	*	0	0	0	*	0	0	*
Chronic lower respiratory disease	1	0	0	0	0	0	0	0	*	0	0	0	0	0	0	0
Asthma	1	0	0	0	0	0	0	0	*	0	0	0	0	0	0	0
Total, all causes[a]	240	*	*	*	*	*	*	0	147	10	7	33	12	*	10	7

Notes: * Cell suppressed due to non-zero count less than 6; [a] May include other causes of death not shown above; [±] The COVID-19 data collection began in mid-March 2020.

TABLE 5E-25
RATES[a] FOR THE LEADING CAUSES OF DEATH AMONG CHILDREN (1-14 YEARS) BY COUNTY OF RESIDENCE, ARIZONA, 2020

Underlying cause of death	ARIZONA	County of residence														
		Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
Accidents (unintentional injury)	6.0	**	0.0	**	0.0	0.0	0.0	0.0	6.7	**	**	6.0	**	**	**	**
Motor vehicle accidents	3.2	**	0.0	**	0.0	0.0	0.0	0.0	3.0	**	**	3.6	0.0	**	**	0.0
Accidental drowning and submersion	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	**	**	0.0	0.0	**
Malignant neoplasms	2.0	0.0	0.0	0.0	0.0	**	0.0	0.0	1.9	**	0.0	**	**	0.0	**	**
Leukemia	0.8	0.0	0.0	0.0	0.0	**	0.0	0.0	**	**	0.0	0.0	**	0.0	0.0	**
Assault (homicide)	1.5	0.0	**	**	**	0.0	0.0	0.0	1.5	**	0.0	**	0.0	0.0	**	0.0
By other means	1.0	0.0	**	**	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.0	**	0.0
By discharge of firearms	0.6	0.0	0.0	0.0	**	0.0	0.0	0.0	**	**	0.0	**	0.0	0.0	0.0	0.0
Congenital malformations	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	0.0	**	**	**	0.0	0.0	**
Intentional self-harm (suicide)	1.3	0.0	0.0	0.0	0.0	0.0	**	0.0	0.7	**	**	**	**	0.0	**	0.0
COVID-19[±]	0.3	0.0	0.0	0.0	**	0.0	0.0	0.0	**	0.0	**	0.0	0.0	0.0	0.0	**
Septicemia	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**	0.0	0.0	**	0.0	0.0	0.0	0.0
Influenza and pneumonia	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**	0.0	0.0	0.0	**	0.0	0.0	**
Chronic lower respiratory disease	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Asthma	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total, all causes[a]	19.1	**	**	**	**	**	**	0.0	18.1	36.2	31.8	19.7	16.1	**	34.1	17.5

Notes: ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; [a] All rates are per 100,000 children 1-14 years old; [±] The COVID-19 data collection began in mid-March 2020.

TABLE 5E-26
LEADING CAUSES OF DEATH AMONG ADOLESCENTS (15-19 YEARS) BY COUNTY OF RESIDENCE, ARIZONA, 2020

	ARIZONA	County of residence															
		Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
Accidents (unintentional injury)	184	*	*	*	*	*	*	0	114	*	*	20	15	*	6	9	*
Accidental poisoning	103	0	*	0	*	0	0	0	71	*	*	12	8	0	0	*	*
Motor vehicle accidents	70	*	0	*	*	*	*	0	38	*	*	8	6	*	*	*	0
Accidental drowning and submersion	1	0	0	0	*	0	0	0	0	0	0	0	0	0	0	0	0
Intentional self-harm (suicide)	69	*	*	*	0	0	0	0	39	*	*	10	*	0	*	0	0
By discharge of firearms	40	*	*	*	0	0	0	0	22	*	*	*	*	0	*	0	0
By other means	29	*	0	*	0	0	0	0	17	0	*	*	0	0	0	0	0
Assault (homicide)	48	0	*	0	*	0	0	0	31	0	*	8	*	0	0	*	0
By discharge of firearms	41	0	*	0	0	0	0	0	27	0	*	7	*	0	0	*	0
By other means	7	0	0	0	*	0	0	0	*	0	0	*	*	0	0	0	0
Malignant neoplasms	11	0	0	0	0	0	0	0	6	0	0	*	*	0	0	*	0
Leukemia	4	0	0	0	0	0	0	0	*	0	0	*	0	0	0	*	0
Diseases of the heart	9	0	0	0	0	0	0	0	6	0	0	0	*	0	0	*	0
Events of undetermined intent	7	0	0	0	0	0	0	0	*	0	0	0	0	0	*	0	0
COVID-19±	4	0	0	*	0	0	0	0	*	0	0	0	0	0	0	0	0
Total, all causes	388	7	*	8	*	*	*	0	238	*	12	47	25	*	14	14	*

Note:* Cell suppressed due to non-zero count less than 6; ± The COVID-19 data collection began in mid-March 2020.

TABLE 5E-27
RATES[a] FOR THE LEADING CAUSES OF DEATH AMONG ADOLESCENTS (15-19 YEARS) BY COUNTY OF RESIDENCE, ARIZONA, 2020

Underlying cause of death	ARIZONA	County of residence														
		Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
Accidents (unintentional injury)	39.0	**	**	**	**	**	**	0.0	38.4	**	**	29.2	58.8	**	52.9	63.3
Accidental poisoning	21.8	0.0	**	0.0	**	0.0	0.0	0.0	23.9	**	**	17.5	31.4	0.0	0.0	**
Motor vehicle accidents	14.8	**	0.0	**	**	**	**	0.0	12.8	**	**	11.7	23.5	**	**	**
Accidental drowning and submersion	0.2	0.0	0.0	0.0	**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Intentional self-harm (suicide)	14.6	**	**	**	0.0	0.0	0.0	0.0	13.1	**	**	14.6	**	0.0	**	0.0
By discharge of firearms	8.5	**	**	**	0.0	0.0	0.0	0.0	7.4	**	**	**	**	0.0	**	0.0
By other means	6.2	**	0.0	**	0.0	0.0	0.0	0.0	5.7	0.0	**	**	0.0	0.0	0.0	0.0
Assault (homicide)	10.2	0.0	**	0.0	**	0.0	0.0	0.0	10.4	0.0	**	11.7	**	0.0	0.0	**
By discharge of firearms	8.7	0.0	**	0.0	0.0	0.0	0.0	0.0	9.1	0.0	**	10.2	**	0.0	0.0	**
By other means	1.5	0.0	0.0	0.0	**	0.0	0.0	0.0	**	0.0	0.0	**	**	0.0	0.0	0.0
Malignant neoplasms	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	**	**	0.0	0.0	**
Leukemia	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**	0.0	0.0	**	0.0	0.0	0.0	**
Diseases of heart	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	**	0.0	0.0	**
Events of undetermined intent	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**	0.0	0.0	0.0	0.0	0.0	**	0.0
COVID-19[±]	0.8	0.0	0.0	**	0.0	0.0	0.0	0.0	**	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total, all causes	82.3	141.9	**	54.1	**	**	**	0.0	80.2	**	164.6	68.6	98.0	**	123.4	98.4

Notes: ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; [a] All rates are per 100,000 adolescents 15-19 years old; [±] The COVID-19 data collection began in mid-March 2020.

TABLE 5E-28
LEADING CAUSES OF DEATH AMONG YOUNG ADULTS (20-44 YEARS) BY COUNTY OF RESIDENCE, ARIZONA, 2020

	ARIZONA	County of residence															
		Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
Accidents (unintentional injury)	2,075	60	23	57	18	13	*	11	1,230	30	63	333	107	10	53	40	23
Accidental poisoning	1,456	26	17	37	7	7	*	6	922	13	37	240	65	9	32	20	16
Motor vehicle accidents	451	18	*	14	6	*	*	*	221	14	17	72	36	*	16	17	*
Intentional self-harm (suicide)	552	19	9	18	12	*	*	0	308	16	27	78	26	*	20	12	*
By discharge of firearms	305	*	*	11	7	*	*	0	177	8	7	51	15	0	13	*	*
By other means	247	16	*	7	*	0	0	0	131	8	20	27	11	*	7	7	*
COVID-19[±]	384	29	*	21	*	*	0	0	191	*	32	38	23	*	*	28	*
Malignant neoplasms	320	6	*	*	*	0	0	*	217	9	*	46	8	*	*	12	0
Malignant neoplasm of lymphoid, hematopoietic and related tissue	46	*	0	0	0	0	0	0	34	*	0	*	*	*	0	*	0
Malignant neoplasm of breast	45	*	*	*	*	0	0	0	29	*	0	8	*	0	0	0	0
Malignant neoplasm of meninges, brain and other parts of central nervous system	35	0	0	0	0	0	0	*	23	*	0	6	*	0	*	*	0
Diseases of heart	317	6	*	*	7	*	0	0	194	*	6	50	25	*	*	6	*
Assault (homicide)	301	10	0	*	*	*	0	*	183	*	22	45	16	*	*	6	*
By discharge of firearms	244	*	0	*	*	*	0	0	158	*	14	38	12	0	*	6	*
By other means	57	6	0	*	*	0	0	*	25	*	8	7	*	*	0	0	*
Chronic liver disease and cirrhosis	264	15	*	16	6	*	0	*	110	8	29	42	9	0	9	*	*
Diabetes	105	*	0	*	*	*	*	0	58	*	*	14	10	*	*	*	0
Cerebrovascular disease	51	0	0	0	0	0	*	0	30	*	*	10	*	0	*	*	*
Influenza and pneumonia	50	*	*	*	0	0	0	*	24	*	*	8	0	*	0	*	*
Obesity	42	*	*	0	0	0	0	*	28	*	0	*	*	0	*	*	0
Human immunodeficiency virus (HIV) disease	15	0	0	*	0	0	0	*	12	0	0	*	0	0	0	0	0
Total, all causes	5,377	197	53	164	69	34	8	23	3,055	138	221	803	274	21	135	138	44

Note:* Cell suppressed due to non-zero count less than 6; [±] The COVID-19 data collection began in mid-March 2020.

TABLE 5E-29
RATES[a] FOR THE LEADING CAUSES OF DEATH AMONG YOUNG ADULTS (20-44 YEARS) BY COUNTY OF RESIDENCE, ARIZONA, 2020

Underlying cause of death	ARIZONA	County of residence														
		Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
Accidents (unintentional injury)	87.7	298.0	62.6	100.3	145.0	95.2	**	308.4	80.8	59.2	207.7	96.6	78.6	73.4	100.3	59.0
Accidental poisoning	61.6	129.1	46.3	65.1	56.4	51.3	**	168.2	60.6	25.6	122.0	69.6	47.7	66.0	60.6	29.5
Motor vehicle accidents	19.1	89.4	**	24.6	48.3	**	**	**	14.5	27.6	56.0	20.9	26.4	**	30.3	25.1
Intentional self-harm (suicide)	23.3	94.4	24.5	31.7	96.6	**	**	0.0	20.2	31.6	89.0	22.6	19.1	**	37.9	17.7
By discharge of firearms	12.9	**	**	19.3	56.4	**	**	0.0	11.6	15.8	23.1	14.8	11.0	0.0	24.6	**
By other means	10.4	79.5	**	12.3	**	0.0	0.0	0.0	8.6	15.8	65.9	7.8	8.1	**	13.3	10.3
COVID-19[±]	16.2	144.0	**	36.9	**	**	0.0	0.0	12.5	**	105.5	11.0	16.9	**	**	41.3
Malignant neoplasms	13.5	29.8	**	**	**	0.0	0.0	**	14.3	17.8	**	13.3	5.9	**	**	17.7
Malignant neoplasm of lymphoid, hematopoietic and related tissue	1.9	**	0.0	0.0	0.0	0.0	0.0	0.0	2.2	**	0.0	**	**	**	0.0	**
Malignant neoplasm of breast	1.9	**	**	**	**	0.0	0.0	0.0	1.9	**	0.0	2.3	**	0.0	0.0	0.0
Malignant neoplasm of meninges, brain and other parts of central nervous system	1.5	0.0	0.0	0.0	0.0	0.0	0.0	**	1.5	**	0.0	1.7	**	0.0	**	**
Diseases of heart	13.4	29.8	**	**	56.4	**	0.0	0.0	12.7	**	19.8	14.5	18.4	**	**	8.9
Assault (homicide)	12.7	49.7	0.0	**	**	**	0.0	**	12.0	**	72.5	13.0	11.7	**	**	8.9
By discharge of firearms	10.3	**	0.0	**	**	**	0.0	0.0	10.4	**	46.1	11.0	8.8	0.0	**	8.9
By other means	2.4	29.8	0.0	**	**	0.0	0.0	**	1.6	**	26.4	2.0	**	**	0.0	0.0
Chronic liver disease and cirrhosis	11.2	74.5	**	28.1	48.3	**	0.0	**	7.2	15.8	95.6	12.2	6.6	0.0	17.0	**
Diabetes	4.4	**	0.0	**	**	**	**	0.0	3.8	**	**	4.1	7.3	**	**	**
Cerebrovascular diseases	2.2	0.0	0.0	0.0	0.0	0.0	**	0.0	2.0	**	**	2.9	**	0.0	**	**
Influenza and pneumonia	2.1	**	**	**	0.0	0.0	0.0	**	1.6	**	**	2.3	0.0	**	0.0	**
Obesity	1.8	**	**	0.0	0.0	0.0	0.0	**	1.8	**	0.0	**	**	0.0	**	**
Human immunodeficiency virus (HIV) disease	0.6	0.0	0.0	**	0.0	0.0	0.0	**	0.8	0.0	0.0	**	0.0	0.0	0.0	0.0
Total, all causes	227.3	978.5	144.3	288.5	555.6	249.0	239.5	644.8	200.7	272.2	728.5	232.8	201.2	154.1	255.6	203.7

Notes: ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; [a] All rates are per 100,000 young adults 20-44 years old; [±] The COVID-19 data collection began in mid-March 2020.

TABLE 5E-30
LEADING CAUSES OF DEATH AMONG MIDDLE-AGED ADULTS (45-64 YEARS) BY COUNTY OF RESIDENCE, ARIZONA, 2020

	ARIZONA	County of residence															
		Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
Malignant neoplasms	2,669	18	57	33	31	14	*	12	1,523	127	37	412	178	16	133	70	*
Malignant neoplasm of trachea, bronchus and lung	456	*	11	*	*	*	*	*	250	29	8	67	30	*	29	11	*
Malignant neoplasm of colon, rectum, and anus	333	*	*	*	6	*	0	*	186	14	*	59	26	*	17	10	0
Malignant neoplasm of breast	271	0	9	*	*	*	0	*	159	8	*	35	25	*	18	*	0
Malignant neoplasm of pancreas	211	*	*	*	*	*	0	0	126	6	*	28	12	*	10	*	*
Diseases of heart	2,146	28	49	34	36	6	*	21	1,175	157	48	281	142	11	73	72	11
COVID-19[±]	1,778	87	21	65	33	8	*	*	915	45	110	207	97	20	25	131	10
Accidents (unintentional injury)	1,475	34	34	35	10	8	*	8	837	34	37	226	75	12	50	48	26
Accidental poisoning	817	16	21	20	*	*	*	*	491	*	15	123	42	8	25	27	12
Motor vehicle accidents	303	6	*	8	*	*	0	*	154	14	7	56	17	0	13	9	9
Falls	107	*	*	*	*	*	0	0	56	*	10	16	*	*	7	0	0
Diabetes	739	17	17	12	9	7	*	*	407	27	23	118	65	*	11	16	*
Chronic liver disease and cirrhosis	683	26	16	10	17	*	*	*	322	45	28	115	42	7	30	10	*
Chronic lower respiratory disease	441	7	9	9	*	*	0	*	230	44	8	63	22	*	28	*	*
Intentional self-harm (suicide)	417	*	10	11	*	*	0	*	218	25	8	71	24	*	27	*	*
By discharge of firearms	245	*	8	6	*	*	0	*	122	14	6	44	13	0	18	*	0
By other means	172	*	*	*	0	*	0	0	96	11	*	27	11	*	9	*	*
Cerebrovascular disease	388	9	6	*	*	8	0	*	199	19	7	67	26	*	11	18	6
Influenza and pneumonia	210	*	*	*	*	*	0	*	122	7	*	33	17	*	9	*	0
Essential (primary) hypertension and hypertensive renal disease	182	*	*	*	*	0	0	0	106	*	*	31	18	0	*	*	0
Nephritis, nephrotic syndrome and nephrosis	145	*	*	*	*	*	*	*	72	10	8	23	6	*	*	6	*
Assault (homicide)	119	*	0	*	*	0	0	*	70	10	*	17	*	0	*	*	*
By discharge of firearms	75	*	0	0	*	0	0	0	51	8	*	7	*	0	*	0	0
By other means	44	*	0	*	0	0	0	*	19	*	*	10	*	0	*	*	*
Septicemia	108	*	*	*	*	0	0	*	44	*	*	26	8	0	*	*	*
Viral hepatitis	53	0	0	0	0	0	0	0	27	*	0	11	6	0	*	*	*
Human immunodeficiency virus (HIV) disease	39	*	0	*	0	0	0	0	27	*	0	*	*	0	0	0	*
Total, all causes	14,003	300	279	272	189	81	13	78	7,563	701	408	2,102	859	93	508	464	93

Note: * Cell suppressed due to non-zero count less than 6; [±] The COVID-19 data collection began in mid-March 2020.

TABLE 5E-31
RATES[a] FOR THE LEADING CAUSES OF DEATH AMONG MIDDLE-AGED ADULTS (45-64 YEARS) BY COUNTY OF RESIDENCE, ARIZONA, 2020

Underlying cause of death	ARIZONA	County of residence														
		Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
Malignant neoplasms	156.1	113.8	191.2	107.0	225.8	173.4	**	350.8	142.8	220.7	143.9	170.5	181.1	143.2	205.6	174.0
Malignant neoplasm of trachea, bronchus and lung	26.7	**	36.9	**	**	**	**	**	23.4	50.4	31.1	27.7	30.5	**	44.8	27.3
Malignant neoplasm of colon, rectum, and anus	19.5	**	**	**	43.7	**	0.0	**	17.4	24.3	**	24.4	26.5	**	26.3	24.9
Malignant neoplasm of breast	15.9	0.0	30.2	**	**	**	0.0	**	14.9	13.9	**	14.5	25.4	**	27.8	**
Malignant neoplasm of pancreas	12.3	**	**	**	**	**	0.0	0.0	11.8	10.4	**	11.6	12.2	**	15.5	**
Diseases of heart	125.5	177.0	164.3	110.3	262.2	74.3	**	613.9	110.2	272.8	186.7	116.3	144.5	98.5	112.8	178.9
COVID-19[±]	104.0	549.8	70.4	210.8	240.4	99.1	**	**	85.8	78.2	427.9	85.7	98.7	179.0	38.6	325.6
Accidents (unintentional injury)	86.3	214.9	114.0	113.5	72.8	99.1	**	233.8	78.5	59.1	143.9	93.5	76.3	107.4	77.3	119.3
Accidental poisoning	47.8	101.1	70.4	64.9	**	**	**	**	46.0	**	58.4	50.9	42.7	71.6	38.6	67.1
Motor vehicle accidents	17.7	37.9	**	25.9	**	**	0.0	**	14.4	24.3	27.2	23.2	17.3	0.0	20.1	22.4
Falls	6.3	**	**	**	**	**	0.0	0.0	5.3	**	38.9	6.6	**	**	10.8	0.0
Diabetes	43.2	107.4	57.0	38.9	65.6	86.7	**	**	38.2	46.9	89.5	48.8	66.1	**	17.0	39.8
Chronic liver disease and cirrhosis	40.0	164.3	53.7	32.4	123.8	**	**	**	30.2	78.2	108.9	47.6	42.7	62.7	46.4	24.9
Chronic lower respiratory disease	25.8	44.2	30.2	29.2	**	**	0.0	**	21.6	76.5	31.1	26.1	22.4	**	43.3	**
Intentional self-harm (suicide)	24.4	**	33.5	35.7	**	**	0.0	**	20.4	43.4	31.1	29.4	24.4	**	41.7	**
By discharge of firearms	14.3	**	26.8	19.5	**	**	0.0	**	11.4	24.3	23.3	18.2	13.2	0.0	27.8	**
By other means	10.1	**	**	**	0.0	**	0.0	0.0	9.0	19.1	**	11.2	11.2	**	13.9	**
Cerebrovascular disease	22.7	56.9	20.1	**	**	99.1	0.0	**	18.7	33.0	27.2	27.7	26.5	**	17.0	44.7
Influenza and pneumonia	12.3	**	**	**	**	**	0.0	**	11.4	12.2	**	13.7	17.3	**	13.9	**
Essential (primary) hypertension and hypertensive renal disease	10.6	**	**	**	**	0.0	0.0	0.0	9.9	**	**	12.8	18.3	0.0	**	**
Nephritis, nephrotic syndrome and nephrosis	8.5	**	**	**	**	**	**	**	6.8	17.4	31.1	9.5	6.1	**	**	14.9
Assault (homicide)	7.0	**	0.0	**	**	0.0	0.0	**	6.6	17.4	**	7.0	**	0.0	**	**
By discharge of firearms	4.4	**	0.0	0.0	**	0.0	0.0	0.0	4.8	13.9	**	2.9	**	0.0	**	0.0
By other means	2.6	**	0.0	**	0.0	0.0	0.0	**	1.8	**	**	4.1	**	0.0	**	**
Septicemia	6.3	**	**	**	**	0.0	0.0	**	4.1	**	**	10.8	8.1	0.0	**	**
Viral hepatitis	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	**	0.0	4.6	6.1	0.0	**	**
Human immunodeficiency virus (HIV) disease	2.3	**	0.0	**	0.0	0.0	0.0	0.0	2.5	**	0.0	**	**	0.0	0.0	0.0
Total, all causes	819.2	1896.0	935.7	882.1	1376.6	1003.1	617.6	2280.0	709.3	1218.3	1587.3	870.0	874.0	832.4	785.1	1153.1

Notes: ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; [a] All rates are per 100,000 middle-aged adults 45-64 years old; [±] The COVID-19 data collection began in mid-March 2020.

TABLE 5E-32
LEADING CAUSES OF DEATH AMONG ELDERLY (65 YEARS AND OLDER) BY COUNTY OF RESIDENCE, ARIZONA, 2020

	ARIZONA	County of residence															
		Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
Diseases of heart	11,699	108	278	105	167	57	16	91	6,214	753	199	1,915	715	54	642	358	27
Malignant neoplasms	9,644	59	231	134	130	39	15	35	5,049	614	132	1,597	624	46	654	271	14
Malignant neoplasm of trachea, bronchus and lung	2,119	7	64	21	30	10	*	10	1,095	163	25	326	145	6	149	62	*
Malignant neoplasm of lymphoid, hematopoietic and related tissue	1,021	7	23	14	12	*	0	*	556	45	17	176	76	*	57	28	*
Malignant neoplasm of colon, rectum, and anus	804	6	21	13	8	*	*	*	441	53	12	126	44	6	49	14	*
Malignant neoplasm of pancreas	787	9	14	8	10	*	*	*	419	41	12	150	42	*	45	23	*
Malignant neoplasm of prostate	722	*	17	12	11	*	*	*	372	42	12	122	45	*	60	19	0
Malignant neoplasm of breast	578	*	8	12	8	*	0	*	321	41	12	83	30	*	37	16	*
COVID-19[±]	6,260	184	145	112	79	39	*	29	3,267	276	222	935	267	81	224	382	14
Chronic lower respiratory disease	3,220	17	85	39	45	15	*	14	1,675	282	59	477	191	11	221	84	*
Alzheimer's disease	3,195	9	46	26	29	19	*	11	1,890	179	51	474	162	14	183	97	*
Cerebrovascular disease	2,780	15	63	29	33	9	*	13	1,536	141	53	511	142	12	154	62	*
Diabetes	1,716	44	36	29	19	14	*	*	893	75	40	283	118	13	68	76	*
Accidents (unintentional injury)	1,550	20	32	19	21	11	*	17	808	97	22	309	60	7	87	38	*
Falls	989	9	19	10	6	*	0	8	543	45	10	215	40	6	64	8	*
Motor vehicle accidents	168	*	*	*	*	*	0	*	84	10	*	26	8	*	9	7	0
Parkinson's disease	986	7	16	14	12	*	0	*	608	34	13	159	53	*	38	23	*
Essential (primary) hypertension and hypertensive renal disease	931	7	22	8	11	*	0	*	546	30	16	128	58	7	35	55	0
Influenza and pneumonia	839	20	22	8	7	*	0	*	441	43	20	161	44	*	29	28	7
Nephritis, nephrotic syndrome and nephrosis	603	8	20	9	8	*	*	*	268	43	17	117	44	*	33	19	*
Septicemia	284	6	9	6	8	0	0	*	126	14	9	61	16	*	9	14	*
Total, all causes	55,283	651	1,289	697	705	261	52	264	29,506	3,145	1,078	9,249	3,100	346	3,037	1,797	106

Note: * Cell suppressed due to non-zero count less than 6; [±] The COVID-19 data collection began in mid-March 2020.

TABLE 5E-33
RATES[a] FOR THE LEADING CAUSES OF DEATH AMONG ELDERLY (65 YEARS AND OLDER) BY COUNTY OF RESIDENCE, ARIZONA, 2020

Underlying cause of death	ARIZONA	County of residence														
		Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
Diseases of heart	907.0	1036.7	956.0	554.2	1065.6	1049.3	1230.8	1380.9	902.2	1132.9	992.2	902.4	800.1	611.7	832.9	904.6
Malignant neoplasms	747.7	566.3	794.4	707.2	829.5	718.0	1153.8	531.1	733.0	923.8	658.2	752.5	698.3	521.1	848.5	684.8
Malignant neoplasm of trachea, bronchus and lung	164.3	67.2	220.1	110.8	191.4	184.1	**	151.7	159.0	245.2	124.7	153.6	162.3	68.0	193.3	156.7
Malignant neoplasm of prostate[b]	121.6	**	122.5	132.9	144.8	**	**	**	119.8	127.0	126.6	126.5	104.8	**	164.5	100.6
Malignant neoplasm of lymphoid, hematopoietic and related tissue	79.2	67.2	79.1	73.9	76.6	**	0.0	**	80.7	67.7	84.8	82.9	85.1	**	73.9	70.7
Malignant neoplasm of colon, rectum, and anus	62.3	57.6	72.2	68.6	51.0	**	**	**	64.0	79.7	59.8	59.4	49.2	68.0	63.6	35.4
Malignant neoplasm of pancreas	61.0	86.4	48.1	42.2	63.8	**	**	**	60.8	61.7	59.8	70.7	47.0	**	58.4	58.1
Malignant neoplasm of breast	44.8	**	27.5	63.3	51.0	**	0.0	**	46.6	61.7	59.8	39.1	33.6	**	48.0	40.4
COVID-19[±]	485.3	1766.2	498.7	591.1	504.1	718.0	**	440.1	474.3	415.2	1106.9	440.6	298.8	917.5	290.6	965.2
Chronic lower respiratory disease	249.6	163.2	292.3	205.8	287.1	276.1	**	212.4	243.2	424.3	294.2	224.8	213.7	124.6	286.7	212.2
Alzheimer's disease	247.7	86.4	158.2	137.2	185.0	349.8	**	166.9	274.4	269.3	254.3	223.4	181.3	158.6	237.4	245.1
Cerebrovascular disease	215.5	144.0	216.7	153.1	210.6	165.7	**	197.3	223.0	212.1	264.3	240.8	158.9	135.9	199.8	156.7
Diabetes	133.0	422.3	123.8	153.1	121.2	257.7	**	**	129.6	112.8	199.4	133.4	132.1	147.3	88.2	192.0
Accidents (unintentional injury)	120.2	192.0	110.0	100.3	134.0	202.5	**	258.0	117.3	145.9	109.7	145.6	67.1	79.3	112.9	96.0
Falls	76.7	86.4	65.3	52.8	38.3	**	0.0	121.4	78.8	67.7	49.9	101.3	44.8	68.0	83.0	20.2
Motor vehicle accidents	13.0	**	**	**	**	**	0.0	**	12.2	15.0	**	12.3	9.0	**	11.7	17.7
Parkinson's disease	76.4	67.2	55.0	73.9	76.6	**	0.0	**	88.3	51.2	64.8	74.9	59.3	**	49.3	58.1
Essential (primary) hypertension and hypertensive renal disease	72.2	67.2	75.7	42.2	70.2	**	0.0	**	79.3	45.1	79.8	60.3	64.9	79.3	45.4	139.0
Influenza and pneumonia	65.0	192.0	75.7	42.2	44.7	**	0.0	**	64.0	64.7	99.7	75.9	49.2	**	37.6	70.7
Nephritis, nephrotic syndrome and nephrosis	46.8	76.8	68.8	47.5	51.0	**	**	**	38.9	64.7	84.8	55.1	49.2	**	42.8	48.0
Septicemia	22.0	57.6	31.0	31.7	51.0	0.0	0.0	**	18.3	21.1	44.9	28.7	17.9	**	11.7	35.4
Total, all causes	4286.1	6248.8	4432.9	3678.7	4498.5	4804.9	4000.0	4006.1	4283.8	4731.7	5375.0	4358.2	3469.2	3919.3	3940.1	4540.6

Notes: ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; [a] All rates are per 100,000 elderly 65 years and older; [b] The rates for prostate cancer are per 100,000 males; [±] The COVID-19 data collection began in mid-March 2020.

5F

Reportable Diseases

TABLE 5F-1
NUMBER OF REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY CATEGORY FOR EACH COUNTY, ARIZONA, 2020

Disease	Arizona	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
Vaccine Preventable																
Measles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mumps	10†	0	0	0	0	0	0	0	8	0	0	0	*	0	0	*
Pertussis	330†	*	0	*	*	15	0	0	158	13	0	110	11	*	15	0
Pertussis confirmed cases	190†	0	0	*	*	*	0	0	90	11	0	80	*	*	*	0
Rubella	0†	0	0	0	0	0	0	0	0	0	0	0	*	0	0	0
Congenital Rubella Syndrome	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Haemophilus influenzae type b (invasive, age < 5 years)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Tetanus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Varicella (chickenpox)	70†	0	*	0	0	0	0	0	51	*	*	*	6	0	*	*
Central Nervous System																
Meningococcal Disease	0†	0	0	0	0	0	0	0	*	0	0	0	0	0	*	0
Viral Encephalitis	0†	0	0	0	0	0	0	0	*	0	0	0	0	0	0	0
Enteritides																
Amebiasis	10†	0	0	0	0	0	0	0	*	0	0	*	*	0	0	*
Campylobacteriosis	1,050†	27	19	20	8	8	*	*	526	87	57	166	64	14	34	17
Cholera	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cryptosporidiosis	80†	*	*	*	0	*	*	0	44	*	*	14	*	*	*	*
E. coli O157:H7	190†	0	*	*	*	*	0	0	107	*	7	44	8	*	*	*
Giardiasis	80†	*	*	0	0	0	0	0	59	*	*	9	6	0	*	0
Salmonellosis (except *S.* Typhi and *S.* Paratyphi)	630†	10	14	13	6	6	*	*	278	14	28	153	46	10	35	16
Salmonella Paratyphi A	0†	0	0	0	0	0	0	0	*	0	0	0	0	0	0	0
Salmonella Paratyphi B	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Salmonella Paratyphi C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shigellosis	250†	*	*	*	8	6	0	0	145	*	9	53	13	*	0	*
Typhoid Fever	0†	0	0	0	0	0	0	0	*	0	0	*	0	0	0	0
Mycosis																
Coccidioidomycosis (Valley Fever)	11,520†	35	56	50	57	27	*	16	8,218	189	62	1,513	1,106	37	102	52
Hepatitides																
Hepatitis A	60†	*	0	*	*	0	0	0	40	*	*	*	*	*	*	0
Hepatitis B (acute)	30†	0	0	*	*	0	0	0	22	0	0	*	0	*	*	0
Hepatitis B, Perinatal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hepatitis D	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hepatitis E	0†	0	0	0	0	0	0	0	*	0	0	*	*	0	0	0
Tuberculosis																
Pulmonary TB	110†	*	0	*	*	0	0	0	61	0	0	13	19	0	*	10
Total TB	140†	*	0	*	*	0	0	0	77	0	0	15	21	0	*	12

TABLE 5F-1 (continued)
NUMBER OF REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY CATEGORY FOR EACH COUNTY, ARIZONA, 2020

Disease	Arizona	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
Sexually Transmitted (Arizona total within disease category includes unknown county frequency counts)																
Gonorrhea	16,180	144	108	229	76	32	9	37	12,216	173	299	1,899	624	33	109	192
Gonococcal PID	30†	0	0	*	0	*	0	0	14	0	6	0	*	0	0	*
Resistant Gonorrhea	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Syphilis (primary and secondary)	1,440†	36	7	37	14	*	*	0	1,086	7	46	162	21	*	14	*
Syphilis-Total	4,430†	91	40	80	57	20	*	6	2,969	36	238	563	189	13	36	85
Chlamydia	36,977	372	420	826	126	131	35	59	25,519	457	619	5,253	1,578	187	420	975
Zoonoses / Vectorborne																
Brucellosis	10†	0	0	0	0	0	0	0	*	0	0	0	0	0	0	*
Colorado Tick Fever	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dengue	10†	0	0	0	0	0	0	0	*	0	0	0	*	0	0	0
Ehrlichiosis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hantavirus Pulmonary Syndrome	0†	*	*	0	0	0	0	0	0	0	*	0	0	0	0	0
Human Rabies	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lyme Disease	0†	0	0	0	0	*	0	0	0	0	0	0	*	0	0	0
Malaria	10†	0	0	0	0	0	0	0	7	0	0	*	0	0	*	0
Plague	0†	0	0	0	0	0	0	0	0	0	*	0	0	0	0	0
Relapsing Fever, Tickborne	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rocky Mtn. Spotted Fever	40†	*	0	0	*	*	0	0	*	0	26	0	0	0	0	0
St. Louis Encephalitis	6	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0
Tularemia	0†	0	0	0	0	0	0	0	0	0	0	*	0	0	0	0
West Nile Virus	10†	0	*	0	0	0	0	*	*	0	0	*	*	0	*	*
Other																
Botulism	10†	0	0	0	0	0	0	0	*	0	0	*	0	0	0	*
Legionellosis	90†	0	*	0	0	0	0	0	68	*	0	*	*	*	*	*
Listeriosis	10†	0	0	0	0	0	0	0	*	0	0	*	*	0	*	0
Methicillin Resistant *S. aureus* (invasive)	1,680†	17	19	43	18	8	*	*	911	9	49	330	102	9	121	39
Streptococcal Group A (invasive)	810†	10	6	31	10	*	0	0	448	*	35	196	37	*	22	*
Streptococcal Group B (invasive disease in infants <90 days old)	40†	0	*	0	0	0	0	0	21	*	0	8	*	0	*	0
Streptococcus pneumoniae (invasive)	670†	26	7	15	7	*	*	0	413	*	22	106	35	*	24	6
Toxic Shock Syndrome	0†	0	0	0	0	0	0	0	*	0	0	0	0	0	0	0
Vibrio spp. (except toxogenic *V. cholerae*)	30†	*	0	0	0	0	0	0	18	*	0	12	0	*	0	*
Yersiniosis (except *Y. pestis)*	50†	0	*	*	0	*	0	0	33	0	*	11	*	0	*	0

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; Non-resident cases have been excluded. Only incident cases are reported. Cases are counted by date reported to public health. Case counts include both probable and confirmed cases unless otherwise indicated. *E. coli* has included both *E. coli* O157:H7 and Shiga-toxin positive *E. coli* since October 2004. *Haemophilus influenzae* type B includes all invasive *H. influenzae* type B, not just meningitis, as of 1995. Meningococcal includes all invasive disease caused by *Neisseria meningitidis*, not just meningitis. Animal rabies cases are not included. Hepatitis E has been reported separately from Hepatitis non-A non-B beginning in 1998. Reported coccidioidomycosis cases were elevated from June 2009 through December 2012 and then declined in 2013 due to changes in reporting practices and laboratory testing from a major commercial laboratory. A change in the criteria for counting Lyme disease in 2013 may account for the increase in cases in that year. Aseptic Meningitis and Reyes Syndrome ceased being reportable begining in January 2018. For additional statistics on these diseases, please see http://www.azdhs.gov/preparedness/epidemiology-disease-control/index.php#data-stats.

Source: Arizona Department of Health Services, Bureau of Epidemiology and Disease Control Services, Office of Infectious Disease Services, Office of Disease Integration and Services.

TABLE 5F-2
RATES OF REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY CATEGORY FOR EACH COUNTY, ARIZONA, 2020

Disease	Arizona	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
Vaccine Preventable																
Measles	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mumps	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	**	0.0	0.0	**
Pertussis	4.6	**	0.0	**	**	38.8	0.0	0.0	3.6	6.1	0.0	10.5	2.6	**	6.3	0.0
Pertussis (confirmed only)	2.6	0.0	0.0	**	**	**	0.0	0.0	2.0	5.1	0.0	7.7	**	**	**	0.0
Rubella	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**	0.0	0.0	0.0
Congenital Rubella Syndrome	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Haemophilus influenzae b (invasive disease in children < 5 years old)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tetanus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Varicella (chickenpox)	1.0	0.0	**	0.0	0.0	0.0	0.0	0.0	1.1	**	**	**	1.4	0.0	**	**
Central Nervous System																
Meningococcal Disease	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**	0.0	0.0	0.0	0.0	0.0	**	0.0
Viral Encephalitis - Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Enteritides																
Amebiasis	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**	0.0	0.0	**	**	0.0	0.0	**
Campylobacteriosis	14.6	40.9	15.1	13.7	15.0	20.7	**	**	11.9	40.7	53.4	15.9	14.9	29.3	14.3	8.3
Cholera	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cryptosporidiosis	1.1	**	**	**	0.0	**	**	0.0	1.0	**	**	1.3	**	**	**	**
E. coli O157:H7	2.6	0.0	**	**	**	**	0.0	0.0	2.4	**	6.6	4.2	1.9	**	**	**
Giardiasis	1.2	**	**	0.0	0.0	0.0	0.0	0.0	1.3	**	**	0.9	1.4	0.0	**	0.0
Salmonellosis (except *S.* Typhi and *S.* Paratyphi)	8.8	15.1	11.1	8.9	11.3	15.5	**	**	6.3	6.5	26.2	14.6	10.7	20.9	14.8	7.8
Salmonella Paratyphi A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Salmonella Paratyphi B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Salmonella Paratyphi C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Shigellosis	3.5	**	**	**	15.0	15.5	0.0	0.0	3.3	**	8.4	5.1	3.0	**	0.0	**
Typhoid Fever	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**	0.0	0.0	**	0.0	0.0	0.0	0.0
Mycosis																
Coccidioidomycosis (Valley Fever)	160.6	53.0	44.5	34.3	106.9	69.9	**	96.5	185.2	88.3	58.1	144.7	258.3	77.4	43.0	25.4
Hepatitides																
Hepatitis A	0.8	**	0.0	**	**	0.0	0.0	0.0	0.9	**	**	**	**	**	**	0.0
Hepatitis B (acute)	0.5	0.0	0.0	**	**	0.0	0.0	0.0	0.5	0.0	0.0	**	0.0	**	**	0.0
Hepatitis B, Perinatal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hepatitis D	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hepatitis E	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**	0.0	0.0	**	**	0.0	0.0	0.0
Tuberculosis																
Pulmonary TB	1.6	**	0.0	**	**	0.0	0.0	0.0	1.4	0.0	0.0	1.2	4.4	0.0	**	4.9
Total TB	1.9	**	0.0	**	**	0.0	0.0	0.0	1.7	0.0	0.0	1.4	4.9	0.0	**	5.9

TABLE 5F-2 (continued)
RATES OF REPORTED CASES OF SELECTED NOTIFIABLE DISEASES BY CATEGORY FOR EACH COUNTY, ARIZONA, 2020

Disease	Arizona	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
Sexually Transmitted																
Gonorrhea	225.5	218.0	85.9	157.2	142.6	82.8	94.1	223.1	275.3	80.8	280.0	181.6	145.7	69.1	46.0	93.8
Gonococcal PID	0.4	0.0	0.0	**	0.0	**	0.0	0.0	0.3	0.0	5.6	0.0	**	0.0	0.0	**
Resistant Gonorrhea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Syphilis (primary and secondary)	20.1	54.5	5.6	25.4	26.3	**	**	0.0	24.5	3.3	43.1	15.5	4.9	**	5.9	**
Syphilis-Total	61.7	137.8	31.8	54.9	106.9	51.8	**	36.2	66.9	16.8	222.9	53.8	44.1	27.2	15.2	41.5
Chlamydia	515.3	563.2	334.1	566.9	236.4	339.1	366.0	355.7	575.2	213.6	579.8	502.4	368.5	391.3	177.2	476.3
Zoonoses / Vectorborne																
Brucellosis	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**	0.0	0.0	0.0	0.0	0.0	0.0	**
Colorado Tick Fever	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dengue	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**	0.0	0.0	0.0	**	0.0	0.0	0.0
Ehrlichiosis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hantavirus Pulmonary Syndrome	0.1	**	**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**	0.0	0.0	0.0	0.0	0.0
Human Rabies	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lyme Disease	0.0	0.0	0.0	0.0	0.0	**	0.0	0.0	0.0	0.0	0.0	0.0	**	0.0	0.0	0.0
Malaria	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	**	0.0	0.0	**	0.0
Plague	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**	0.0	0.0	0.0	0.0	0.0
Relapsing Fever, Tickborne	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rocky Mtn. Spotted Fever	0.5	**	0.0	0.0	**	**	0.0	0.0	**	0.0	24.4	0.0	0.0	0.0	0.0	0.0
St. Louis Encephalitis	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tularemia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**	0.0	0.0	0.0	0.0
West Nile Virus	0.2	0.0	**	0.0	0.0	0.0	0.0	**	**	0.0	0.0	**	**	0.0	**	**
Other																
Botulism	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**	0.0	0.0	**	0.0	0.0	0.0	**
Legionellosis	1.3	0.0	**	0.0	0.0	0.0	0.0	0.0	1.5	**	0.0	**	**	**	**	**
Listeriosis	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**	0.0	0.0	**	**	0.0	**	0.0
Methicillin Resistant *S. aureus* (invasive)	23.4	25.7	15.1	29.5	33.8	20.7	**	**	20.5	4.2	45.9	31.6	23.8	18.8	51.0	19.1
Streptococcal Group A (invasive)	11.2	15.1	4.8	21.3	18.8	**	0.0	0.0	10.1	**	32.8	18.7	8.6	**	9.3	**
Streptococcal Group B (invasive disease in infants <90 days old)	0.5	0.0	**	0.0	0.0	0.0	0.0	0.0	0.4	**	0.0	0.8	**	0.0	**	0.0
Streptococcus pneumoniae (invasive)	9.3	39.4	5.6	10.3	13.1	**	**	0.0	9.3	**	20.6	10.1	8.2	**	10.1	2.9
Toxic Shock Syndrome	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vibrio spp. (except toxogenic *V. cholerae*)	0.5	**	0.0	0.0	0.0	0.0	0.0	0.0	0.4	**	0.0	1.1	0.0	**	0.0	**
Yersiniosis (except *Y. pestis*)	0.7	0.0	**	**	0.0	**	0.0	0.0	0.7	0.0	**	1.1	**	0.0	**	0.0

Notes: ** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; Non-resident cases have been excluded. Only incident cases are reported. Cases are counted by date reported to public health. Case counts include both probable and confirmed cases unless otherwise indicated. E. coli has included both E. coli O157:H7 and Shiga-toxin positive E. coli since October 2004. Haemophilus influenzae type B includes all invasive H. influenzae type B, not just meningitis, as of 1995. Meningococcal includes all invasive disease caused by *Neisseria meningitidis*, not just meningitis. Animal rabies cases are not included. Hepatitis E has been reported separately from Hepatitis non-A non-B beginning in 1998. Reported coccidioidomycosis cases were elevated from June 2009 through December 2012 and then declined in 2013 due to changes in reporting practices and laboratory testing from a major commercial laboratory. A change in the criteria for counting Lyme disease in 2013 may account for the increase in cases in that year. Rates calculated for Streptococcus Group B (invasive disease in infants <90 days old) represent the number of cases per 1000 live births; all other morbidities are per 100,000 Arizona residents in appropriate county. For additional statistics on these diseases, please see http://www.azdhs.gov/preparedness/epidemiology-disease-control/index.php#data-stats.

Source: Arizona Department of Health Services, Bureau of Epidemiology and Disease Control Services, Office of Infectious Disease Services and Office of Disease Integration and Services

TABLE 5F-3
REPORTED NEW HIV/AIDS CASES BY YEAR OF DIAGNOSIS AND COUNTY OF RESIDENCE IN ARIZONA, 1981-2009 AND 2010-2020

County	1981-2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Apache	68	*	8	10	7	9	10	8	6	8	0	7
Cochise	199	*	10	6	7	*	8	7	*	7	*	*
Coconino	178	11	*	*	12	12	*	10	18	10	12	7
Gila	41	*	*	0	*	*	*	*	*	*	0	*
Graham	50	*	*	0	0	*	0	0	*	*	*	*
Greenlee	*	*	0	0	0	0	0	0	0	0	0	0
La Paz	35	*	*	0	*	*	0	0	*	*	*	*
Maricopa	12,954	423	411	486	469	558	520	533	496	545	511	494
Mohave	240	19	11	*	12	*	*	7	7	8	7	10
Navajo	104	*	9	6	13	12	6	10	12	*	7	*
Pima	3,035	94	58	72	105	95	101	87	110	113	100	89
Pinal	583	36	35	19	43	34	33	44	42	39	76	37
Santa Cruz	47	0	*	*	0	*	*	*	6	7	*	7
Yavapai	217	*	6	7	8	*	7	*	7	*	14	11
Yuma	242	15	10	12	11	8	10	17	15	15	19	16
Missing	11	0	0	0	0	0	0	0	0	0	*	0
ARIZONA	18,010†	620†	570†	630†	690†	750†	710†	730†	730†	770†	760†	690†

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; Due to reporting delays, all numbers are provisional (2020 volume as of 08/03/2021; State annual totals may include case reports of persons with no reported county of residence.

Source: Arizona Department of Health Services, Bureau of Epidemiology and Disease Control, Office of HIV/AIDS Services.

5G

Marriages and Marriage Dissolutions

TABLE 5G-1
MARRIAGES BY YEAR AND COUNTY OF OCCURRENCE[a], ARIZONA, 2010-2020

County	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ARIZONA	38,076	36,713	37,064	35,791	38,911	40,439	41,105	40,939	39,691	38,599	36,867
Apache	219	229	203	159	201	208	196	178	140	148	122
Cochise	956	859	709	736	751	798	746	630	688	527	583
Coconino	915	879	983	841	938	1,029	1,007	1,001	992	895	870
Gila	317	289	288	304	326	290	294	303	293	290	255
Graham	286	211	304	298	372	324	314	310	300	292	335
Greenlee	33	51	51	61	63	70	66	60	47	53	59
La Paz	135	117	120	112	135	111	129	113	94	107	116
Maricopa	23,127	22,748	23,552	22,519	24,411	25,454	26,294	26,629	25,705	25,006	24,228
Mohave	1,304	1,242	1,309	1,210	1,261	1,293	1,281	1,277	1,311	1,232	1,055
Navajo	579	464	492	492	504	617	414	489	355	429	375
Pima	5,972	5,591	5,291	5,419	5,956	6,003	6,000	5,655	5,491	5,372	4,669
Pinal	1,373	1,318	1,216	1,213	1,285	1,332	1,386	1,428	1,464	1,426	1,449
Santa Cruz	314	207	161	139	227	288	253	228	182	193	160
Yavapai	1,237	1,263	1,284	1,129	1,338	1,427	1,491	1,396	1,346	1,317	1,295
Yuma	1,309	1,245	1,101	1,159	1,143	1,195	1,234	1,242	1,283	1,312	1,296

Note: [a] Marriages recorded unless otherwise indicated.

TABLE 5G-2
MARRIAGE RATES[a] BY YEAR AND COUNTY OF OCCURRENCE, ARIZONA, 2010-2020

County	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ARIZONA	6.0	5.7	5.7	5.4	5.8	6.0	6.0	5.9	5.6	5.4	5.1
Apache	3.1	3.2	2.8	2.2	2.8	2.9	2.7	2.4	1.9	2.1	1.8
Cochise	7.3	6.6	5.4	5.6	5.8	6.2	5.8	4.9	5.3	4.0	4.6
Coconino	6.8	6.6	7.3	6.2	6.7	7.3	7.1	6.9	6.8	6.1	6.0
Gila	5.9	5.4	5.4	5.7	6.0	5.3	5.4	5.5	5.3	5.3	4.8
Graham	7.7	5.6	8.1	7.9	9.7	8.4	8.2	8.1	7.9	7.6	8.7
Greenlee	3.9	6.1	5.9	5.6	6.0	6.6	6.3	5.5	4.5	5.1	6.2
La Paz	6.6	5.6	5.7	5.3	6.4	5.2	6.1	5.2	4.3	4.8	7.0
Maricopa	6.1	5.9	6.1	5.7	6.1	6.2	6.4	6.3	6.0	5.7	5.5
Mohave	6.5	6.2	6.4	5.9	6.2	6.3	6.2	6.1	6.2	5.7	4.9
Navajo	5.4	4.3	4.6	4.5	4.6	5.6	3.7	4.4	3.1	3.8	3.5
Pima	6.1	5.7	5.3	5.4	5.9	5.9	5.9	5.5	5.3	5.1	4.5
Pinal	3.7	3.4	3.1	3.1	3.2	3.3	3.4	3.3	3.3	3.1	3.4
Santa Cruz	6.6	4.3	3.3	2.8	4.6	5.7	5.0	4.4	3.5	3.6	3.3
Yavapai	5.9	6.0	6.1	5.3	6.2	6.6	6.8	6.2	5.9	5.7	5.5
Yuma	6.7	6.2	5.4	5.5	5.4	5.6	5.7	5.6	5.7	5.7	6.3

Note: [a] Per 1,000 population.

TABLE 5G-3
MARRIAGES BY COUNTY OF OCCURRENCE[a] AND MONTH, ARIZONA, 2020

County	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
ARIZONA	3,130†	2,840†	4,015	2,560†	1,950†	2,527	2,460†	2,234	3,610†	4,478	3,890†	3,184	36,870†
Apache	12	*	11	7	*	8	13	15	13	18	11	9	120†
Cochise	71	53	59	17	27	32	53	46	48	73	53	51	583
Coconino	69	41	76	46	40	76	78	64	94	128	87	71	870
Gila	23	18	22	9	15	19	30	18	12	49	14	26	255
Graham	20	12	18	42	27	28	38	18	37	27	29	39	335
Greenlee	6	*	10	*	*	6	*	6	*	6	*	6	60†
La Paz	*	14	17	18	7	7	12	7	*	8	11	6	120†
Maricopa	2,053	1,892	2,741	1,709	1,262	1,590	1,485	1,396	2,645	2,763	2,600	2,092	24,228
Mohave	45	19	16	108	75	102	93	92	83	187	136	99	1,055
Navajo	21	16	0	24	39	41	50	40	41	41	37	25	375
Pima	496	416	555	307	214	274	316	290	321	601	490	389	4,669
Pinal	111	130	177	109	80	108	91	63	70	223	155	132	1,449
Santa Cruz	14	10	15	13	*	17	*	10	14	29	13	18	160†
Yavapai	82	79	126	77	74	101	109	93	121	206	125	102	1,295
Yuma	98	131	172	70	83	118	78	76	104	119	128	119	1,296

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Marriages recorded unless otherwise indicated.

TABLE 5G-4
DISSOLUTIONS[a] OF MARRIAGE BY YEAR AND COUNTY OF OCCURRENCE, ARIZONA, 2010-2020

County	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ARIZONA	22,479	25,438	28,072	26,037	26,199	24,434	23,442	24,430	21,187	21,224	18,778
Apache	72	69	57	77	73	67	62	72	81	63	55
Cochise	645	589	580	419	379	464	416	283	409	385	303
Coconino	527	392	419	382	362	365	365	362	338	361	335
Gila	208	159	172	133	165	119	157	123	127	119	131
Graham	191	134	185	156	133	162	151	157	125	125	148
Greenlee	45	39	43	45	51	48	36	32	29	33	44
La Paz	43	37	31	12	16	34	43	54	49	40	40
Maricopa	13,215	16,108	19,047	17,922	18,241	16,324	15,597	16,878	13,429	13,883	12,104
Mohave	519	653	616	409	394	579	502	428	409	415	571
Navajo	163	243	245	211	250	214	217	247	219	202	227
Pima	3,988	4,175	3,917	3,777	3,685	3,422	3,298	3,225	3,380	3,198	2,621
Pinal	1,103	1,102	848	617	909	906	856	829	923	973	836
Santa Cruz	132	110	84	97	98	147	151	121	123	149	117
Yavapai	905	901	1,027	786	685	750	756	794	796	798	660
Yuma	723	727	801	994	758	833	835	825	750	480	586

Note: [a] Divorces and annulments granted.

TABLE 5G-5
DISSOLUTIONS OF MARRIAGE RATES[a] BY YEAR AND COUNTY OF OCCURRENCE, ARIZONA, 2010-2020

County	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
ARIZONA	3.5	4.0	4.3	4.0	3.9	3.6	3.4	3.5	3.0	3.0	2.6
Apache	1.0	1.0	0.8	1.1	1.0	0.9	0.9	1.0	1.1	0.9	0.8
Cochise	4.9	4.5	4.4	3.2	2.9	3.6	3.2	2.2	3.1	2.9	2.4
Coconino	3.9	2.9	3.1	2.8	2.6	2.6	2.6	2.5	2.3	2.5	2.3
Gila	3.9	3.0	3.2	2.5	3.0	2.2	2.9	2.2	2.3	2.2	2.5
Graham	5.1	3.6	5.0	4.1	3.5	4.2	3.9	4.1	3.3	3.2	3.8
Greenlee	5.3	4.7	5.0	4.1	4.9	4.5	3.5	2.9	2.8	3.2	4.6
La Paz	2.1	1.8	1.5	0.6	0.8	1.6	2.0	2.5	2.2	1.8	2.4
Maricopa	3.5	4.2	4.9	4.5	4.6	4.0	3.8	4.0	3.1	3.2	2.7
Mohave	2.6	3.3	3.0	2.0	1.9	2.8	2.4	2.0	1.9	1.9	2.7
Navajo	1.5	2.3	2.3	1.9	2.3	2.0	2.0	2.2	1.9	1.8	2.1
Pima	4.1	4.2	4.0	3.8	3.7	3.4	3.3	3.1	3.3	3.1	2.5
Pinal	2.9	2.9	2.2	1.6	2.3	2.2	2.1	1.9	2.1	2.1	2.0
Santa Cruz	2.8	2.3	1.7	2.0	2.0	2.9	3.0	2.3	2.3	2.8	2.4
Yavapai	4.3	4.3	4.9	3.7	3.2	3.4	3.4	3.5	3.5	3.4	2.8
Yuma	3.7	3.6	3.9	4.7	3.6	3.9	3.8	3.7	3.3	2.1	2.9

Note: [a] Per 1,000 population.

TABLE 5G-6
DISSOLUTIONS[a] OF MARRIAGE COUNTY OF OCCURRENCE AND MONTH, ARIZONA, 2020

County	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
ARIZONA	2,000†	1,540†	1,520†	900†	1,170†	1,480†	1,650†	1,800†	1,710†	1,740†	1,560†	1,720†	18,780†
Apache	*	9	*	0	*	*	*	*	9	6	9	*	60†
Cochise	26	26	28	24	29	15	19	26	30	23	23	34	303
Coconino	23	35	27	21	15	40	28	34	17	44	24	27	335
Gila	11	8	9	15	7	8	11	11	14	16	10	11	131
Graham	10	10	15	6	14	14	11	11	18	14	11	14	148
Greenlee	6	*	*	*	*	*	*	*	*	*	*	*	40†
La Paz	*	*	*	*	*	*	7	*	*	*	*	*	40†
Maricopa	1,290	1,094	917	484	718	909	1,116	1,226	1,082	1,125	1,018	1,125	12,104
Mohave	38	27	30	24	65	58	63	43	26	60	82	55	571
Navajo	16	11	18	22	23	19	19	18	27	20	25	20	227
Pima	293	184	244	106	148	205	244	248	278	209	178	284	2,621
Pinal	104	61	95	79	65	79	69	54	60	91	44	35	836
Santa Cruz	10	12	9	7	10	6	*	9	14	14	9	13	120†
Yavapai	58	63	47	69	27	64	38	54	56	60	64	60	660
Yuma	103	46	67	36	39	55	16	57	64	56	54	39	586

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Divorces and annulments granted.

CHAPTER 6

INDICATORS FOR ASSESSING HEALTH STATUS AND MONITORING PROGRESS TOWARD ARIZONA AND SELECTED HEALTHY PEOPLE 2020 OBJECTIVES:

STATEWIDE TRENDS AND 2020 COUNTY PROFILES

6A. STATEWIDE TRENDS

6B. 2020 COUNTY PROFILES

6A

STATEWIDE TRENDS

TABLE 6A
MONITORING PROGRESS TOWARD ARIZONA AND SELECTED HEALTHY PEOPLE 2020 OBJECTIVES: STATEWIDE TRENDS

Focus areas and selected objectives: (in parentheses are *Healthy People 2020* objective numbers)	Baseline for the U.S./AZ	ARIZONA RATES, RATIOS OR CASES BY YEAR:										U.S./AZ 2020 TARGET
		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
6A-1. MATERNAL, INFANT, AND CHILD HEALTH												
Reduce fetal deaths at 20 or more weeks of gestation (HP-MICH-1.1)	6.2	5.5	5.5	6.4	6.0	6.1	5.7	5.9	5.8	6.1	6.2	5.6
Reduce fetal and infant deaths during perinatal period (HP-MICH-1.2)	6.6	5.4	5.7	5.7	6.5	6.0	5.6	5.8	6.2	5.7	5.6	5.9
Reduce infant deaths (HP-MICH-1.3)	6.7	5.9	5.8	5.3	6.2	5.6	5.4	5.6	5.6	5.4	5.3	6.0
Reduce neonatal deaths (HP-MICH-1.4)	4.5	3.9	3.9	3.4	4.1	3.5	3.6	3.5	3.9	3.4	3.5	4.1
Reduce postneonatal deaths (HP-MICH-1.5)	2.2	2.0	1.9	1.9	2.1	2.1	1.8	2.1	1.7	2.1	1.8	2.0
Reduce infant deaths due to birth defects (HP-MICH-1.6)	1.4	1.3	1.4	1.2	1.4	1.4	1.2	1.1	1.5	1.3	1.1	1.3
Reduce deaths from sudden infant death syndrome (SIDS) (HP-MICH-1.8)	0.55	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.50
Reduce the rate of death among children aged 1 to 4 years (HP-MICH-3.1)	28.6	28.6	33.1	37.3	27.4	29.4	35.0	27.7	32.1	22.9	29.5	25.7
Reduce the rate of death among children aged 5 to 9 years (HP-MICH-3.2)	13.7	10.7	12.8	10.1	12.5	10.1	10.2	12.7	9.9	11.0	11.4	12.3
Reduce the rate of death among children aged 10 to 14 years (HP-MICH-4.1)	16.9	15.3	15.4	16.1	15.9	10.2	14.0	16.3	18.1	19.5	18.7	15.2
Reduce the rate of death among adolescents aged 15 to 19 years (HP-MICH-4.2)	61.9	49.7	47.1	45.5	46.5	47.5	53.5	53.7	62.6	63.2	82.3	55.7
Reduce the rate of death among young adults aged 20 to 24 years (HP-MICH-4.3)	98.3	98.7	93.9	96.2	86.9	93.2	104.7	97.8	115.2	110.0	141.9	88.5
Reduce maternal deaths (HP-MICH-5)	12.7	▪5.9	21.0	10.6	10.4	9.4	30.8	28.2	41.0	53.0	50.8	11.4
Increase the proportion of pregnant women who receive prenatal care in the first trimester (HP-MICH-10.1)	70.8%	81.7%	82.6%	81.3%	66.0%	67.9%	68.9%	68.3%	68.8%	68.9%	68.8%	77.9%
Reduce low birth weight (LBW) (HP-MICH-8.1)	8.2%	7.0%	6.9%	6.9%	7.0%	7.2%	7.3%	7.5%	7.6%	7.4%	7.4%	7.8%
Reduce very low birth weight (VLBW) (HP-MICH-8.2)	1.5%	1.2%	1.2%	1.1%	1.2%	1.1%	1.2%	1.2%	1.2%	1.1%	1.1%	1.4%
Reduce preterm births (HP-MICH-9.1)	12.7%	9.3%	9.2%	9.0%	9.0%	9.0%	9.0%	9.3%	9.5%	9.3%	9.5%	11.4%
Increase abstinence from cigarette smoking among pregnant women (HP-MICH-11.3)	89.6%	95.7%	95.8%	95.6%	94.0%	94.2%	94.4%	94.4%	94.5%	94.8%	95.5%	98.6%

Notes: Fetal and perinatal death rates were revised in order to include only spontaneous fetal losses and exclude induced terminations of pregnancy. The fetal death rate is per 1,000 live births plus spontaneous fetal losses of 20 or more weeks of gestation. The perinatal death rate is per 1,000 live births plus spontaneous fetal losses of 28 or more weeks of gestation (Perinatal period = 28 weeks of gestation to 7 days after birth). Infant, neonatal, and postneonatal deaths are per 1,000 live births. Infant deaths due to birth defects, congenital birth defects, and SIDS are per 1,000 live births. All age-specific mortality rates are per 100,000 persons. The maternal mortality ratio is per 100,000 live births. All other proportions and ratios are per 100 live births. Preterm births = births prior to 37 completed weeks of gestation.

** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6; ▪ These rates are based on fewer than 10 cases and are not statistically reliable.

TABLE 6A (continued)
MONITORING PROGRESS TOWARD ARIZONA AND SELECTED HEALTHY PEOPLE 2020 OBJECTIVES: STATEWIDE TRENDS

Focus areas and selected objectives: (in parentheses are *Healthy People 2020* objective numbers)	Baseline for the U.S./AZ	ARIZONA RATES, RATIOS OR CASES BY YEAR:										U.S./AZ 2020 TARGET
		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
6A-2. SEXUALLY TRANSMITTED DISEASES[e]												
Reduce pregnancies among adolescent females aged 15 to 17 years [a] (HP-FP-8.1)	40.2	22.1	21.8	18.0	16.1	14.1	12.6	11.3	10.8	10.2	9.3	36.2
Reduce proportion of chlamydia infections among females aged 15 to 24 years attending family planning clinics [b] (HP-STD-1.1)	7.4/♦8.4	5.1	7.1	9.0	8.4	7.4	10.0	9.3	9.3	9.6	6.9	6.7/♦7.6
Reduce chlamydia rates among females aged 15 to 44 years [b] (HP-STD-2)	NA/♦1642.4	1628.5	1688.4	1683.0	1662.8	1657.5	1748.0	1940.1	1921.1	1965.1	1694.3	NA/♦1478.2
Reduce gonorrhea rates among females aged 15 to 44 years [b] (HP-STD-6.1)	285/♦168	166.8	214.7	233.8	256.0	254.9	310.3	370.8	372.8	428.7	458.4	257/♦151
Reduce gonorrhea rates among males aged 15 to 44 years [b] (HP-STD-6.2)	220/♦163	161.4	205.0	219.4	267.7	310.4	386.4	461.5	463.9	540.0	572.2	198/♦147
Reduce sustained transmission of primary and secondary syphilis among females [b](HP-STD-7.1)	1.5/♦0.5	0.4	0.5	0.8	1.4	1.4	2.3	4.5	5.0	6.8	8.5	1.4/♦0.45
Reduce sustained transmission of primary and secondary syphilis among males [b] (HP-STD-7.2)	7.6/♦8.1	8.0	5.8	8.0	15.6	16.0	18.9	22.8	24.9	29.3	31.9	6.8/♦7.3
Reduce congenital syphilis [b] (HP-STD-8)	10.1/♦16.1	17.6	16.3	15.3	13.8	16.5	16.6	36.7	75.7	137.7	155.0	9.1/♦14.5
6A-3. VACCINE PREVENTABLE DISEASES [c]												
Reduce or eliminate congenital rubella syndrome (HP-IID-1.1)	0	0	0	0	0	0	0	0	0	0	0	0
Reduce *Haemophilus influenzae type b* among children under age 5 years (HP-IID-1.2)	0.3	**	**	**	0.0	**	**	**	**	**	0	0.27
Reduce or eliminate measles (HP-IID-1.4)	115	*	*	*	*	7	31	0	0	*	0	30
Reduce or eliminate mumps (HP-IID-1.5)	421	0	*	*	12	*	7	35	15	103	10	500
Reduce or eliminate rubella (HP-IID-1.9)	10	0	0	0	0	0	0	*	0	0	**	10
Reduce the rate of hepatitis A (HP-IID-23)	1.0	1.2	1.4	1.1	0.5	1.1	0.7	0.9	1.1	8.2	0.8	0.3
Reduce the rate of meningococcal disease (HP-IID-3)	0.34	0.2	0.1	0.2	0.1	0.1	**	**	**	**	**	0.3
Reduce the rate of tuberculosis (HP-IID-29)	4.9	4.0	2.9	2.8	2.9	2.9	2.8	2.7	2.5	2.5	1.9	1.0

Notes: ♦ Indicates objectives, baseline and targets for Arizona which were identified by the Office of Sexually Transmitted Diseases; [a] The pregnancy rate is the number of pregnancies per 1,000 females aged 15 to 17 years; [b] The rates of chlamydia, gonorrhea, and syphilis are per 100,000 persons. The rate of congenital syphilis is per 100,000 live births. Source: The numerators are by report date. The denominators are by the date of birth. **Source: Arizona Department of Health Services, Bureau of Epidemiology and Disease Control Services, Office of Infectious Disease Services**; [c] The rates of hepatitis A, meningococcal disease, and tuberculosis are per 100,000 persons. **Source: Arizona Department of Health Services, Bureau of Epidemiology and Disease Control Services, Office of Infectious Disease Services**; [d] There is no comparable U.S. baseline or target rate for Healthy People 2020 objective HP-STD-2 which is focused on reducing chlamydia infections among "women 15-44 years who attended family planning clinics in the past 12 months"; [e] formally titled as Responsible Sexual Behavior.

TABLE 6A (continued)
MONITORING PROGRESS TOWARD ARIZONA AND SELECTED HEALTHY PEOPLE 2020 OBJECTIVES: STATEWIDE TRENDS

Focus areas and selected objectives: (in parentheses are *Healthy People 2020* objective numbers)	Baseline for the U.S./AZ	ARIZONA RATES, RATIOS OR CASES BY YEAR:										U.S./AZ 2020 TARGET
		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
6A-4. INJURY AND VIOLENCE												
Reduce firearm-related deaths (HP-IVP-30)	10.2	14.7	13.8	14.1	12.6	13.7	15.3	15.8	15.5	15.3	17.2	9.2
Reduce deaths caused by poisonings (HP-IVP-9.1)	13.1	18.1	17.5	19.1	19.2	20.4	22.5	24	26.1	29.1	39.8	13.1
Reduce deaths caused by suffocation (HP-IVP-24.1)	1.9	1.5	1.7	1.5	1.7	1.7	1.4	1.5	1.2	1.4	1.2	1.7
Reduce deaths caused by unintentional injuries (HP-IVP-11)	40.0	45.5	42.4	46.3	43.3	48.1	53.7	55.3	55.9	59.2	71.5	36.0
Reduce deaths caused by motor vehicle crashes (HP-IVP-13.1)	13.8	12.1	11.4	11.4	10.3	12.6	13.9	13.8	14.1	13.1	14.0	12.4
Reduce residential fire deaths (HP-IVP-28)	0.95	0.4	0.4	0.6	0.3	0.2	0.3	0.5	0.2	0.4	0.5	0.86
Reduce deaths from falls (HP-IVP-23.2)	45.3	11.6	11.2	12.1	11.7	12.8	13.4	12.4	12.4	12.2	12.2	45.3
Reduce drownings (HP-IVP-25)	1.2	1.3	1.3	1.1	1.2	1.2	1.5	1.5	1.3	1.3	1.3	1.1
Reduce homicides (HP-IVP-29)	6.1	6.1	5.9	5.9	4.6	5.6	6.3	6.4	6.1	5.9	7.7	5.5
Reduce the suicide rate (HP-MHMD-1)	11.3	17.2	16.2	17.0	16.5	17.8	17.7	18.0	19.5	18.9	18.2	10.2
Reduce the suicide attempt rate among adolescents aged 15 to 19 years (HP-MHMD-2) [b]	1.9	3.3	NA	4.3	NA	2.7	NA	4.7	NA	NA	NA	1.7
6A-5. CANCER												
Reduce the overall cancer death rate (HP-C-1)	178.4	151.3	149.8	149.6	136.3	144.0	140.7	136.6	135.9	134.7	134.7	160.6
Reduce the lung cancer death rate (HP-C-2)	50.6	37.8	37.7	36.4	32.2	35.1	31.4	30.8	28.9	26.2	26.8	45.5
Reduce the breast cancer death rate (HP-C-3)	22.9	19.7	19.2	20.7	17.9	19.2	19.4	18.2	17.6	18.8	18.5	20.6
Reduce the death rate from cancer of the uterine cervix (HP-C-4)	2.4	2.1	2.0	2.4	2.0	2.3	2.1	2.1	2.0	2.0	1.7	2.2
Reduce the colorectal cancer death rate (HP-C-5)	17.0	13.4	13.1	13.6	12.4	12.9	12.9	13.0	12.9	12.3	12.7	14.5
Reduce the oropharyngeal cancer death rate (HP-C-6)	2.5	1.9	2.0	2.0	1.7	2.0	2.4	2.0	1.8	2.0	2.3	2.3
Reduce the prostate cancer death rate (HP-C-7)	23.5	19.8	18.9	18.2	17.0	17.6	18.8	16.8	17.4	17.4	18.5	21.2
Reduce the rate of melanoma cancer deaths (HP-C-8)	2.7	2.7	3.0	3.0	2.8	2.7	2.4	2.2	2.4	2.3	2.3	2.4

Notes: Firearm-related deaths, deaths caused by poisonings, and deaths caused by suffocation include accidents, homicides, and suicides. Residential fire deaths, deaths from falls, and drowning deaths include only accidents. All mortality rates are per 100,000 persons. All mortality rates that are not age-specific are age-adjusted to the 2000 U.S. standard. The age-adjusted rates for breast and cervical cancer are female specific; the age-adjusted rates for prostate cancer are male specific.

TABLE 6A (continued)
MONITORING PROGRESS TOWARD ARIZONA AND SELECTED HEALTHY PEOPLE 2020 OBJECTIVES: STATEWIDE TRENDS

Focus areas and selected objectives: (in parentheses are *Healthy People 2020* objective numbers)	Baseline for the U.S./AZ	ARIZONA RATES, RATIOS OR CASES BY YEAR:										U.S./AZ 2020 TARGET
		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	
6A-6. DIABETES												
Reduce the diabetes-related death rate (HP-D-3)[a]	73.1	59.2	57.6	60.7	57.6	63.5	65.5	64.7	61.7	60.9	87.4	65.8
6A-7. HEART DISEASE AND STROKE												
Reduce coronary heart disease deaths (HP-HDS-2)	126.0	120.3	112.7	110.0	99.3	104.6	106.2	102.8	100.8	98.2	109.4	100.8
Reduce stroke deaths (HP-HDS-3)	42.2	30.6	29.9	28.2	26.2	31.1	30.7	30.7	32.1	31.0	34.6	33.8
6A-8. RESPIRATORY DISEASES												
Reduce asthma deaths among children and adults <35 years (HP-RD-1)	3.4	3.2	1.6	5.7	5.3	2.2	4.4	2.5	3.6	5.4	7.0	NA
Reduce asthma deaths among adults aged 35 to 64 years (HP-RD-1.2)	11.0	12.9	12.0	14.0	12.2	13.3	18.4	13.4	13.6	12.3	19.7	6.0
Reduce asthma deaths among adults aged 65 years and older (HP-RD-1.3)	43.3	54.1	41.5	41.8	34.1	32.5	40.1	41.6	36.2	29.3	36.4	22.9
Reduce deaths from chronic lower respiratory disease among adults aged 45 year and older (HP-RD-10)	112.4	126.4	124.5	126.6	119.1	133.6	123.2	131.0	129.9	122.0	122.1	98.5
6A-9. HUMAN IMMUNODEFICIENCY VIRUS (HIV) DISEASE												
Reduce the number of new AIDS cases per 100,000 population[c] (HP-HIV-4)	14.4	8.8	9.7	10.5	11.2	10.5	10.7	10.5	10.8	10.5	9.7	13.0
Reduce deaths from HIV disease (HP-HIV-12)	3.7	1.6	1.5	1.4	1.6	1.6	1.4	1.2	1.1	0.9	0.9	3.3
6A-10. SUBSTANCE ABUSE												
Reduce cirrhosis deaths (HP-SA-11)	9.1	13.4	13.6	14.5	13.2	14.9	15.1	14.2	14.2	14.7	17.4	8.2
Reduce drug-induced deaths (HP-SA-12)	12.6	16.8	16.3	16.9	18.4	19.8	21.5	23.3	25.4	28.4	38.4	11.3

Notes: [a] Objectives HP-IVP-24-1, HP-IVP-28, and HP-D-3 of ***Healthy People 2020*** use as the numerator the number of deaths reported as the underlying or multiple cause of death; [b] Objective HP-MHMD-2 uses data from the Youth Risk Behavior Survey System; N/A=Data not collected. Detailed information can be found at: https://www.healthypeople.gov/2020/data-search/Search-the-Data#objid=4810.

Mortality rates for asthma are per 1,000,000 population. All other mortality rates are per 100,000 persons. Mortality rates for diabetes, coronary heart disease, stroke, chronic lower respiratory disease, HIV disease, cirrhosis and drug-induced deaths are age-adjusted to the 2000 U.S. standard.

[c] The rates for prior years are revised annually and reflect reported new HIV/AIDS cases by year of diagnosis. **Source: Arizona Department of Health Services, Bureau of Epidemiology and Disease Control, Office of HIV/AIDS Services.**

6B

2020 County Profiles

TABLE 6B
MONITORING PROGRESS TOWARD ARIZONA AND SELECTED NATIONAL YEAR 2020 OBJECTIVES: 2019 COUNTY PROFILES

Focus areas and selected objectives: (in parentheses are ***Healthy People 2020*** objective numbers)	U.S./AZ 2020 TARGET	RATES, RATIOS OR CASES IN 2019															
		Arizona	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
6B-1. MATERNAL, INFANT AND CHILD HEALTH																	
Reduce fetal deaths at 20 or more weeks of gestation (HP-MICH-1.1)	5.6	6.1	**	8.1	10.9	**	**	**	**	6.0	5.8	5.9	6.0	6.0	**	5.5	6.1
Reduce fetal and infant deaths during perinatal period (HP-MICH-1.2)	5.9	5.7	**	6.7	8.0	**	**	**	**	5.4	5.8	6.6	4.8	6.4	**	7.1	9.1
Reduce infant deaths (HP-MICH-1.3)	6.0	5.4	**	7.4	6.6	**	**	0.0	**	4.9	5.2	7.4	5.9	6.4	**	7.2	6.8
Reduce neonatal deaths (HP-MICH-1.4)	4.1	3.4	**	5.2	**	0.0	**	0.0	**	3.1	**	5.2	2.9	4.4	**	5.0	5.4
Reduce postneonatal deaths (HP-MICH-1.5)	2.0	2.1	**	**	**	**	**	0.0	0.0	1.8	**	**	3.0	2.0	**	**	**
Increase the proportion of pregnant women who receive prenatal care in the first trimester (HP-MICH-10.1)	77.9%	68.9%	61.1%	42.3%	65.0%	64.1%	71.4%	78.2%	47.3%	71.7%	67.0%	63.8%	64.0%	70.2%	47.9%	73.3%	59.8%
Reduce low birth weight (LBW) (HP-MICH-8.1)	7.8%	7.4%	7.4%	7.7%	7.4%	10.4%	8.5%	9.7%	8.6%	7.2%	6.5%	9.1%	8.2%	7.3%	6.7%	7.5%	6.3%
Reduce very low birth weight (VLBW) (HP-MICH-8.2)	1.4%	1.1%	1.5%	1.3%	1.1%	1.3%	**	**	**	1.1%	1.1%	1.7%	1.2%	1.2%	1.0%	1.1%	1.3%
Reduce preterm births (HP-MICH-9.1)	11.4%	9.3%	9.1%	7.9%	9.7%	12.5%	8.7%	12.1%	15.1%	9.2%	9.0%	10.5%	9.9%	9.7%	7.5%	9.2%	8.8%
Increase abstinence from cigarette smoking among pregnant women (HP-MICH-11.3)	98.6%	94.8%	77.7%	90.8%	95.3%	87.1%	89.5%	86.3%	91.9%	96.4%	75.4%	89.2%	94.6%	93.3%	99.2%	86.8%	96.9%
6B-2. SEXUALLY TRANSMITTED DISEASES[c]																	
Reduce pregnancies among adolescent females aged 15 to 17 years [a] (HP-FP-8.1)	36.2	10.2	9.2	10.7	11.4	20.8	14.1	**	**	9.4	7.9	16.3	10.3	10.0	12.5	11.7	14.1
Reduce gonorrhea rates among females aged 15-44 years [b] (HP-STD-6.1)	257/♦151	428.7	705.9	93.4	316.5	363.8	270.3	**	553.1	444.1	301.0	906.2	447.9	412.4	133.1	170.3	394.7
Reduce the incidence of primary and secondary syphilis [b] (HP-STD-7.1)	1.4	18.0	23.7	9.2	15.6	23.6	**	0.0	**	21.8	**	39.0	16.8	7.0	**	**	5.7

Notes: ♦ Indicates objectives, baseline and targets for Arizona which were identified by the **Office of Sexually Transmitted Diseases.**

Fetal and perinatal death rates were revised in order to include only spontaneous fetal losses and exclude induced terminations of pregnancy. The fetal death rate is per 1,000 live births plus spontaneous fetal losses of 20 or more weeks of gestation. The perinatal death rate is per 1,000 live births plus spontaneous fetal losses of 28 or more weeks of gestation (Perinatal period= 28 weeks of gestation to 7 days after birth). Infant, neonatal, and postneonatal deaths are per 1,000 live births. Source: **Arizona Department of Health Services, Bureau of Epidemiology and Disease Control Services, Office of Infectious Disease Service.**

All other proportions and ratios are per 100 live births. Preterm births = births prior to 37 completed weeks of gestation; [a] The pregnancy rates are per 1,000 females 15-17 years old; [b] The incidence rates of gonorrhea and primary and secondary syphilis are per 100,000 population; [c] formally titled as Responsible Sexual Behavior.

The rates based on fewer than 10 cases are not statistically reliable. See Tables 5A-1, 5B-16, 5C-1, 5C-3, 5E-16, 5E-21, 5E-23, 5F-1 for the numerators.

** Cell suppressed due to rate/ratio/percent based on non-zero count less than 6.

TABLE 6B (continued)
MONITORING PROGRESS TOWARD ARIZONA AND SELECTED NATIONAL YEAR 2020 OBJECTIVES: 2019 COUNTY PROFILES

Focus areas and selected objectives: (in parentheses are ***Healthy People 2020*** objective numbers)	U.S./AZ 2020 TARGET	RATES, RATIOS OR CASES IN 2019															
		Arizona	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
6B-3. VACCINE PREVENTABLE DISEASES																	
Reduce the rate of hepatitis A (HP-IID-23)	0.3	8.2	**	10.7	0.0	**	**	0.0	0.0	7.5	**	0.0	20.5	3.1	**	3.4	**
Reduce the rate of meningococcal disease (HP-IID-3)	0.3	**	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce the rate of tuberculosis (HP-IID-29)	1.0	2.5	**	**	**	0.0	0.0	0.0	0.0	2.0	0.0	**	2.7	9.0	0.0	**	7.4
6B-4. INJURY AND VIOLENCE																	
Reduce firearm-related deaths (HP-IVP-30)	9.2	15.3	10.3	20.4	15.2	31.8	**	**	28.7	13.7	18.5	15.0	18.9	14.5	**	23.5	12.4
Reduce deaths caused by unintentional injuries (HP-IVP-11)	36.0	59.2	127.1	47.8	72.8	82.0	61.6	63.7	79.9	57.0	60.3	112.1	61.7	47.6	45.0	69.5	44.0
Reduce deaths caused by motor vehicle crashes (HP-IVP-13.1)	12.4	13.1	49.4	13.6	16.2	29.6	14.9	**	29.7	10.8	20.8	35.3	14.2	14.9	14.4	14.5	10.1
Reduce deaths from falls (HP-IVP-23.2)	45.3	12.2	13.6	5.1	15.6	12.0	**	**	**	13.3	11.2	15.9	11.8	9.4	**	13.0	5.7
Reduce homicides (HP-IVP-29)	5.5	5.9	11.8	**	5.7	**	**	0.0	**	5.9	2.4	13.3	6.6	6.0	**	3.8	3.0
Reduce the suicide rate (HP-MHMD-1)	10.2	18.9	21.6	26.6	28.8	44.9	**	**	35.0	16.2	28.8	28.3	22.8	16.0	**	31.7	13.8
6B-5. CANCER																	
Reduce the overall cancer death rate (HP-C-1)	160.6	134.7	125.4	149.1	120.6	137.5	136.5	118.8	124.0	133.0	182.6	134.0	140.1	113.1	112.0	150.2	108.2
Reduce the lung cancer death rate (HP-C-2)	45.5	26.2	12.3	30.9	11.7	27.4	21.1	**	33.1	25.5	42.8	20.3	26.2	23.3	10.9	34.9	22.6
Reduce the breast cancer death rate (HP-C-3)	20.6	18.8	14.4	16.0	18.3	18.3	**	0.0	**	19.2	27.8	20.9	18.1	15.2	**	20.4	15.1
Reduce the colorectal cancer death rate (HP-C-5)	14.5	12.3	14.6	12.7	13.3	13.2	**	**	**	12.7	18.8	11.0	10.3	9.5	15.1	11.9	6.0
Reduce the prostate cancer death rate (HP-C-7)	21.2	17.4	**	21.3	22.7	18.6	**	**	**	17.6	23.9	21.4	16.4	11.0	**	23.2	12.7

Notes: The rates of hepatitis A, meningococcal disease, and tuberculosis are per 100,000 persons. Source: **Arizona Department of Health Services, Bureau of Epidemiology and Disease Control Services, Office of Infectious Disease Services**. All mortality rates are adjusted to the 2000 standard population and expressed per 100,000 population. The age-adjusted rates for breast and cervical cancer are female specific; the age-adjusted rates for prostate cancer are male specific.

TABLE 6B (continued)
MONITORING PROGRESS TOWARD ARIZONA AND SELECTED NATIONAL YEAR 2020 OBJECTIVES: 2019 COUNTY PROFILES

Focus areas and selected objectives: (in parentheses are ***Healthy People 2020*** objective numbers)	U.S./AZ 2020 TARGET	RATES, RATIOS OR CASES IN 2019															
		Arizona	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
6B-6. DIABETES																	
Reduce the diabetes-related death rate (HP-D-3)	65.8	60.9	141.8	66.2	56.4	77.1	64.8	47.7	107.2	60.2	60.0	107.5	59.1	56.0	30.6	50.7	61.4
6B-7. HEART DISEASE AND STROKE																	
Reduce coronary heart disease deaths (HP-HDS-2)	100.8	98.2	78.1	105.5	69.4	158.3	96.5	134.0	161.8	97.4	135.6	92.7	98.8	86.1	54.1	99.2	85.8
Reduce stroke deaths (HP-HDS-3)	33.8	31.0	40.8	28.9	25.9	31.7	29.2	**	19.6	31.6	35.0	41.3	32.1	24.8	35.2	31.9	23.3
6B-8. RESPIRATORY DISEASES																	
Reduce deaths from chronic lower respiratory disease among adults aged 45 years and older (HP-RD-10)	98.5	122.0	112.8	198.9	75.7	168.1	156.2	162.4	173.1	105.6	255.5	157.6	127.3	111.8	45.1	174.0	102.3
6B-9. HUMAN IMMUNODEFICIENCY VIRUS (HIV) DISEASE																	
Reduce the number of new HIV/AIDS cases per 100,000 population (HP-HIV-4)	13.0	10.8	**	**	8.8	0.0	**	**	**	12.2	3.2	6.2	9.7	15.8	**	6.0	8.3
Reduce deaths from HIV disease (HP-HIV-12)	3.3	0.9	**	**	**	**	0.0	0.0	0.0	1.0	**	**	1.2	0.0	0.0	0.0	**
6B-10. SUBSTANCE ABUSE																	
Reduce cirrhosis deaths (HP-SA-11)	8.2	14.7	55.8	16.9	23.8	54.8	23.4	**	67.6	11.9	24.1	47.1	14.4	13.0	**	15.5	15.0
Reduce drug-induced deaths (HP-SA-12)	11.3	28.4	11.9	25.4	18.1	30.5	27.8	**	**	29.1	19.9	32.1	31.9	21.7	15.7	41.4	20.4

Notes: Objective HP-D-3 of ***Healthy People 2020*** uses as the numerator the number of deaths due to diabetes reported as the underlying or multiple cause of death. The multiple cause of death data are not available for all of the out-of-State deaths of Arizona residents, therefore the diabetes-related deaths are understated. All mortality rates are age-adjusted to the 2000 U.S. standard and expressed per 100,000 population. The age-adjustment standard for chronic lower respiratory disease uses the weights for three age groups among persons 45 years or older (45-49 years, 50-64 years, and 65+ years). The incidence rates of reported new HIV/ AIDS cases are based on numerators provided by the **Office of HIV/AIDS Services, Bureau of Epidemiology and Disease Control** (see Table 5F-3).

The rates for new HIV/AIDS cases were calculated using the population table 10a1.

CHAPTER 7

HOSPITAL INPATIENT DISCHARGES AND EMERGENCY ROOM VISITS BY COUNTY OF RESIDENCE IN 2020

7A

Discharges from Short-Stay Hospitals by First-Listed Diagnosis

TABLE 7A-1
NUMBER OF DISCHARGES[a] BY FIRST-LISTED DIAGNOSIS AND COUNTY OF RESIDENCE, ARIZONA, 2020

Category of first-listed diagnosis	Total	County of residence															
		Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
Total	630,882	4,321	12,907	8,735	6,800	2,694	591	2,099	377,607	21,217	12,073	96,223	40,879	2,008	23,555	17,175	1,998
Infectious and parasitic diseases	62,789	425	1,124	547	646	163	27	185	38,843	2,356	1,120	8,785	4,725	205	1,440	2,038	160
Septicemia	57,371	399	1,035	469	588	148	26	174	35,439	2,170	1,015	8,023	4,358	191	1,268	1,921	147
Enterocolitis due to *Clostridium difficile*	1,400†	10	38	25	20	*	0	*	809	64	28	183	87	*	79	50	*
Neoplasms	20,027	100	427	240	204	76	25	77	12,098	674	260	3,000	1,345	52	872	512	65
Malignant neoplasms	16,835	81	354	187	172	67	20	67	10,114	597	217	2,554	1,143	38	719	449	56
Large intestine	2,240†	10	45	18	21	18	*	*	1,314	91	35	347	157	11	96	61	*
Prostate	750†	*	19	16	6	*	*	*	375	16	*	182	66	*	50	*	*
Trachea bronchus and lung	2,080†	*	56	15	17	*	*	11	1,251	110	24	292	134	*	77	70	*
Breast	710†	*	12	14	*	*	*	*	481	29	11	72	42	0	24	15	0
Benign neoplasms	2,530†	12	57	38	26	7	*	*	1,594	53	30	357	157	13	121	50	9
Endocrine nutritional metabolic and immunity diseases	26,807	197	581	376	327	108	25	91	15,594	889	544	4,462	1,921	86	855	640	111
Diabetes mellitus	13,233	117	269	214	201	47	14	52	7,566	405	321	2,185	1,003	44	374	370	51
Volume depletion	1,240†	11	21	*	11	*	*	*	700	62	21	270	82	*	36	9	*
Morbid obesity	3,070†	10	79	29	26	25	7	*	1,855	20	23	608	232	13	40	86	12
Diseases of the blood and blood forming organs	5,220†	27	104	55	51	13	*	21	3,282	232	66	734	327	11	164	114	13
Mental disorders	68,942	470	1,084	996	613	333	39	79	45,017	484	1,412	12,004	3,586	117	1,885	676	147
Psychoses	42,610	252	655	649	372	190	30	54	27,244	362	821	8,017	2,161	64	1,267	378	94
Alcoholic psychoses	6,010†	44	79	157	63	26	*	19	3,308	145	172	1,511	264	6	135	71	9
Drug psychoses	840†	*	16	13	*	*	0	0	388	12	18	287	43	*	29	9	*
Schizophrenic disorders	9,430†	51	132	89	74	48	*	7	6,365	22	142	1,775	410	11	173	103	23
Manic-depressive disorders	38,765	267	589	468	355	194	25	29	26,851	147	753	5,409	2,226	66	979	340	67
Neurotic disorders	15,529	153	312	429	142	62	7	29	8,711	263	467	3,259	794	17	708	148	28
Anxiety states	740†	8	17	14	7	*	0	*	460	*	25	115	43	*	40	*	*
Depression	23,495	216	331	324	224	129	8	15	16,201	90	514	3,208	1,334	38	591	232	40
Drug dependence	2,680†	*	11	10	20	13	*	6	1,688	12	14	722	107	*	48	18	*
Nondependent abuse of drugs	310†	*	24	8	7	0	*	0	111	6	36	72	11	0	25	*	*
Alcohol dependence	8,100†	68	109	242	79	35	*	23	4,440	189	250	1,885	330	7	342	79	12
Diseases of the nervous system	14,598	111	313	229	136	63	18	44	8,270	448	264	2,562	861	40	557	640	42
Diseases of the eye and adnexa	490†	*	17	*	*	*	*	0	239	12	12	146	26	*	9	*	*
Diseases of the ear and mastoid process	450†	7	9	*	*	*	*	0	284	9	8	84	21	*	13	*	*
Diseases of the circulatory system	85,513	485	2,065	970	1,055	339	95	447	48,186	4,349	1,451	13,133	5,861	222	4,291	2,323	241
Heart disease	56,081	308	1,430	624	726	236	68	304	31,002	3,213	951	8,603	3,849	157	2,893	1,561	156
Acute myocardial infarction	11,054	85	318	120	190	91	25	75	5,693	833	227	1,524	758	45	615	416	39
Coronary artherosclerosis	4,384	23	127	40	55	24	12	22	2,243	223	59	772	349	12	282	123	18

TABLE 7A-1 (continued)
NUMBER OF DISCHARGES[a] BY FIRST-LISTED DIAGNOSIS AND COUNTY OF RESIDENCE, ARIZONA, 2020

Category of first-listed diagnosis	Total	County of residence															
		Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
Other ischemic heart disease	380†	*	10	7	6	*	0	6	185	27	9	58	24	0	32	*	*
Cardiac dysrythmias	11,196	37	246	148	151	46	11	80	6,343	603	152	1,723	748	27	592	263	26
Cardiac arrest	310†	*	*	*	*	0	0	*	191	17	10	35	15	*	8	17	0
Congestive heart failure	1,990†	26	84	45	18	*	*	19	918	166	60	350	109	*	121	64	*
Cerebrovascular diseases	19,882	137	453	229	228	78	25	96	11,467	740	365	3,041	1,365	41	978	574	65
Diseases of the respiratory system	40,170	295	864	646	453	141	19	172	23,773	1,951	849	5,491	2,683	74	1,766	858	135
Acute bronchitis and bronchiolitis	1,790†	18	21	34	21	8	*	*	1,095	62	74	198	132	*	97	12	8
Pneumonia	12,220†	77	302	198	141	39	*	57	6,969	685	276	1,555	849	19	651	354	45
COVID-19[±]	24,961	357	451	555	345	162	17	100	14,042	973	1,042	2,901	1,383	261	893	1,400	79
Chronic bronchitis	4,440†	15	96	28	68	16	*	29	2,582	322	51	679	243	*	190	106	6
Asthma	1,800†	12	27	23	20	0	*	*	1,163	34	32	314	96	0	57	16	0
Diseases of the digestive system	53,460	458	1,267	843	635	247	53	196	30,220	2,109	1,192	8,589	3,628	173	2,432	1,242	176
Appendicitis	2,430†	21	53	54	25	9	*	6	1,321	109	42	433	134	19	128	56	14
Noninfectious enteritis and colitis	4,410†	22	89	46	37	13	*	10	2,794	168	35	641	257	10	175	99	9
Diverticula of intestine	4,440†	22	104	57	46	26	*	13	2,656	163	82	671	288	15	185	95	12
Cholelithiasis	2,730†	26	66	54	33	14	*	10	1,389	95	66	576	186	14	145	43	13
Diseases of the genitourinary system	22,985	103	580	229	284	66	20	85	13,274	1,127	324	3,576	1,565	83	1,012	573	84
Calculus of kidney and ureter	390†	*	21	*	*	*	0	*	200	19	6	62	31	*	27	7	0
Diseases of the skin and subcutaneous tissue	10,298	79	197	209	129	32	10	53	6,163	301	224	1,627	639	23	395	197	20
Cellulitis and abscess	6,642	45	125	129	74	25	7	33	4,004	203	138	1,023	405	14	282	125	10
Diseases of the musculoskeletal system	31,454	229	777	602	361	166	37	94	18,153	1,075	567	4,771	1,955	78	1,783	711	95
Osteoarthrosis and allied disorders	11,822	62	333	222	157	78	19	28	6,797	456	196	1,554	742	30	812	298	38
Invertebral disc disorders	2,410†	20	39	62	24	13	*	13	1,457	120	51	287	120	6	140	56	*
Congenital anomalies	1,960†	8	35	38	15	10	*	*	1,266	27	47	252	108	*	67	67	9
Conditions originating in perinatal period	1,930†	14	66	39	28	17	*	*	1,081	123	57	212	148	12	70	44	9
Symptoms signs and ill-defined conditions	10,761	84	324	177	116	36	11	39	5,908	542	180	1,991	625	34	493	174	27
Injury and poisoning	62,659	590	1,161	835	793	239	51	221	36,932	1,793	1,202	10,234	4,125	196	2,490	1,596	201
Fractures, all sites	20,660	180	405	239	252	76	19	94	11,609	775	358	3,618	1,274	76	1,031	572	82
Fracture of neck of femur	7,338	49	176	51	103	32	6	42	3,992	368	103	1,340	435	28	398	186	29
Poisonings	4,990†	38	99	71	51	26	*	7	3,058	114	88	933	268	10	141	69	9

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [±] The collection of COVID-19 data began in mid March 2020; [a]

TABLE 7A-2
NUMBER OF DISCHARGES[a] BY GENDER, AGE GROUP, RACE/ETHNICITY, MARITAL STATUS, PRIMARY PAYER, AND COUNTY OF RESIDENCE, ARIZONA, 2020

Selected characteristics		Total	County of residence															
			Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
Total		630,882	4,321	12,907	8,735	6,800	2,694	590†	2,099	377,607	21,217	12,073	96,223	40,879	2,010†	23,555	17,175	1,998
Gender	Male	288,460	2,346	5,900	4,189	3,351	1,187	235	1,104	170,427	10,623	5,949	43,205	19,103	870	11,494	7,601	876
	Female	342,401	1,974	7,006	4,546	3,449	1,507	356	995	207,168	10,593	6,122	53,015	21,775	1,138	12,061	9,574	1,122
	Unknown	20†	*	*	0	0	0	0	0	12	*	*	*	*	0	0	0	0
Age group	Children <15 years	23,371	206	433	465	255	143	22	45	14,946	448	554	2,873	1,732	59	609	500	81
	Adolescents 15-19 years	18,208	118	340	239	158	110	24	37	11,734	236	376	2,567	1,198	66	426	526	53
	Young adults 20-44 years	181,894	1,197	2,822	2,914	1,628	970	199	347	117,355	3,324	3,661	26,548	11,017	543	3,983	4,727	659
	Middle-aged adults 45-64 years	158,351	1,274	3,034	2,363	1,783	662	158	599	94,744	5,458	3,379	24,629	10,128	473	5,369	3,907	391
	Elderly 65+ years	249,040	1,526	6,278	2,754	2,976	809	188	1,071	138,813	11,751	4,103	39,604	16,804	867	13,168	7,515	813
	Unknown	20†	0	0	0	0	0	0	0	15	0	0	*	0	0	0	0	*
Race / ethnicity	White non-Hispanic	422,249	1,554	9,472	4,441	4,569	1,710	378	1,469	248,177	18,834	5,589	66,806	27,966	1,349	20,728	7,845	1,362
	Hispanic or Latino	122,466	176	2,637	732	567	546	184	231	78,146	1,324	570	19,087	6,867	620	1,744	8,445	590
	Black or African American	36,600†	20	408	117	19	27	*	19	28,740	193	87	4,417	2,093	11	163	269	8
	American Indian or Alaska Native	29,993	2,459	64	3,180	1,430	354	12	314	8,815	462	5,525	3,552	3,104	6	371	332	13
	Asian or Pacific Islander	13,000†	27	179	71	121	27	*	11	9,996	130	77	1,443	557	*	198	148	7
	Refused/Unknown	6,579	85	147	194	94	30	9	55	3,733	274	225	918	292	18	351	136	18
Patient's marital status	Single	257,492	2,100	4,346	3,991	2,787	1,114	196	792	159,790	6,223	5,598	41,215	15,125	748	7,101	5,618	748
	Married	251,228	1,454	5,934	3,244	2,596	1,101	305	867	146,947	9,258	4,442	36,220	18,159	893	11,182	7,746	880
	Separated	4,790†	35	71	72	61	30	*	13	2,736	181	119	624	262	19	277	274	13
	Divorced	50,295	227	1,031	684	569	228	45	151	30,090	1,934	702	7,793	3,232	148	1,981	1,349	131
	Widowed	60,648	326	1,317	620	672	188	38	189	34,791	3,003	769	9,799	3,752	192	2,764	2,042	186
	Not applicable	40†	0	0	*	0	0	0	0	34	0	0	0	*	0	0	0	0
	Unknown	6,390†	179	208	122	115	33	*	87	3,219	618	443	572	348	8	250	146	40
Primary payer	Self-pay	12,963	61	194	184	92	43	9	54	8,531	741	153	1,248	661	64	421	411	96
	Private insurance (indemnity, HMO, PPO)	146,405	476	1,844	2,092	1,158	717	262	316	97,819	4,414	1,557	17,521	9,135	287	6,050	2,462	295
	AHCCCS/Medicaid	180,824	1,747	3,143	2,873	2,203	883	109	570	109,942	3,626	4,977	28,542	11,028	680	4,689	5,142	670
	Medicare	203,586	1,606	4,663	3,009	2,860	609	160	937	118,275	8,883	3,922	26,908	14,537	440	10,209	6,112	456
	Other	87,104	431	3,063	577	487	442	51	222	43,040	3,553	1,464	22,004	5,518	537	2,186	3,048	481

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Excluding newborn infants.

7B

Discharges from Short-Stay Hospitals by All-Listed Procedures

TABLE 7B-1
NUMBER OF PROCEDURES BY CATEGORY AND COUNTY OF RESIDENCE, ARIZONA, 2020

Procedures by category	Total	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
All procedures	1,116,773	8,723	22,252	16,278	13,325	7,287	1,658	4,097	652,455	37,964	22,155	174,811	73,389	4,614	41,295	32,159	4,311
Operations on the central nervous system	15,199	93	248	237	151	371	96	35	9,509	316	284	1,949	946	97	558	275	34
Spinal tap	5,950†	32	77	70	60	14	*	13	4,040	125	112	755	394	12	145	86	16
Operations on the peripheral nervous system	6,150†	43	112	117	50	30	*	21	3,782	183	121	841	408	13	291	120	12
Operations on the heart and great vessels	62,767	558	1,032	847	848	245	52	256	36,944	2,634	1,389	8,458	4,645	183	2,716	1,797	163
Heart transplant	80†	*	0	0	*	0	0	0	63	*	0	*	*	0	0	0	0
Coronary artery bypass graft	3,011	12	87	31	28	24	8	20	1,597	149	35	457	248	12	158	134	11
Cardiac catherization	17,592	142	378	187	296	108	28	90	9,079	1,221	340	2,845	1,187	57	1,047	523	64
Insertion, replacement, removal, of pacemaker leads	4,230†	24	84	49	62	21	*	21	2,450	203	94	551	271	14	248	124	11
Operations on the upper arteries	17,008	212	337	298	241	104	23	64	9,918	409	422	2,841	1,041	85	553	399	61
Operations on the lower arteries	7,490†	54	183	98	83	29	*	44	4,010	288	143	1,302	564	25	397	234	30
Operations on the upper veins	15,792	103	508	190	147	113	23	76	7,187	419	295	4,847	773	139	306	563	103
Operations on the lower veins	9,735	83	208	139	127	51	14	57	5,479	382	215	1,507	638	39	438	331	27
Operations on the lymphatic and hemic systems	8,091	31	176	77	74	28	7	28	5,130	250	102	1,183	525	16	286	153	25
Operations on the eye	470†	*	13	*	10	*	*	*	261	9	14	103	18	*	12	9	*
Operations on the ear, nose, sinus	930†	10	16	15	18	9	*	*	557	30	28	147	49	*	28	14	*
Operations on the respiratory system	33,996	308	558	442	397	129	32	121	20,724	1,193	749	4,918	2,154	113	995	1,063	100
Bronchoscopy with or without biopsy	2,960†	43	46	38	22	10	*	15	1,871	131	76	290	164	12	79	154	7
Operations on the mouth and throat	2,880†	29	62	73	28	15	*	13	1,600	93	71	560	192	*	90	42	8
Operations on the gastrointenstinal system	48,779	400	1,007	749	585	225	61	151	28,525	1,583	970	7,526	3,410	137	1,925	1,379	146
Implantation of gastric band	0†	0	0	0	0	0	0	0	*	0	0	*	0	0	0	0	0
Endoscopy of small intestine with or without biopsy	11,694	106	183	161	134	47	8	50	7,012	449	223	1,668	830	29	425	337	32
Endoscopy of large intestine with or without biopsy	7,870	45	137	131	92	31	7	28	4,783	318	104	984	557	19	400	222	12
Appendectomy, excluding incidental	3,300†	27	62	60	39	12	*	6	1,824	144	56	558	217	16	167	94	17
Operations on the hepatobiliary system and pancreas	12,829	119	280	195	142	71	19	42	7,331	388	283	2,065	892	48	543	356	55
Cholectecystectomy	6,572	54	165	102	62	43	11	24	3,516	213	156	1,191	487	28	314	178	28
Operations on the endocrine system	890†	7	13	13	8	*	0	*	538	33	12	135	65	*	37	17	*
Operations on the skin and breast	19,385	122	284	335	176	97	21	53	12,282	525	356	2,900	1,173	51	452	480	78
Breast surgery	710†	*	12	14	*	*	*	*	481	29	11	72	42	0	24	15	0

TABLE 7B-1 (continued)
NUMBER OF PROCEDURES BY CATEGORY AND COUNTY OF RESIDENCE, ARIZONA, 2020

Procedures by category	Total	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
Operations on the subcutaneous tissue and fascia	25,110	195	422	379	364	115	27	122	15,170	715	534	3,653	1,792	62	855	633	72
Operations on the musculoskeletal system	70,835	509	1,478	1,059	779	356	81	203	42,532	2,140	1,263	10,832	4,542	224	3,018	1,601	218
Open reduction of fracture with or without internal fixation	7,813	85	129	126	80	31	7	26	4,365	286	152	1,381	504	36	337	228	40
Total hip replacement	5,390†	17	146	120	80	26	*	10	3,094	174	84	769	346	18	351	136	17
Total knee replacement	6,496	42	193	103	102	55	13	11	3,839	232	92	770	426	15	426	156	21
Operations on the urinary system	15,501	71	315	135	179	145	39	71	8,732	1,104	214	2,208	1,057	48	790	340	53
Kidney transplant	160†	*	*	*	0	*	0	0	110	*	*	11	11	*	*	*	0
Operations on the male reproductive system	6,650†	10	110	75	49	13	*	16	4,401	96	37	694	979	12	105	32	12
Prostatectomy	1,230†	*	34	18	13	*	*	6	644	53	9	252	102	6	80	9	*
Operations on the female reproductive system	15,144	81	279	163	134	101	34	20	9,407	291	242	2,131	898	49	385	865	64
Oophorectomy and salpingo-oophorectomy	2,576	13	62	40	43	6	7	10	1,550	110	31	352	186	10	97	39	20
Hysterectomy	2,120†	9	46	20	17	*	*	*	1,348	54	20	312	138	12	85	34	19
Obstetrical procedures	73,654	207	1,258	1,002	501	436	120	141	47,583	1,513	1,068	10,001	4,612	297	1,603	2,977	335
Episiotomy with or without forceps or vacuum extraction	2,490	10	37	42	40	19	7	12	1,408	172	39	383	128	25	74	64	30
Artificial rupture of membranes	22,506	62	465	345	172	173	51	31	14,283	413	373	3,934	1,314	83	582	110	115
Cesarean section	21,038	64	339	231	134	96	32	43	13,718	467	269	2,792	1,371	90	452	840	100
Other therapeutic procedures - Imaging	52,295	468	1,125	882	874	317	66	254	27,237	2,597	1,246	8,661	3,954	206	2,375	1,821	212
Computerized tomography (CT Scan)	2,620†	16	6	16	10	*	*	7	1,589	19	37	504	152	38	122	61	38
Magnetic resonance imaging (MRI)	1,130†	20	7	10	9	*	*	10	823	20	33	48	70	*	53	24	0
Other therapeutic procedures - Nuclear medicine	150†	0	7	0	*	0	0	0	63	8	*	49	10	0	*	*	*
Other therapeutic procedures - Radiation therapy	140†	*	*	*	*	0	0	0	96	*	*	8	8	0	9	*	0
Extracorporeal assistance and performance	60,368	638	1,229	886	904	276	59	264	34,777	2,261	1,527	8,735	4,371	222	2,183	1,821	215
Hemodialysis	19,807	175	284	240	370	82	16	86	11,660	641	521	2,861	1,665	82	460	570	94

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 7B-2
EXPECTED SOURCE OF PAYMENT FOR INPATIENT PROCEDURES BY COUNTY OF RESIDENCE, ARIZONA, 2020

	Total	Number of procedures by payer				
		Self-pay	Private insurance (indemnity, HMO, PPO)	AHCCCS / Medicaid	Medicare	Other
Total	1,116,773	20,904	286,609	301,843	348,168	159,249
Apache	8,723	127	976	3,293	3,597	730
Cochise	22,252	355	3,530	5,616	7,501	5,250
Coconino	16,278	254	4,384	5,192	5,566	882
Gila	13,325	119	2,530	4,122	5,505	1,049
Graham	7,287	92	2,241	2,012	1,531	1,411
Greenlee	1,658	22	824	286	420	106
La Paz	4,097	70	481	1,058	1,995	493
Maricopa	652,455	13,181	187,856	178,684	196,374	76,360
Mohave	37,964	1,156	8,251	6,797	15,717	6,043
Navajo	22,155	273	3,147	8,449	7,961	2,325
Pima	174,811	2,314	37,613	47,532	45,921	41,431
Pinal	73,389	952	17,578	18,591	25,337	10,931
Santa Cruz	4,614	196	701	1,595	906	1,216
Yavapai	41,295	644	10,725	7,228	18,283	4,415
Yuma	32,159	854	5,059	9,973	10,607	5,666
Unknown	4,311	295	713	1,415	947	941

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

7C

Characteristics of Emergency Room Visits by Disease Category and Diagnosis Group

TABLE 7C-1
NUMBER OF EMERGENCY ROOM VISITS[a] BY FIRST-LISTED DIAGNOSIS AND COUNTY OF RESIDENCE, ARIZONA, 2020

Category of first-listed diagnosis	Total	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
Total, all visits	1,908,198	19,168	49,365	31,472	23,127	14,267	1,912	6,597	1,132,940	85,195	31,236	260,076	117,701	7,501	69,830	49,167	8,644
Infectious and parasitic diseases	43,330	541	1,111	530	534	356	47	142	26,319	1,896	573	5,294	2,520	342	844	1,911	370
Neoplasms	5,600	21	164	71	70	16	7	19	3,380	391	60	618	355	13	274	115	26
Endocrine nutritional metabolic and immunity diseases	49,764	522	1,804	751	704	341	45	258	28,440	2,270	813	6,195	3,311	155	2,142	1,824	189
Diabetes mellitus	15,090	210	473	229	194	111	12	76	8,819	686	255	1,709	1,059	52	522	607	76
Mental disorders	67,460	1,292	1,707	3,404	982	384	42	208	35,262	3,210	2,594	9,797	3,706	195	2,722	1,711	244
Psychoses	44,844	1,043	955	2,957	684	236	31	116	22,527	1,844	2,126	6,824	2,352	92	1,972	961	124
Alcoholic psychoses	4,630†	140	113	420	84	14	0	14	2,250	140	284	658	232	*	216	62	*
Drug psychoses	1,960†	22	53	42	18	6	*	8	1,103	100	29	289	138	9	69	63	14
Schizophrenic disorders	690†	9	10	16	10	6	0	*	325	46	22	169	27	0	28	17	0
Manic-depressive disorders	6,000†	57	199	125	72	24	*	14	3,325	322	195	788	480	6	277	103	6
Neurotic disorders	58,069	1,211	1,348	3,207	823	328	31	179	30,434	2,529	2,427	8,276	3,114	168	2,232	1,558	204
Anxiety states	16,049	190	475	354	191	109	9	48	9,137	807	355	2,142	911	85	547	590	99
Depression	4,390†	45	128	101	51	16	*	8	2,410	211	166	589	381	*	204	71	*
Drug dependence	2,460†	15	53	43	40	16	*	7	1,461	96	33	389	140	8	110	35	12
Nondependent abuse of drugs	8,176	77	164	253	124	55	7	20	4,460	327	229	1,564	378	30	222	226	40
Alcohol dependence	6,940†	290	107	604	139	27	*	14	3,217	259	452	1,080	286	7	337	120	*
Diseases of the nervous system	49,484	570	1,131	1,458	514	250	35	174	29,034	2,070	895	6,499	3,284	143	1,611	1,668	148
Diseases of the eye and adnexa	15,072	155	357	196	169	113	8	44	9,216	595	217	2,282	775	35	418	430	62
Diseases of the ear and mastoid process	28,140	360	689	327	344	234	22	127	18,273	1,226	357	3,161	1,506	54	722	640	98
Diseases of the circulatory system	69,720	458	2,426	777	1,092	498	90	487	38,872	3,879	1,180	8,763	4,945	231	3,523	2,231	268
Diseases of the respiratory system	185,156	3,389	5,046	2,402	2,373	1,644	212	759	114,566	8,880	2,790	20,648	10,723	287	5,759	4,693	985
Acute bronchitis and bronchiolitis	16,733	140	360	150	207	107	16	81	11,500	818	201	1,147	1,064	7	486	404	45
Pneumonia	22,438	185	647	272	249	214	32	111	13,570	1,118	341	2,318	1,730	64	681	742	164
COVID-19[±]	54,185	816	954	758	402	373	35	144	33,990	1,927	834	6,865	2,843	791	1,481	1,509	463
Chronic bronchitis	9,094	39	350	90	264	85	20	120	4,294	1,115	161	1,017	704	11	522	283	19
Asthma	15,883	206	291	179	176	89	10	50	10,193	598	210	2,094	928	23	383	405	48

TABLE 7C-1 (continued)
NUMBER OF EMERGENCY ROOM VISITS[a] BY FIRST-LISTED DIAGNOSIS AND COUNTY OF RESIDENCE, ARIZONA, 2020

Category of first-listed diagnosis	Total	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
Diseases of the digestive system	128,361	1,306	3,555	1,761	1,761	817	135	490	77,167	5,886	2,157	16,766	7,978	467	4,503	3,140	472
Diseases of the genitourinary system	115,205	1,061	2,939	1,403	1,335	733	135	351	70,452	5,042	1,536	15,021	7,508	347	3,948	3,014	380
Diseases of the skin and subcutaneous tissue	62,387	642	1,681	835	900	535	73	249	37,413	3,056	999	8,694	3,478	157	2,172	1,324	179
Diseases of the musculoskeletal system	120,351	1,017	3,414	1,659	1,731	1,016	136	400	68,627	6,319	1,718	18,336	7,253	385	5,080	2,796	464
Symptoms signs and ill-defined conditions	442,238	2,570	9,979	6,902	4,981	3,372	485	1,195	262,450	18,957	6,167	64,678	28,070	1,634	17,151	11,753	1,894
Injury and poisoning	368,327	3,588	9,705	6,664	4,329	3,012	310	1,265	219,264	14,859	6,144	49,186	23,854	1,409	14,629	8,676	1,433
Fractures, all sites	57,339	632	1,567	1,033	724	473	55	211	33,104	2,439	1,030	8,023	3,553	236	2,721	1,315	223
Sprains	32,361	380	1,040	517	500	207	27	139	19,847	1,627	538	3,148	2,323	126	1,106	680	156
Intracranial	10,896	126	228	274	107	93	17	27	6,512	385	264	1,433	655	49	450	242	34
Open wounds	81,657	750	2,147	1,668	897	727	48	237	47,480	3,463	1,304	12,298	4,804	341	3,480	1,656	357
Superficial injuries	65,480	757	1,827	1,232	748	499	47	330	39,222	2,769	1,105	8,310	4,346	219	2,342	1,478	249
Contusions with intact skin surface	45,062	506	1,205	824	515	315	34	222	27,398	1,889	711	5,372	3,124	155	1,618	997	177
Foreign bodies	9,165	67	249	154	99	102	10	18	5,314	346	139	1,349	656	32	340	262	28
Burns and corrosions	5,964	65	143	102	58	69	8	27	3,832	198	105	649	339	24	187	137	21
Trauma complications and unspecified injuries	19,873	93	420	306	253	224	22	21	12,272	503	227	2,527	1,407	49	1,017	471	61
Poisonings	12,241	80	240	210	139	98	13	25	7,257	334	164	1,835	872	59	448	434	33
Surgical and medical complications	13,204	82	321	208	161	66	8	46	7,633	727	235	1,747	922	47	539	414	48

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; ‡ The collection of COVID-19 data began in mid March 2020.

TABLE 7C-2
NUMBER OF EMERGENCY ROOM VISITS FOR THE LEADING DIAGNOSIS GROUPS[a] AND COUNTY OF RESIDENCE, ARIZONA, 2020

Leading diagnosis	Total	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
Total	1,908,198	19,168	49,365	31,472	23,127	14,267	1,912	6,597	1,132,940	85,195	31,236	260,076	117,701	7,501	69,830	49,167	8,644
Abdominal pain	97,850	503	2,143	1,487	1,066	749	148	273	58,332	3,861	1,313	14,084	6,699	395	3,705	2,673	419
Chest pain	89,261	523	1,922	1,181	936	596	91	246	54,072	3,765	1,193	12,787	5,939	247	3,192	2,260	311
Acute upper respiratory infection, excluding pharyngitis	68,723	973	1,766	918	841	732	85	257	44,324	3,203	956	7,125	3,692	65	1,912	1,611	263
Mental disorders	67,460	1,292	1,707	3,404	982	384	42	208	35,262	3,210	2,594	9,797	3,706	195	2,722	1,711	244
Superficial injuries	65,480	757	1,827	1,232	748	499	47	330	39,222	2,769	1,105	8,310	4,346	219	2,342	1,478	249
COVID-19[±]	54,185	816	954	758	402	373	35	144	33,990	1,927	834	6,865	2,843	791	1,481	1,509	463
Spinal disorders	46,554	365	1,365	614	584	383	45	138	26,765	2,415	627	6,983	2,903	145	1,980	1,048	194
Contusion with intact skin surface	45,062	506	1,205	824	515	315	34	222	27,398	1,889	711	5,372	3,124	155	1,618	997	177
Open wound, excluding head	36,028	329	1,080	765	450	369	24	104	20,517	1,635	609	5,315	2,028	180	1,727	732	164
Heart disease, excluding ischemic	34,426	237	1,267	407	573	324	54	263	18,749	1,938	671	4,162	2,492	134	1,780	1,253	122
Urinary tract infection, site not specified	29,938	315	1,046	355	440	310	46	96	16,272	1,814	478	3,955	2,447	129	1,346	756	133
Nausea, vomiting	28,069	152	626	512	314	304	42	63	17,146	1,349	382	3,849	1,493	100	943	680	114
Cellulitis and abscess	26,184	218	799	346	408	189	25	106	15,425	1,324	447	3,732	1,468	60	1,004	566	67
Sprains and strains, excluding ankle and back	25,464	327	738	380	351	148	25	92	16,041	1,153	424	2,412	1,881	87	790	517	98
Open wound of head	24,594	124	507	396	283	261	23	27	15,179	646	285	3,309	1,679	70	1,171	560	74
Pneumonia	22,438	185	647	272	249	214	32	111	13,570	1,118	341	2,318	1,730	64	681	742	164
Headache	19,750	137	409	267	195	175	27	30	12,284	737	230	2,793	1,212	60	646	413	135
Rheumatism, excluding back	16,739	133	494	222	278	98	14	65	9,951	877	234	2,362	893	41	545	465	67
Asthma	15,883	206	291	179	176	89	10	50	10,193	598	210	2,094	928	23	383	405	48
Otitis media and eustachian tube disorders	15,629	196	343	171	208	136	9	43	10,620	480	201	1,584	873	18	384	311	52
Fever	14,665	66	304	228	119	90	6	27	9,166	449	145	2,460	738	66	413	291	97
Chronic and unspecified bronchitis	14,102	92	615	126	328	87	20	140	6,899	1,344	258	1,861	1,028	19	702	509	74
Gastroenteritis and colitis	13,967	114	397	131	237	80	17	41	8,502	469	190	1,947	802	77	472	415	76
Acute pharyngitis	13,139	490	326	222	149	189	17	40	7,243	677	224	2,200	568	31	394	294	75
Migraine	10,852	119	344	141	129	51	8	18	6,799	316	123	1,501	755	27	274	212	35
Sprains and strains of neck and back	2,777	13	51	29	29	6	0	25	1,704	214	18	254	177	10	87	136	24
Unspecified viral and chlamydial infection	150[†]	*	*	7	*	0	0	0	85	*	*	35	*	*	*	7	0

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [±] The collection of COVID-19 data began in mid March 2020; [a] Based on first-listed diagnosis.

7D

Injury-related Inpatient Discharges and Emergency Room Visits by Intent and Mechanism of Injury by County of Residence

TABLE 7D-1
INPATIENT DISCHARGES BY INTENT AND MECHANISM FOR SELECTED EXTERNAL CAUSES BY COUNTY OF RESIDENCE, ARIZONA, 2020

Intent/mechanism of injury	Total	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
UNINTENTIONAL INJURY	53,929	495	1,161	841	630	194	48	195	30,471	1,796	1,019	9,422	3,327	189	2,479	1,470	192
Falls	34,036	269	764	452	384	111	18	126	18,837	1,306	546	6,196	2,046	129	1,793	925	134
Transport accidents	8,203	94	129	159	74	35	8	28	5,008	145	193	1,254	571	18	285	181	21
Natural and environmental factors	6,260	67	154	136	82	25	11	19	3,351	219	150	1,159	376	22	218	255	16
Exposure to excessive natural heat	610†	*	*	*	0	0	0	*	441	28	*	60	44	*	*	17	*
Fire and flames	410†	8	12	6	6	*	*	*	233	11	14	66	15	*	16	12	*
Machinery	180†	6	*	*	*	*	0	*	104	*	*	18	18	0	10	8	*
SUICIDE ATTEMPT AND INTENTIONAL SELF-HARM	3,840†	52	88	86	69	28	*	6	2,155	56	120	733	261	*	94	68	12
ASSAULT	2,050†	65	15	45	45	14	*	9	1,217	30	122	295	108	*	26	49	6
INJURIES OF UNDETERMINED INTENT	440†	*	8	6	*	*	0	*	296	*	13	31	35	*	25	14	*
COMPLICATIONS OF CARE AND ADVERSE EFFECTS OF MEDICAL TREATMENT	34,539	239	637	354	429	118	28	112	20,748	1,143	622	5,321	2,524	107	1,184	889	84
Misadventures to patients	320†	*	*	9	*	*	*	6	137	19	22	60	27	*	7	11	*
Surgical and medical procedures as the cause of adverse reaction	30,120	198	533	277	368	103	19	91	18,487	966	530	4,563	2,129	97	1,006	684	69

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

TABLE 7D-2
EMERGENCY ROOM VISITS BY INTENT AND MECHANISM OF EXTERNAL CAUSES AND COUNTY OF RESIDENCE, ARIZONA, 2020

Intent/mechanism of injury	Total	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma	Unknown
UNINTENTIONAL INJURIES	356,400	3,328	9,701	5,972	4,301	3,350	369	1,190	211,255	14,760	5,894	47,848	21,801	1,507	14,819	8,813	1,492
Falls	129,419	1,219	3,777	2,288	1,750	972	123	464	74,218	5,753	2,219	17,675	8,101	551	6,651	3,093	565
Transport accidents	56,839	414	1,115	902	517	397	56	140	36,182	1,824	850	7,245	3,422	187	2,023	1,386	179
Struck against or struck accidentally by objects or person	38,010	409	991	625	562	330	27	130	23,258	1,510	545	4,738	2,360	108	1,357	915	145
Overexertion	26,305	338	1,079	447	384	384	45	105	15,604	1,358	362	2,553	1,706	81	1,194	590	75
Cutting or piercing instruments or objects	21,871	236	844	496	280	323	23	70	12,314	1,067	380	2,885	1,193	121	1,064	469	106
Natural and environmental factors	50,768	325	859	579	394	592	65	156	30,728	1,812	921	7,882	3,033	322	1,058	1,754	288
Exposure to excessive natural heat	1,370†	*	9	16	10	10	*	14	829	127	6	107	132	*	25	79	0
Fire and flames	2,090†	21	57	33	16	16	*	*	1,296	94	54	224	120	6	81	65	*
Machinery	2,128	17	40	47	36	15	0	11	1,139	87	50	340	125	9	144	64	*
Pedal cycle, nontraffic and other	5,737	26	136	150	54	30	7	13	3,563	152	49	872	272	25	272	95	21
Motor vehicle, nontraffic	700†	8	17	20	9	18	*	0	368	29	19	106	52	0	28	18	*
Firearm missile	1,260†	11	30	22	13	9	*	9	758	29	19	213	74	*	39	25	*
Drowning/submersion	100†	*	*	*	0	*	*	*	60	*	*	10	6	0	*	7	0
SUICIDE ATTEMPT AND INTENTIONAL SELF-HARM	6,887	58	139	218	66	70	11	9	3,978	190	148	926	559	20	292	191	12
ASSAULT	14,909	306	250	583	182	166	7	64	8,386	541	581	2,229	849	34	370	311	50
INJURIES OF UNDETERMINED INTENT	960†	26	35	17	17	6	*	*	612	11	12	75	51	*	52	39	*
COMPLICATIONS OF CARE AND ADVERSE EFFECTS OF MEDICAL TREATMENT	10,100†	42	110	101	132	36	*	42	6,145	584	156	1,033	757	17	473	452	14
Misadventures to patients	60†	*	0	0	*	0	0	*	30	*	14	8	*	0	*	0	0
Surgical and medical procedures as the cause of adverse reaction	7,620†	37	82	76	94	36	*	31	4,622	467	113	777	525	12	390	343	11

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

CHAPTER 8

HISTORICAL SUMMARY OF SELECTED VITAL EVENTS BY YEAR AND COUNTY, ARIZONA, 1970-2009

TABLE 8A-1
NUMBER OF BIRTHS BY YEAR AND COUNTY OF RESIDENCE, ARIZONA, 1970-2009

Year	Arizona	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz[a]	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
1970	37,591	1,369	1,352	1,407	693	371	232		19,695	465	1,484	6,735	1,555	297	543	1,393
1971	38,521	1,371	1,542	1,415	719	363	304		19,693	465	1,472	7,096	1,650	320	565	1,526
1972	37,501	1,448	1,525	1,361	624	383	227		19,005	443	1,411	7,062	1,603	325	649	1,435
1973	38,025	1,345	1,544	1,439	648	363	281		19,513	478	1,454	6,897	1,638	380	590	1,455
1974	39,906	1,395	1,486	1,453	709	388	278		20,585	518	1,494	7,329	1,759	353	625	1,534
1975	39,543	1,434	1,505	1,477	666	424	297		19,987	545	1,631	7,264	1,712	361	631	1,609
1976	40,028	1,585	1,394	1,502	644	429	269		20,179	591	1,665	7,363	1,636	390	732	1,649
1977	41,827	1,543	1,517	1,525	682	481	301		21,232	646	1,722	7,700	1,644	401	798	1,635
1978	43,058	1,625	1,564	1,620	652	423	257		22,386	644	1,713	7,659	1,699	440	782	1,604
1979	46,549	1,529	1,506	1,635	709	479	263		25,000	723	1,791	8,138	1,655	461	892	1,768
1980	50,049	1,627	1,570	1,824	705	512	272		26,769	871	1,899	8,931	1,840	499	937	1,793
1981	51,620	1,681	1,646	1,733	760	509	299		27,800	886	1,816	9,130	1,899	519	998	1,944
1982	52,628	1,845	1,555	1,768	810	468	256		28,598	886	1,883	9,155	1,945	491	1,067	1,901
1983	52,919	1,787	1,565	1,808	683	435	185	236	28,758	926	1,911	9,585	1,869	457	1,032	1,682
1984	55,109	1,817	1,618	1,813	672	446	195	195	30,711	988	1,864	9,678	1,849	512	999	1,752
1985	59,344	1,853	1,559	1,946	642	406	161	234	33,780	968	1,895	10,278	2,049	523	1,088	1,962
1986	60,822	1,757	1,524	1,828	625	395	106	215	35,334	1,065	1,896	10,423	2,053	504	1,129	1,968
1987	63,320	1,852	1,606	2,006	569	445	124	198	36,624	1,177	1,981	10,924	2,126	547	1,171	1,970
1988	65,544	1,892	1,638	1,966	659	418	111	214	38,108	1,225	1,957	11,217	2,094	665	1,285	2,095
1989	67,128	1,781	1,730	2,040	651	448	104	217	39,179	1,353	1,993	11,257	2,097	700	1,244	2,334
1990	68,814	1,800	1,738	1,965	749	424	105	162	40,414	1,488	1,972	11,412	2,133	784	1,220	2,448
1991	68,040	1,737	1,623	1,951	640	442	154	184	39,907	1,558	1,873	11,307	2,117	775	1,227	2,545
1992	68,675	1,618	1,742	1,876	697	437	136	169	40,077	1,513	1,844	11,522	2,051	907	1,294	2,792
1993	69,037	1,608	1,661	1,842	662	449	160	221	40,392	1,752	1,849	11,301	2,066	810	1,330	2,934
1994	70,896	1,469	1,702	1,732	673	417	150	222	42,313	1,863	1,790	11,370	2,041	768	1,377	3,009
1995	72,386	1,332	1,755	1,762	684	397	157	191	44,020	1,841	1,653	11,202	2,029	788	1,532	3,042
1996	75,094	1,282	1,726	1,857	671	471	164	152	46,529	1,816	1,702	11,288	2,110	797	1,576	2,952
1997	75,563	1,327	1,650	1,802	665	491	166	200	47,127	1,763	1,656	11,372	2,150	778	1,546	2,861
1998	77,940	1,289	1,633	1,755	711	488	141	169	49,324	1,678	1,769	11,455	2,231	773	1,693	2,815
1999	80,505	1,104	1,668	1,804	672	476	141	135	51,503	1,745	1,751	11,866	2,401	754	1,627	2,841
2000	84,985	1,290	1,737	1,858	676	459	108	184	54,470	1,783	1,682	12,512	2,607	798	1,758	3,007
2001	85,213	1,074	1,637	1,873	649	443	95	185	55,624	1,819	1,573	12,140	2,555	759	1,744	3,000
2002	87,379	1,113	1,711	1,867	696	487	97	230	56,614	1,983	1,634	12,461	2,705	762	1,918	3,071
2003	90,783	1,250	1,756	1,920	692	434	87	216	59,000	2,135	1,716	12,799	2,919	792	1,850	3,187
2004	93,396	1,336	1,810	2,027	668	451	102	230	60,535	2,191	1,789	13,030	3,068	808	1,997	3,318
2005	95,798	1,283	1,769	2,070	649	452	99	245	62,232	2,237	1,903	12,976	3,641	781	2,115	3,292
2006	102,042	1,189	1,808	2,062	667	540	110	229	66,160	2,468	1,877	13,929	4,467	753	2,380	3,354
2007	102,687	1,149	1,860	2,132	694	582	138	230	65,931	2,439	2,012	13,798	5,285	766	2,411	3,252
2008	99,215	1,211	1,781	1,985	697	644	131	246	62,667	2,301	1,944	13,503	5,731	796	2,216	3,362
2009	92,616	1,242	1,846	1,894	704	645	130	174	57,663	2,220	1,893	12,840	5,309	761	2,061	3,234

Notes: [a] Included in Yuma County prior to 1983; The number of births by county of residence for 2010-2020 are in Table 5B-3.

TABLE 8A-2
BIRTH RATES[a] BY YEAR AND COUNTY OF RESIDENCE, ARIZONA 1970-2009

Year	U.S.	Arizona	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz[b]	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
1970	18.4	21.2	42.4	21.8	29.1	23.7	22.4	22.5		20.3	18.0	31.2	19.2	22.7	21.3	14.7	22.9
1971	17.2	20.6	39.1	23.4	27.0	23.7	21.2	27.6		19.4	16.5	28.9	19.0	22.5	23.1	14.2	24.0
1972	15.6	19.1	39.9	22.1	24.1	20.3	22.3	20.6		17.8	14.7	27.2	17.9	21.1	21.1	14.9	22.1
1973	14.9	18.3	34.6	21.3	23.9	20.3	19.7	24.6		17.3	14.3	27.1	16.6	20.3	23.2	12.6	21.9
1974	15.0	18.5	35.2	20.2	23.1	21.7	19.9	23.2		17.4	14.7	26.4	17.2	20.8	20.5	12.8	22.4
1975	14.6	17.8	35.0	20.3	22.6	20.5	21.0	25.0		16.4	14.6	28.1	16.5	19.5	20.9	12.9	22.9
1976	14.6	17.6	36.2	18.5	22.1	19.6	21.2	23.4		16.2	15.0	27.2	16.2	18.9	23.2	14.8	24.3
1977	15.1	17.8	34.6	19.8	22.6	20.4	23.5	26.9		16.5	15.3	27.6	16.6	18.3	22.0	14.0	21.8
1978	15.0	17.4	33.0	20.0	21.3	18.5	20.6	22.3		16.4	14.6	24.1	15.9	19.4	23.0	13.0	21.2
1979	15.6	17.7	31.1	18.3	20.1	19.8	22.0	22.3		17.2	14.7	24.3	15.6	18.1	23.5	14.5	22.6
1980	15.9	18.4	31.2	18.1	24.3	19.0	22.4	23.8		17.8	15.6	28.1	16.8	20.2	24.4	13.8	19.8
1981	15.8	18.4	32.0	18.5	21.6	20.2	21.9	24.7		17.9	15.6	26.2	16.6	20.3	24.5	14.3	21.3
1982	15.9	18.2	33.1	17.3	21.2	21.2	19.6	19.5		17.8	15.5	26.6	16.1	20.5	22.3	14.8	20.0
1983	15.5	18.0	31.4	17.2	22.2	17.5	18.0	15.4	17.3	17.6	15.5	26.5	16.5	19.3	20.6	14.0	20.1
1984	15.5	17.9	34.9	17.7	22.0	17.7	18.6	17.1	14.5	17.7	15.2	26.3	16.0	18.8	22.8	12.3	20.4
1985	15.8	18.6	32.9	16.2	22.6	16.8	17.4	18.5	16.3	18.8	13.3	26.2	16.5	20.5	19.3	12.4	21.8
1986	15.5	18.1	29.0	15.6	20.5	15.7	16.1	11.1	15.2	18.5	13.8	25.6	16.2	19.8	18.3	12.3	22.4
1987	15.7	18.3	29.7	16.0	21.8	14.2	18.0	12.9	14.0	18.4	14.8	26.2	15.6	19.8	18.7	12.3	22.0
1988	15.9	18.2	29.4	16.0	20.7	16.3	17.0	11.6	15.0	18.4	15.0	25.2	16.4	19.0	22.1	13.1	22.9
1989	16.2	18.0	26.8	16.5	20.9	15.9	17.9	11.0	15.0	18.2	16.2	25.1	15.8	18.5	22.6	12.3	25.0
1990	16.7	18.8	29.2	17.8	20.3	18.6	16.0	13.1	11.7	19.0	15.9	25.4	17.1	18.3	26.4	11.3	22.9
1991	16.3	18.1	27.8	16.3	19.7	15.8	16.3	19.9	13.1	18.3	15.8	23.8	16.6	17.8	25.0	11.0	23.0
1992	15.9	17.8	25.7	17.2	18.5	16.7	15.8	16.3	11.4	17.9	14.3	22.9	16.5	16.7	29.2	11.3	24.7
1993	15.5	17.5	25.1	16.2	17.8	15.7	15.9	18.9	14.7	17.7	16.0	22.6	15.8	16.6	25.5	11.3	19.3
1994	15.2	17.6	22.6	16.3	16.3	15.8	14.6	17.5	14.5	18.1	16.5	21.6	15.5	16.1	23.6	11.4	25.5
1995	14.9	17.3	20.8	16.0	16.1	15.4	12.7	18.5	11.6	18.2	14.6	20.0	15.0	14.9	23.8	12.0	24.7
1996	14.8	16.8	19.9	15.0	16.4	14.8	15.1	19.0	8.4	17.7	14.2	20.2	14.5	14.6	22.7	11.7	23.6
1997	14.2	16.4	20.3	14.1	15.5	14.4	15.2	19.0	10.7	17.3	13.3	19.4	14.2	14.5	21.7	11.1	22.3
1998	14.3	16.5	19.5	13.8	14.8	15.1	14.7	16.0	8.8	17.6	12.2	20.4	14.0	14.6	21.1	11.8	21.4
1999	14.2	16.3	16.5	13.4	14.7	13.4	13.3	15.3	7.0	17.7	11.7	18.7	14.0	14.5	19.3	10.4	20.3
2000	14.4	16.6	18.6	14.8	16.0	13.2	13.7	12.6	9.3	17.7	11.5	17.3	14.8	14.5	20.8	10.5	18.8
2001	14.1	16.1	15.7	13.7	15.9	12.6	13.3	11.4	9.4	17.4	11.2	15.7	14.1	13.5	19.2	9.9	18.2
2002	13.9	16.0	15.9	13.8	14.9	13.1	14.3	11.3	11.3	17.2	11.9	16.1	14.0	14.1	19.1	10.6	18.1
2003	14.1	16.1	17.7	13.9	14.9	12.9	12.6	10.1	10.4	17.4	12.5	16.5	14.1	14.5	19.4	9.9	18.2
2004	14.0	16.0	18.7	13.9	15.6	12.4	12.5	12.2	10.9	17.2	12.2	16.7	14.0	14.1	19.2	10.2	18.3
2005	14.0	15.8	17.4	13.4	15.9	11.9	12.7	11.9	11.6	17.1	11.9	17.3	13.6	14.8	17.7	10.3	17.4
2006	14.2	16.4	15.9	13.4	15.5	12.1	15.1	13.3	10.7	17.6	12.7	16.7	14.2	16.6	16.6	11.2	17.2
2007	14.3	16.0	15.2	13.5	15.8	12.4	16.0	16.7	10.6	17.0	12.1	17.4	13.7	18.0	16.5	11.0	16.1
2008	14.2	15.2	15.9	12.8	14.6	12.2	16.7	14.6	11.4	16.0	11.2	16.9	13.3	17.8	16.8	9.8	16.5
2009	13.5	14.0	16.2	13.0	13.7	11.9	16.2	15.0	8.0	14.5	10.9	16.4	12.6	16.2	16.0	9.1	15.8

Notes: [a] Number of births per 1,000 population; [b] Included in Yuma County prior to 1983; The birth rates by county of residence for 2010-2020 are in Table 5B-2.

TABLE 8B-1
NUMBER OF DEATHS BY YEAR AND COUNTY OF RESIDENCE, ARIZONA 1970-2009

Year	Arizona	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz[a]	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
1970	14,857	266	511	288	282	149	77		7,895	238	341	3,062	548	90	555	555
1971	15,671	312	476	297	332	153	72		8,218	279	405	3,265	625	97	573	567
1972	15,809	300	538	292	290	142	64		8,289	291	359	3,345	629	118	606	546
1973	16,844	377	499	310	303	166	81		8,939	353	383	3,459	661	134	627	552
1974	17,031	320	517	302	330	177	84		9,240	355	355	3,508	608	113	566	556
1975	16,964	316	512	278	284	174	74		9,147	406	355	3,511	579	120	647	561
1976	17,302	335	503	285	336	133	66		9,429	421	494	3,489	628	127	631	522
1977	17,993	325	545	320	334	157	61		9,972	435	379	3,479	638	123	668	557
1978	19,097	355	534	306	340	150	56		10,614	491	365	3,708	692	117	732	637
1979	19,648	314	595	319	377	174	60		10,919	442	437	3,832	708	135	724	612
1980	21,226	302	631	309	330	171	86		11,769	549	415	4,311	731	121	801	700
1981	21,318	302	628	308	337	184	52		11,923	548	415	4,253	745	125	813	685
1982	21,951	317	644	339	417	164	73		12,214	612	400	4,279	741	135	878	738
1983	22,482	294	712	320	385	194	61	140	12,433	593	406	4,506	782	131	961	574
1984	23,785	306	664	341	396	175	66	154	13,398	607	428	4,734	814	150	964	588
1985	24,577	330	687	379	381	169	47	136	13,661	753	460	4,865	785	148	1,057	719
1986	25,409	335	662	383	399	189	50	128	14,106	795	484	5,090	942	147	1,032	667
1987	26,670	343	764	392	408	193	67	151	14,746	877	462	5,295	922	159	1,213	678
1988	27,511	329	748	404	413	197	64	157	15,217	972	471	5,362	1,019	193	1,217	748
1989	27,838	344	748	386	426	216	49	144	15,495	995	506	5,324	1,066	172	1,254	713
1990	28,471	391	797	397	462	220	58	132	15,805	1,070	521	5,571	1,004	139	1,218	686
1991	29,173	389	801	413	491	228	64	169	16,048	1,112	465	5,738	1,051	181	1,293	730
1992	30,814	406	806	439	488	237	47	171	17,085	1,183	556	5,952	1,059	167	1,410	723
1993	33,295	397	885	465	537	217	78	142	18,310	1,330	628	6,398	1,088	199	1,491	846
1994	34,282	369	836	451	500	229	50	159	19,001	1,390	598	6,648	1,220	187	1,520	820
1995	35,428	380	919	526	586	259	65	186	19,340	1,464	580	6,689	1,323	188	1,693	888
1996	36,579	459	936	474	540	274	59	183	20,339	1,441	658	6,876	1,275	180	1,661	863
1997	37,151	390	977	464	580	234	59	170	20,327	1,639	658	6,995	1,345	213	1,804	913
1998	38,395	418	1,027	542	624	269	67	207	21,041	1,807	611	6,993	1,452	215	1,876	922
1999	39,673	436	1,005	486	636	290	67	165	22,348	1,752	682	7,229	1,426	197	1,899	928
2000	40,202	453	1,067	501	578	244	73	185	22,600	1,917	656	7,329	1,541	204	1,897	946
2001	40,851	479	1,087	548	637	256	45	171	22,790	1,915	677	7,460	1,513	203	1,927	1,004
2002	42,320	448	1,078	592	658	262	63	217	23,490	2,047	692	7,691	1,672	237	2,036	1,122
2003	42,830	509	1,126	620	638	265	55	183	23,549	2,151	813	7,719	1,684	215	2,149	1,133
2004	42,736	521	1,099	592	647	274	46	225	23,533	2,253	775	7,625	1,673	225	2,089	1,137
2005	45,115	499	1,116	632	690	282	62	181	24,902	2,345	802	7,948	1,886	257	2,263	1,246
2006	45,415	454	1,140	619	627	295	65	200	25,176	2,354	860	7,885	1,948	238	2,386	1,164
2007	44,640	522	1,093	621	666	282	63	204	24,417	2,153	888	7,899	2,033	263	2,342	1,180
2008	45,128	510	1,185	675	718	294	52	200	24,304	2,461	793	8,075	2,023	252	2,373	1,105
2009	45,065	530	1,122	676	646	271	50	227	24,349	2,260	825	8,065	1,994	284	2,303	1,306

Notes: [a] Included in Yuma County prior to 1983; The number of deaths by county of residence for 2010-2020 are in Table 5E-1.

TABLE 8B-2
DEATH RATES[a] BY YEAR AND COUNTY OF RESIDENCE, ARIZONA 1970-2009

Year	U.S.	Arizona	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz[b]	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
1970	9.4	8.4	8.2	8.3	6.0	9.6	9.0	7.5		8.1	9.2	7.2	8.7	8.0	6.4	15.0	9.1
1971	9.3	8.4	8.9	7.2	5.7	10.9	8.9	6.5		8.1	9.9	8.0	8.8	8.5	6.6	14.4	8.9
1972	9.4	8.1	8.3	7.8	5.2	9.4	8.3	5.8		7.8	9.7	6.9	8.5	8.3	7.7	13.9	8.4
1973	9.4	8.1	9.7	6.9	5.2	9.5	9.0	7.1		7.9	10.5	7.1	8.3	8.2	8.2	13.4	8.3
1974	9.1	7.9	8.1	7.0	4.8	10.1	9.1	7.0		7.8	10.1	6.3	8.2	7.2	6.6	11.6	8.1
1975	8.8	7.6	7.7	6.9	4.3	8.7	8.6	6.2		7.5	10.9	6.1	8.0	6.6	6.9	13.2	8.0
1976	8.8	7.6	7.7	6.7	4.2	10.2	6.6	5.7		7.6	10.7	6.4	7.7	7.2	7.6	12.7	7.7
1977	8.6	7.7	7.3	7.1	4.7	10.0	7.7	5.4		7.7	10.3	6.1	7.5	7.1	6.8	11.7	7.4
1978	8.7	7.7	7.2	6.8	4.0	9.8	7.3	4.9		7.8	11.1	5.1	7.7	7.9	6.1	12.2	8.4
1979	8.5	7.5	6.4	7.2	3.9	10.5	8.0	5.1		7.5	9.0	5.9	7.4	7.7	6.9	11.7	7.8
1980	8.8	7.8	5.8	7.3	4.1	8.9	7.5	7.5		7.8	9.8	6.1	8.1	8.0	5.9	11.8	7.7
1981	8.6	7.6	5.8	7.1	3.8	8.9	7.9	4.3		7.7	9.7	6.0	7.7	8.0	5.9	11.7	7.5
1982	8.5	7.6	5.7	7.2	4.1	10.9	6.9	5.6		7.6	10.7	5.7	7.5	7.8	6.1	12.2	7.8
1983	8.6	7.7	5.2	7.8	3.9	9.9	7.6	5.1	10.8	7.6	9.9	5.6	7.7	8.1	5.9	13.1	7.1
1984	8.6	7.7	5.9	7.3	4.1	10.5	7.3	5.8	11.4	7.7	9.3	6.0	7.8	8.3	6.7	11.9	6.9
1985	8.7	7.7	5.9	7.1	4.4	10.0	7.2	5.4	9.4	7.6	10.4	6.4	7.8	7.8	5.5	12.0	8.0
1986	8.8	7.6	5.9	6.8	4.3	10.0	7.7	5.2	9.1	7.4	10.3	6.5	7.9	9.1	5.3	11.3	7.6
1987	8.8	7.7	5.5	7.6	4.3	10.0	7.4	6.9	10.1	7.4	11.1	6.1	8.0	8.6	5.5	12.8	7.6
1988	8.9	7.7	5.1	7.3	4.3	10.2	8.0	6.7	11.0	7.4	11.9	6.1	7.8	9.2	6.4	12.4	8.2
1989	8.7	7.5	5.2	7.2	4.0	10.4	8.6	5.2	9.7	7.2	11.9	6.4	7.5	9.4	5.6	12.4	7.6
1990	8.6	7.8	6.3	8.2	4.1	11.5	8.3	7.2	9.5	7.4	11.4	7.6	8.4	8.6	4.7	11.3	6.4
1991	8.6	7.8	6.2	8.1	4.2	12.1	8.4	8.3	12.1	7.4	11.2	6.0	8.4	8.8	5.8	11.6	6.6
1992	8.5	8.0	6.5	8.0	4.3	11.7	8.6	5.6	11.5	7.6	11.2	6.9	8.5	8.6	5.4	12.4	6.4
1993	8.8	8.4	6.2	8.6	4.5	12.7	7.7	9.2	9.4	8.0	12.6	7.7	8.9	8.7	6.3	12.7	7.3
1994	8.8	8.5	5.7	8.0	4.3	11.8	8.0	5.5	10.3	8.1	12.3	7.2	9.1	9.6	5.7	12.6	6.4
1995	8.8	8.5	5.9	8.4	4.8	13.2	8.3	7.6	11.3	8.0	11.6	7.0	9.0	9.7	5.7	13.3	7.2
1996	8.8	8.2	7.1	8.1	4.1	12.0	8.8	6.8	10.0	7.7	11.3	7.8	8.8	8.8	5.1	12.3	6.9
1997	8.5	8.1	6.0	8.4	4.0	12.6	7.3	6.8	9.1	7.6	12.4	7.7	8.8	9.0	5.9	12.9	7.1
1998	8.5	8.1	6.3	8.7	4.6	13.3	8.1	7.6	10.7	7.5	13.1	7.1	8.6	9.5	5.9	13.0	7.0
1999	8.6	8.1	6.5	8.1	4.0	12.7	8.1	7.3	8.6	7.7	11.7	7.3	8.5	8.6	5.0	12.2	6.6
2000	8.5	7.8	6.5	9.1	4.3	11.3	7.3	8.5	9.4	7.4	12.4	6.7	8.7	8.6	5.3	11.3	5.9
2001	8.5	7.7	7.0	9,1	4.6	12.4	7.7	5.4	8.7	7.1	11.8	6.8	8.6	8.0	5.1	11.0	6.1
2002	8.5	7.7	6.4	8.7	4.7	12.4	7.7	7.3	10.7	7.1	12.3	6.8	8.6	8.7	5.9	11.3	6.6
2003	8.4	7.6	7.2	9.0	4.8	12.0	7.7	6.4	8.8	7.0	12.6	7.8	8.5	8.4	5.3	11.5	6.5
2004	8.0	7.3	7.3	8.4	4.6	12.0	7.6	5.5	10.6	6.7	12.5	7.2	8.2	7.7	5.4	10.6	6.3
2005	8.3	7.5	6.8	8.5	4.8	12.7	8.0	7.5	8.5	6.8	12.5	7.3	8.3	7.6	5.8	11.0	6.6
2006	8.1	7.3	6.1	8.5	4.7	11.4	8.2	7.8	9.3	6.7	12.1	7.6	8.0	7.2	5.3	11.2	6.0
2007	8.0	6.9	6.9	7.9	4.6	11.9	7.8	7.6	9.4	6.3	10.7	7.7	7.9	6.9	5.7	10.6	5.9
2008	8.2	6.9	6.7	8.5	5.0	12.5	7.6	5.8	9.3	6.2	12.0	6.9	8.0	6.3	5.3	10.5	5.4
2009	8.3	6.8	6.9	7.9	4.9	10.9	6.8	5.8	10.4	6.1	11.1	7.1	7.9	6.1	6.0	10.1	6.4

Notes: [a] Number of deaths per 1,000 population (unadjusted for differences in the age composition); [b] Included in Yuma County prior to 1983; The death rates by county of residence for 2010-2020 are in Table 5E-4.

TABLE 8C-1
NUMBER OF INFANT MORTALITY BY YEAR AND COUNTY OF RESIDENCE, ARIZONA, 1970-2009

Year	Arizona	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz[a]	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
1970	670†	36	19	39	11	9	9		305	*	43	120	36	*	8	27
1971	710†	25	22	34	25	*	6		330	10	53	113	39	*	11	37
1972	630†	34	26	35	17	*	*		282	*	30	117	35	*	16	19
1973	590†	40	28	25	11	*	*		285	*	32	86	32	9	12	16
1974	590†	30	24	35	14	7	*		316	7	37	79	22	*	*	15
1975	590†	27	24	32	11	8	7		289	6	33	81	31	*	8	25
1976	610†	26	27	28	17	9	*		285	11	40	95	31	*	9	29
1977	560†	21	18	32	11	9	*		282	11	36	68	28	*	19	18
1978	560†	29	21	22	9	7	0		307	11	27	72	20	*	12	23
1979	640†	33	25	34	10	*	*		344	8	32	83	23	*	11	21
1980	620†	23	19	20	12	8	*		358	18	27	72	17	*	11	26
1981	600†	25	22	20	*	14	*		333	8	29	84	17	*	15	22
1982	490†	21	14	16	13	*	*		265	11	18	76	19	*	10	16
1983	510†	20	20	22	*	*	0	8	266	9	23	88	17	*	11	14
1984	530†	25	23	16	*	7	*	*	272	8	18	96	27	*	11	12
1985	570†	22	15	21	*	*	*	6	319	7	26	94	18	*	9	19
1986	570†	16	8	18	8	*	*	0	340	11	12	94	27	*	13	12
1987	600†	16	11	15	*	*	0	*	368	10	31	84	19	7	11	18
1988	630†	10	14	22	7	*	*	*	382	15	21	104	15	7	13	16
1989	610†	13	12	18	*	*	0	*	362	23	31	81	23	8	12	20
1990	600†	15	13	22	*	*	0	*	359	17	23	93	17	8	8	17
1991	580†	14	17	19	14	*	0	*	333	9	14	98	21	*	18	14
1992	570†	19	10	14	7	*	0	0	342	16	23	89	17	*	9	14
1993	530†	15	16	19	*	*	*	*	317	13	13	80	11	*	11	15
1994	560†	13	15	14	6	*	*	*	333	13	13	88	22	*	10	14
1995	550†	14	22	10	*	*	*	*	324	14	18	88	15	*	12	14
1996	580†	7	13	17	6	8	*	0	361	20	17	74	12	*	13	17
1997	540†	8	10	17	7	*	0	*	345	17	12	70	21	*	8	9
1998	590†	10	13	17	*	*	*	*	358	19	21	75	22	*	18	21
1999	550†	11	12	*	6	*	*	*	366	14	15	64	18	*	8	18
2000	570†	16	11	16	6	*	0	*	356	16	11	76	25	*	12	16
2001	590†	8	12	6	*	*	*	*	371	12	10	92	21	*	14	25
2002	550†	6	13	13	8	6	*	*	361	9	7	90	16	*	9	8
2003	590†	6	19	11	6	*	0	*	369	21	15	84	19	*	8	23
2004	620†	12	13	14	6	*	*	*	396	16	12	99	20	7	6	17
2005	650†	14	19	14	7	*	*	*	383	27	17	109	30	*	10	14
2006	640†	6	17	10	*	*	0	*	406	18	9	100	29	*	19	18
2007	700†	6	16	13	10	7	0	*	422	17	22	100	39	*	19	24
2008	630†	13	11	11	*	6	*	*	382	8	17	97	33	*	9	26
2009	550†	11	10	6	*	*	0	*	329	12	9	81	39	*	15	20

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Included in Yuma County prior to 1983; The number of infant deaths by county of residence for 2010-2020 are in Table 5E-16.

TABLE 8C-2
INFANT MORTALITY RATES[a] BY YEAR AND COUNTY OF RESIDENCE, ARIZONA 1970-2009

Year	U.S.	Arizona	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz[b]	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
1970	19.8	17.8	26.3	14.1	27.7	15.9	24.3	38.8		15.5	**	29.0	17.3	23.2	**	14.7	19.4
1971	19.2	18.4	18.2	14.3	24.0	34.8	**	19.7		16.8	21.5	36.9	15.9	23.6	**	19.5	24.2
1972	18.5	16.7	23.5	17.0	25.7	27.2	**	**		14.8	**	21.3	16.6	21.8	**	24.7	13.2
1973	17.7	15.4	29.7	18.1	17.4	17.0	**	**		14.6	**	22.0	12.5	19.5	23.7	20.3	11.0
1974	16.7	14.9	21.5	16.2	24.1	19.7	18.0	**		15.4	13.5	24.8	10.8	12.5	**	**	9.8
1975	16.1	14.8	18.8	15.9	21.6	16.5	18.8	23.5		14.4	11.0	20.2	11.1	18.1	**	12.6	15.5
1976	15.2	15.3	16.4	19.4	18.6	26.4	21.0	**		14.1	18.6	24.0	12.9	19.0	**	12.3	17.6
1977	14.1	13.4	13.6	11.9	21.0	16.1	18.7	**		13.3	17.0	20.9	8.8	17.0	**	23.8	11.0
1978	13.8	13.1	17.8	13.4	13.6	14.0	16.5	0.0		13.7	17.1	15.8	9.4	11.8	**	15.3	14.3
1979	13.1	13.6	21.6	16.6	20.8	14.1	**	**		13.8	11.1	17.9	10.2	13.9	**	12.3	11.9
1980	12.6	12.4	14.1	12.1	10.9	17.0	15.6	**		13.4	20.7	14.2	8.1	9.2	**	11.8	14.6
1981	11.9	11.6	14.9	13.4	11.5	**	27.5	**		12.0	9.0	16.0	9.2	9.0	**	15.0	11.3
1982	11.5	9.3	11.4	9.0	9.0	16.0	**	**		9.3	12.4	9.6	8.3	9.8	**	9.4	8.4
1983	11.2	9.6	11.2	12.8	12.2	**	**	0.0	33.9	9.2	9.7	12.0	9.2	9.1	**	10.7	8.3
1984	10.8	9.5	13.8	14.2	8.8	**	15.7	**	**	8.9	8.1	9.7	9.9	14.6	**	11.0	6.9
1985	10.6	9.6	11.9	9.6	10.8	**	**	**	25.6	9.4	7.2	13.7	9.1	8.8	**	8.3	9.7
1986	10.4	9.4	9.1	5.2	9.8	12.8	**	**	0.0	9.6	10.3	6.3	9.0	13.1	**	11.5	6.1
1987	10.0	9.4	8.6	6.8	7.5	**	**	0.0	**	10.0	8.5	15.6	7.7	8.9	12.8	9.4	9.1
1988	9.9	9.7	5.3	8.5	11.2	10.6	**	**	**	10.0	12.2	10.7	9.3	7.2	12.0	10.1	7.6
1989	9.7	9.1	7.3	6.9	8.8	**	**	0.0	**	9.2	17.0	15.6	7.2	11.0	11.4	9.6	8.6
1990	9.1	8.7	8.3	7.5	11.2	**	**	0.0	**	8.9	11.4	11.7	8.1	8.0	10.2	6.6	6.9
1991	8.9	8.6	8.1	10.5	9.7	21.9	**	0.0	**	8.3	5.8	7.5	8.7	9.9	**	14.7	5.5
1992	8.5	8.3	11.7	5.7	7.5	10.0	**	0.0	0.0	8.5	10.6	12.5	7.7	8.3	**	7.0	5.0
1993	8.3	7.7	9.3	9.6	10.3	**	**	**	**	7.8	7.4	7.0	7.1	5.3	**	8.3	5.1
1994	7.9	7.9	8.8	8.8	8.1	8.9	**	**	**	7.9	7.0	7.3	7.7	10.8	**	7.3	4.7
1995	7.6	7.6	10.6	12.5	5.7	**	**	**	**	7.4	7.6	10.9	7.9	7.4	**	7.8	4.6
1996	7.3	7.7	5.5	7.5	9.2	8.9	17.0	**	0.0	7.8	11.0	10.0	6.6	5.7	**	8.2	5.8
1997	7.2	7.2	6.0	6.1	9.4	10.5	**	0.0	**	7.3	9.6	7.2	6.2	9.8	**	5.2	3.1
1998	7.2	7.6	7.8	8.0	9.7	**	**	**	**	7.3	11.3	11.9	6.5	9.9	**	10.6	7.5
1999	7.1	6.8	10.0	7.2	**	8.9	**	**	**	7.1	8.0	8.6	5.4	7.5	**	4.9	6.3
2000	6.9	6.7	12.4	6.3	8.6	8.9	**	0.0	**	6.5	9.0	6.5	6.1	9.6	**	6.8	5.3
2001	6.8	6.9	7.4	7.3	3.2	**	**	**	**	6.7	6.6	6.4	7.6	8.2	**	8.0	8.3
2002	7.0	6.3	5.4	7.6	7.0	11.5	12.3	**	**	6.4	4.5	4.3	7.2	5.9	**	4.7	2.6
2003	6.8	6.5	4.8	10.8	5.7	8.7	**	0.0	**	6.3	9.8	8.7	6.6	6.5	**	4.3	7.2
2004	6.8	6.7	9.0	7.2	6.9	9.0	**	**	**	6.5	7.3	6.7	7.6	6.5	8.7	3.0	5.1
2005	6.9	6.8	10.9	10.7	6.8	10.8	**	**	**	6.2	12.1	8.9	8.4	8.2	**	4.7	4.3
2006	6.9	6.3	5.0	9.4	4.8	**	**	0.0	**	6.1	7.3	4.8	7.2	6.5	**	8.0	5.4
2007	6.7	6.8	5.2	8.6	6.1	14.4	12.0	0.0	**	6.4	7.0	10.9	7.2	7.4	**	7.9	7.4
2008	6.5	6.3	10.7	6.2	5.5	**	9.3	**	**	6.1	3.5	8.7	7.2	5.8	**	4.1	7.7
2009	6.4	5.9	8.9	5.4	3.2	**	**	0.0	**	5.7	5.4	4.8	6.3	7.3	**	7.3	6.2

Notes: ** Cell supressed due to rate/ratio/percent based on non-zero count less than 6; [a] Number of infant deaths per 1,000 live births; [b] Included in Yuma County prior to 1983; The infant mortality rates by county of residence for 2010-2020 are in Table 5E-17.

TABLE 8D-1
NUMBER OF MARRIAGES BY YEAR AND COUNTY OF OCCURRENCE, ARIZONA, 1970-2009

Year	Arizona	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz[a]	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
1970	19,069	103	681	561	391	208	103		10,193	121	328	3,933	746	364	382	955
1971	20,865	127	729	567	401	216	123		10,630	176	360	4,364	884	375	363	1,117
1972	23,318	159	789	615	421	251	111		12,404	200	396	4,929	961	365	445	1,272
1973	26,180	139	840	753	523	237	137		13,330	209	428	4,856	1,073	402	457	2,896
1974	27,038	125	834	711	503	216	116		13,314	232	420	5,175	914	383	477	3,615
1975	26,558	146	874	645	469	292	150		13,022	223	420	5,252	791	316	465	3,493
1976	26,534	133	889	590	451	270	114		13,241	282	455	5,116	907	313	471	3,302
1977	26,955	105	998	645	437	306	107		14,011	243	458	5,113	846	305	530	2,851
1978	27,725	160	854	561	451	259	108		14,865	321	566	5,296	824	345	497	2,618
1979	29,603	138	969	683	497	269	123		15,596	377	546	5,957	917	324	522	2,685
1980	30,223	165	1,072	775	512	317	85		16,134	408	581	5,728	947	311	610	2,579
1981	31,906	196	1,008	946	551	331	103		17,176	481	511	6,152	925	286	745	2,495
1982	31,408	227	946	878	437	276	90		17,551	457	519	6,096	861	316	658	2,096
1983	30,809	169	995	554	417	270	68	103	17,431	491	496	6,046	857	289	726	1,897
1984	33,311	192	961	624	411	261	63	98	19,408	531	517	6,282	920	325	743	1,975
1985	35,723	181	992	656	403	284	53	186	21,860	698	548	5,692	923	350	887	2,010
1986	36,025	217	981	855	418	327	53	193	21,340	788	504	6,325	847	356	889	1,932
1987	36,207	195	878	940	419	275	59	145	21,003	1,056	486	6,677	895	311	879	1,989
1988	35,661	192	887	976	378	277	56	186	20,610	1,456	591	6,088	872	329	789	1,974
1989	35,738	265	829	958	420	292	36	140	20,518	1,764	536	6,095	738	356	762	2,028
1990	36,842	279	846	982	439	282	46	235	20,957	2,122	576	6,128	837	355	786	2,872
1991	36,682	245	590	946	414	264	68	181	21,038	2,604	478	6,188	725	293	793	1,855
1992	37,102	229	917	1,026	489	335	59	198	19,458	3,399	512	6,415	794	327	882	2,062
1993	39,650	275	1,015	985	392	278	61	186	19,909	5,367	659	6,294	919	315	960	2,035
1994	39,173	278	1,018	1,053	486	317	63	180	19,861	4,602	690	6,522	921	346	1,034	1,902
1995	40,030	277	1,020	1,014	422	322	62	132	21,021	4,659	540	6,383	986	278	966	1,948
1996	39,611	266	1,017	1,064	460	329	75	188	20,651	3,878	640	6,777	1,097	312	1,067	1,790
1997	41,426	274	1,024	1,089	428	384	64	173	22,032	3,402	643	7,612	1,114	343	1,073	1,771
1998	37,806	280	1,004	964	414	257	71	174	20,636	3,279	580	6,097	1,140	258	1,052	1,600
1999	41,174	290	1,013	946	413	244	58	150	24,223	3,186	605	6,312	1,080	340	734	1,580
2000	39,624	284	1,063	1,095	417	333	46	170	22,910	2,312	505	6,360	1,082	296	1,097	1,654
2001	39,978	282	1,010	994	388	254	58	167	23,032	2,013	554	6,508	1,134	311	1,604	1,669
2002	36,668	228	987	1,003	379	244	42	175	20,864	1,924	390	6,173	1,017	244	1,454	1,544
2003	35,908	281	920	1,009	377	329	41	151	20,976	1,835	425	5,604	861	285	1,357	1,457
2004	37,882	282	949	1,060	327	273	89	163	22,731	1,687	410	5,831	962	263	1,344	1,511
2005	38,308	303	991	1,070	360	272	39	144	23,361	1,619	428	5,210	1,089	313	1,567	1,542
2006	38,983	317	971	1,002	339	291	32	174	23,379	1,676	519	5,786	1,279	296	1,466	1,456
2007	39,495	325	967	1,026	358	331	25	147	23,964	1,524	517	5,705	1,365	324	1,463	1,454
2008	38,030	252	836	985	344	314	60	174	23,183	1,364	491	5,620	1,381	253	1,341	1,432
2009	35,338	239	963	994	286	313	46	76	21,347	1,186	523	5,392	1,277	201	1,144	1,351

Notes: [a] Included in Yuma County prior to 1983; The number of marriages by county of occurrence for 2010-2020 are in Table 5G-1.

TABLE 8D-2
MARRIAGE RATES[a] BY YEAR AND COUNTY OF OCCURRENCE, ARIZONA, 1970-2009

Year	U.S.	Arizona	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz[b]	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
1970	10.6	10.8	3.2	11.0	11.6	13.4	12.5	10.0		10.5	4.7	6.9	11.2	10.9	26.1	10.3	15.7
1971	10.6	11.2	3.6	11.0	10.8	13.2	12.6	11.2		10.9	6.3	7.1	11.7	12.1	25.5	9.1	17.6
1972	11.0	11.9	4.4	11.5	10.9	13.7	14.6	10.1		11.6	6.6	7.6	12.5	12.7	23.7	10.2	19.6
1973	10.9	12.6	3.6	11.6	12.5	13.2	12.9	12.0		11.8	6.2	8.0	11.7	13.3	24.5	9.8	43.5
1974	10.5	12.6	3.1	11.5	11.4	15.4	11.3	9.7		11.4	6.6	7.6	11.9	11.0	22.4	9.8	53.3
1975	10.0	11.9	3.6	11.8	9.9	14.4	14.5	12.6		10.7	6.0	7.2	11.9	9.0	18.3	9.5	49.7
1976	9.9	11.7	3.0	11.8	8.7	13.8	13.4	9.9		10.7	7.2	7.4	11.3	10.4	18.6	9.5	48.6
1977	9.9	11.5	2.4	13.0	9.6	13.1	15.0	9.6		10.9	5.8	7.4	11.0	9.4	16.8	9.3	38.1
1978	10.3	11.2	3.3	10.9	7.4	13.0	12.6	9.4		10.9	7.3	8.0	11.0	9.4	18.1	8.3	34.7
1979	10.4	11.3	2.8	11.8	8.4	13.9	12.3	10.4		10.7	7.7	7.4	11.4	10.0	16.5	8.5	34.4
1980	10.6	11.1	3.2	12.4	10.3	13.8	13.6	7.5		10.7	7.3	8.5	10.9	10.4	15.2	9.0	28.5
1981	10.8	11.4	3.7	11.3	11.8	14.6	14.3	8.5		11.1	8.5	7.4	11.2	9.9	13.5	10.7	27.3
1982	10.6	11.0	4.1	10.5	10.5	11.4	11.5	6.9		11.0	8.0	7.3	10.7	9.1	14.4	9.1	22.1
1983	10.5	10.5	3.0	10.9	6.8	10.7	11.2	5.7	7.9	10.7	8.2	6.9	10.4	8.9	13.0	9.9	23.5
1984	10.5	10.9	3.7	10.5	7.6	10.9	10.9	5.5	7.3	11.2	8.1	7.3	10.4	9.3	14.5	9.2	23.1
1985	10.2	11.2	3.2	10.3	7.6	10.6	12.2	6.1	12.9	12.1	9.6	7.6	9.1	9.2	12.9	10.1	22.3
1986	10.0	10.7	3.6	10.0	9.6	10.5	13.3	5.5	13.7	11.2	10.2	6.8	9.8	8.2	12.9	9.7	22.0
1987	9.9	10.4	3.1	8.8	10.2	10.4	11.1	6.1	10.2	10.6	13.3	6.4	10.1	8.4	10.7	9.2	22.2
1988	9.7	9.9	3.0	8.7	10.3	9.3	11.3	5.9	13.0	10.0	17.9	7.6	8.9	7.9	10.9	8.1	21.6
1989	9.7	9.6	4.0	7.9	9.8	10.2	11.6	3.8	9.7	9.5	21.1	6.7	8.6	6.5	11.5	7.5	21.7
1990	9.8	10.1	4.5	8.7	10.2	10.9	10.6	5.7	17.0	9.9	23.8	7.4	9.2	7.2	12.0	7.3	17.5
1991	9.4	9.7	3.9	5.9	9.5	10.2	9.8	8.8	12.9	9.6	26.3	6.1	9.1	6.1	9.5	7.1	16.7
1992	9.2	9.6	3.6	9.1	10.1	11.7	12.1	7.1	13.4	8.7	32.1	6.4	9.2	6.5	10.5	7.7	18.3
1993	9.2	10.1	4.3	9.9	9.5	9.3	9.9	7.2	12.4	8.7	49.1	8.1	8.8	7.4	9.9	8.2	17.6
1994	9.1	9.7	4.3	9.8	9.9	11.4	11.1	7.4	11.8	8.5	40.8	7.1	8.9	7.3	10.6	8.6	16.1
1995	9.1	9.6	4.3	9.3	9.2	9.5	10.3	7.3	8.0	8.7	36.9	6.5	8.5	7.2	8.4	7.6	15.8
1996	8.8	8.9	4.1	8.8	9.4	10.2	10.6	8.7	10.3	7.8	30.4	7.6	8.7	7.6	8.9	7.9	14.3
1997	8.9	9.0	4.2	8.8	9.4	9.3	11.9	7.3	9.2	8.1	25.7	7.5	9.5	7.5	9.6	7.7	13.8
1998	8.3	8.0	4.2	8.5	8.1	8.8	7.7	8.0	9.0	7.4	23.8	6.7	7.5	7.4	7.0	7.3	12.2
1999	8.3	8.4	4.3	8.1	7.7	8.2	6.8	6.3	7.8	8.3	21.3	6.5	7.5	6.5	8.7	4.7	11.3
2000	8.2	7.7	4.1	9.0	9.4	8.1	9.9	5.4	8.6	7.5	14.9	5.2	7.5	6.0	7.7	6.5	10.3
2001	8.2	7.5	4.1	8.5	8.4	7.5	7.6	7.0	8.5	7.2	12.4	5.5	7.5	6.0	7.9	9.1	10.1
2002	8.1	6.7	3.3	8.0	8.0	7.1	7.2	4.9	8.6	6.3	11.6	3.8	6.9	5.3	6.1	8.1	9.1
2003	7.9	6.4	4.0	7.3	7.8	7.0	9.5	4.8	7.3	6.2	10.7	4.1	6.2	4.3	7.0	7.3	8.3
2004	6.7	6.5	4.0	7.3	8.2	6.0	7.6	10.7	7.7	6.5	9.4	3.8	6.3	4.4	6.3	6.8	8.3
2005	6.6	6.3	4.1	7.5	8.2	6.6	7.7	4.7	6.8	6.4	8.6	3.9	5.4	4.4	7.1	7.6	8.1
2006	6.9	6.2	4.2	7.2	7.5	6.2	8.1	3.9	8.1	6.2	8.6	4.6	5.9	4.7	6.5	6.9	7.4
2007	7.4	6.1	4.3	7.0	7.6	6.4	9.1	3.0	6.7	6.2	7.6	4.5	5.7	4.7	7.0	6.6	7.2
2008	7.1	5.8	3.3	6.0	7.3	6.0	8.1	6.7	8.1	5.9	6.7	4.3	5.5	4.3	5.3	6.0	7.0
2009	6.8	5.4	3.1	6.8	7.2	4.8	7.9	5.3	3.5	5.4	5.8	4.5	5.3	3.9	4.2	5.0	6.6

Notes: [a] Number of marriages per 1,000 resident population; [b] Included in Yuma County prior to 1983; The marriage rates by county of occurrence for 2010-2020 are in Table 5G-2.

TABLE 8E-1
NUMBER OF DISSOLUTIONS OF MARRIAGE BY YEAR AND COUNTY OF OCCURRENCE, ARIZONA, 1970-2009

Year	Arizona	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz[a]	Maricopa	Mohave	Najavo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
1970	13,298	34	403	280	219	131	55		8,023	126	140	2,703	449	42	216	477
1971	14,397	37	420	322	242	109	65		8,798	134	136	3,156	340	54	209	375
1972	13,197	52	357	345	232	86	49		7,749	180	172	2,681	497	56	232	510
1973	14,036	34	353	377	176	110	58		8,219	234	184	3,188	385	64	260	434
1974	16,926	63	607	347	252	134	75		9,800	295	172	3,615	517	91	389	579
1975	17,577	35	657	380	315	192	84		9,826	342	224	3,772	531	73	351	795
1976	19,029	58	716	375	278	164	76		11,051	426	232	3,880	461	92	423	797
1977	16,578	50	575	409	217	134	55		9,415	337	219	3,245	441	97	576	808
1978	17,320	97	705	384	193	123	67		9,938	388	229	3,422	504	73	475	722
1979	19,982	101	708	433	243	164	51		11,730	443	273	3,834	643	113	466	780
1980	19,908	82	666	432	259	157	52		11,187	457	212	4,141	744	106	543	820
1981	20,819	85	628	489	281	193	53		11,871	494	234	4,336	696	76	550	833
1982	20,259	91	627	416	256	181	61		11,656	498	249	3,936	666	131	603	888
1983	19,875	83	634	378	253	146	52	94	11,338	531	246	3,811	672	116	645	876
1984	20,009	97	701	429	289	152	32	76	11,626	482	273	3,747	699	97	629	680
1985	21,157	110	669	578	239	203	35	77	12,626	563	258	3,911	622	84	523	659
1986	23,062	136	802	458	235	133	19	74	14,409	558	360	3,992	644	92	544	606
1987	23,760	88	713	520	233	167	39	64	15,185	519	236	4,086	618	108	619	564
1988	24,928	68	691	471	260	141	38	93	16,400	535	269	3,923	673	129	611	610
1989	23,153	81	750	635	222	139	33	48	14,309	616	206	3,858	678	127	720	731
1990	25,088	84	845	579	225	183	41	62	16,267	647	221	4,079	661	120	696	378
1991	24,988	79	725	468	231	157	41	63	15,793	787	277	4,180	673	120	758	636
1992	26,157	100	816	348	238	179	62	68	16,480	730	325	4,234	722	142	699	1,014
1993	24,198	70	838	441	330	174	62	51	14,406	893	290	4,080	731	149	968	715
1994	25,095	99	827	324	244	179	41	63	15,431	795	281	4,274	705	134	974	724
1995	27,604	74	928	257	249	145	62	41	17,992	728	292	4,107	779	126	953	871
1996	26,483	118	609	377	292	177	47	76	16,588	953	385	4,226	770	116	1,023	726
1997	26,363	127	763	360	267	164	37	62	16,380	899	361	4,156	790	139	1,081	777
1998	23,130	99	721	493	233	136	66	68	13,540	883	210	4,007	819	104	1,058	693
1999	22,080	71	726	492	277	161	54	62	13,216	790	265	3,952	699	124	481	710
2000	23,440	105	687	308	254	162	58	80	13,744	852	334	3,987	877	113	611	1,268
2001	24,064	125	624	334	218	136	53	63	15,278	881	366	4,038	714	117	611	506
2002	26,176	88	580	408	223	142	68	70	17,563	894	303	3,853	717	124	597	546
2003	24,269	82	584	342	199	139	46	62	15,371	850	253	3,965	708	141	788	739
2004	24,403	61	623	410	200	140	46	50	15,878	744	295	3,857	589	139	909	462
2005	24,910	81	639	366	212	208	40	78	15,805	876	345	3,911	632	130	999	588
2006	24,274	90	534	325	202	150	51	61	15,771	824	309	3,647	651	158	810	691
2007	24,515	70	490	268	184	152	50	85	15,859	851	310	3,854	822	135	742	643
2008	24,106	60	531	242	196	157	52	45	15,263	812	315	3,910	888	139	826	670
2009	23,140	45	566	260	188	167	54	9	14,088	715	303	3,949	1,051	118	903	724

Notes: [a] Included in Yuma County prior to 1983; The number of dissolutions of marriage by county of occurrence for 2010-2020 are in Table 5G-4.

TABLE 8E-2
DISSOLUTIONS OF MARRIAGE RATES[a] BY YEAR AND COUNTY OF OCCURRENCE, ARIZONA, 1970-2009

Year	U.S.	Arizona	Apache	Cochise	Coconino	Gila	Graham	Greenlee	La Paz[b]	Maricopa	Mohave	Navajo	Pima	Pinal	Santa Cruz	Yavapai	Yuma
1970	3.5	7.5	1.1	6.5	5.8	7.5	7.9	5.3		8.3	4.9	2.9	7.7	6.5	3.0	4.8	7.8
1971	3.7	7.7	1.1	6.4	6.1	8.0	6.4	5.9		8.7	4.8	2.7	8.5	4.6	3.7	5.3	5.9
1972	4.0	6.7	1.4	5.2	6.1	7.6	5.0	4.5		7.3	6.0	3.3	6.8	6.5	3.6	5.3	7.9
1973	4.4	6.8	0.9	4.9	5.6	5.5	6.0	5.1		7.3	7.0	3.4	7.7	4.8	3.9	5.6	6.5
1974	4.6	7.9	1.6	8.4	5.6	7.7	7.0	6.3		8.4	8.4	3.1	8.3	6.2	5.3	8.0	8.5
1975	4.8	7.9	0.9	8.8	5.8	9.7	9.5	7.1		8.1	9.1	3.9	8.6	6.1	4.2	7.1	11.3
1976	5.0	8.5	1.3	9.5	5.5	8.5	8.1	6.6		8.9	10.8	3.8	8.5	5.3	5.5	8.5	11.7
1977	5.0	7.1	1.1	7.5	6.1	6.5	6.5	4.9		7.3	8.0	3.5	7.0	4.9	5.3	10.1	10.8
1978	5.1	7.0	2.0	9.0	5.1	5.6	6.0	5.8		7.3	8.8	3.2	7.1	5.8	3.8	7.9	9.6
1979	5.3	7.6	2.1	8.6	5.3	6.8	7.5	4.3		8.1	9.0	3.7	7.4	7.0	5.8	7.6	10.0
1980	5.2	7.3	1.6	7.7	5.8	7.0	6.9	4.6		7.4	8.2	3.1	7.8	8.2	5.2	8.0	9.1
1981	5.3	7.4	1.6	7.1	6.1	7.5	8.3	4.4		7.6	8.7	3.4	7.9	7.4	3.6	7.9	9.1
1982	5.0	7.0	1.6	7.0	5.0	6.7	7.6	4.7		7.3	8.7	3.5	6.9	7.0	6.0	8.4	9.4
1983	5.0	6.8	1.5	7.0	4.6	6.5	6.0	4.3	7.2	6.9	8.9	3.4	6.6	7.0	5.2	8.8	10.9
1984	4.9	6.5	1.9	7.7	5.2	7.6	6.3	2.8	5.7	6.7	7.4	3.9	6.2	7.1	4.3	7.8	7.9
1985	5.0	6.6	1.9	6.9	6.7	6.3	8.7	4.0	5.3	7.0	7.8	3.6	6.3	6.2	3.1	5.9	7.3
1986	5.0	6.9	2.2	8.2	5.1	5.9	5.4	2.0	5.2	7.5	7.2	4.9	6.2	6.2	3.3	5.9	6.9
1987	4.8	6.8	1.4	7.1	5.7	5.8	6.8	4.0	4.5	7.6	6.5	3.1	6.2	5.8	3.7	6.5	6.3
1988	4.8	6.9	1.1	6.7	5.0	6.4	5.7	4.0	6.5	7.9	6.6	3.5	5.7	6.1	4.3	6.2	6.7
1989	4.7	6.2	1.2	7.2	6.5	5.4	5.5	3.5	3.3	6.6	7.4	2.6	5.4	6.0	4.1	7.1	7.8
1990	4.7	6.8	1.4	8.7	6.0	5.6	6.9	5.1	4.5	7.7	6.9	2.8	6.1	5.7	4.0	6.5	3.5
1991	4.7	6.6	1.3	7.3	4.7	5.7	5.8	5.3	4.5	7.2	8.0	3.5	6.1	5.7	3.9	6.8	5.7
1992	4.8	6.8	1.6	8.1	3.4	5.7	6.5	7.4	4.6	7.4	6.9	4.0	6.0	5.9	4.6	6.1	9.0
1993	4.7	6.1	1.1	8.2	4.3	7.8	6.2	7.3	3.4	6.3	8.2	3.6	5.7	5.9	4.7	8.2	6.2
1994	4.6	6.2	1.5	7.9	3.1	5.7	6.3	4.8	4.1	6.6	7.0	3.4	5.8	5.6	4.1	8.1	6.1
1995	4.5	6.5	1.2	8.4	2.3	5.6	4.6	7.3	2.5	7.4	5.8	3.5	5.5	5.7	3.8	7.5	7.1
1996	4.4	5.9	1.9	5.3	3.3	6.4	5.7	5.4	4.2	6.3	7.5	4.6	5.4	5.3	3.3	7.6	5.8
1997	4.3	5.7	2.0	6.5	3.1	5.8	5.1	4.2	3.3	6.0	6.8	4.2	5.2	5.3	3.9	7.8	5.6
1998	4.2	4.9	1.5	6.1	4.1	4.9	4.1	7.5	3.5	4.8	6.4	2.4	4.9	5.4	2.8	7.4	5.3
1999	4.2	4.5	1.1	5.8	4.0	5.5	4.5	5.9	3.2	4.5	5.3	2.8	4.7	4.2	3.2	3.1	5.1
2000	4.1	4.6	1.5	5.8	2.6	4.9	4.8	6.8	4.1	4.5	5.5	3.4	4.7	4.9	2.9	3.6	7.9
2001	4.2	4.5	1.8	5.2	2.8	4.2	4.1	6.4	3.2	4.8	5.4	3.7	4.7	3.8	3.0	3.5	3.1
2002	4.0	4.8	1.3	4.7	3.3	4.2	4.2	7.9	3.4	5.3	5.4	3.0	4.3	3.7	3.1	3.3	3.2
2003	4.0	4.3	1.2	4.6	2.7	3.7	4.0	5.4	3.0	4.5	5.0	2.4	4.4	3.5	3.4	4.2	4.2
2004	4.3	4.2	0.9	4.8	3.2	3.7	3.9	5.5	2.4	4.5	4.1	2.7	4.1	2.7	3.3	4.6	2.5
2005	4.2	4.1	1.1	4.8	2.8	3.9	5.9	4.8	3.7	4.3	4.7	3.1	4.1	2.6	3.0	4.9	3.1
2006	3.7	3.9	1.2	4.0	2.4	3.7	4.2	6.2	2.8	4.2	4.2	2.7	3.7	2.4	3.5	3.8	3.5
2007	3.6	3.8	0.9	3.6	2.0	3.3	4.2	6.1	3.9	4.1	4.2	2.7	3.8	2.8	2.9	3.4	3.2
2008	3.5	3.7	0.8	3.8	1.8	3.4	4.1	5.8	2.1	3.9	4.0	2.7	3.9	2.8	2.9	3.7	3.3
2009	3.4	3.6	0.6	4.0	1.9	3.2	4.2	6.2	0.4	3.6	3.5	2.6	3.9	3.2	2.5	4.0	3.5

Notes: [a] Number of dissolutions of marriage (divorces and annulments) per 1,000 resident population; [b] Included in Yuma County prior to 1983; The dissolution of marriage rates by county of occurrence for 2010-2020 are in Table 5G-5.

Part III:

THE COMMUNITIES

CHAPTER 9

PRIMARY CARE AREAS

9A

Selected Characteristics of Newborns and Mothers by Primary Care Area, Arizona, 2020

TABLE 9A
SELECTED CHARACTERISTICS OF NEWBORNS AND MOTHERS BY PRIMARY CARE AREA, ARIZONA, 2020

	Total births	Mother 19 years old or younger	Prenatal care in the 1st trimester	No prenatal care	Public payer for birth[a]	LBW newborns (<2,500 grams at birth)	Unwed mother
TOTAL STATE	76,781	3,930†	52,790†	1,880†	37,240†	5,650†	34,530†
AHWATUKEE FOOTHILLS VILLAGE	636	12	511	*	149	43	210
AJO	38	*	26	*	28	*	24
ALHAMBRA VILLAGE	2,105	173	1,264	58	1,428	175	1,234
ANTHEM	132	*	94	0	31	*	34
APACHE JUNCTION	445	26	306	6	242	33	229
AVONDALE	1,315	67	941	15	734	102	699
BENSON	95	*	58	*	46	6	38
BISBEE	165	17	94	8	95	17	82
BLACK CANYON CITY	80	*	53	*	46	*	33
BUCKEYE	1,538	60	1,128	10	685	94	602
BULLHEAD CITY	527	29	297	12	386	34	331
CAMELBACK EAST VILLAGE	1,703	78	1,253	24	699	115	720
CASA GRANDE	760	54	535	18	462	44	441
CASAS ADOBES	678	9	459	19	240	51	229
CATALINA FOOTHILLS	321	*	204	20	75	38	70
CENTRAL CITY VILLAGE	881	84	542	24	624	74	579
CHANDLER CENTRAL	1,451	51	1,077	23	467	100	512
CHANDLER NORTH	902	20	700	*	235	65	292
CHANDLER SOUTH	430	*	345	*	59	33	89
CHINO VALLEY	223	20	168	*	114	14	87
COLORADO CITY	129	6	81	0	43	14	64
COLORADO RIVER INDIAN TRIBE	46	7	16	*	44	*	37
COOLIDGE	241	19	153	*	163	15	150
COTTONWOOD / SEDONA	484	39	313	8	265	26	250
DEER VALLEY VILLAGE	2,094	63	1,625	25	811	166	830
DESERT VIEW VILLAGE	515	0	454	*	37	28	64
DOUGLAS / PIRTLEVILLE	311	31	112	38	213	18	174
DREXEL HEIGHTS	309	25	203	20	211	28	188
EL MIRAGE / YOUNGTOWN	617	38	434	13	342	39	301
ELOY	350	23	249	9	246	30	206
ENCANTO VILLAGE	729	39	444	13	385	64	384
ESTRELLA VILLAGE & TOLLESON	1,718	139	1,114	40	1,114	152	975
FLAGSTAFF	794	22	518	10	282	55	277
FLORENCE	326	15	211	*	145	22	141
FLOWING WELLS	177	16	104	9	134	18	109
FORT MCDOWELL YAVAPAI NATION RESERVATION	13	0	*	*	9	*	13
FORTUNA FOOTHILLS	284	8	181	11	101	16	89
FOUNTAIN HILLS / RIO VERDE	103	*	83	0	30	*	28
GILA RIVER INDIAN COMMUNITY	214	28	128	6	178	22	191
GILBERT CENTRAL	1,259	14	977	*	189	70	250
GILBERT NORTH	849	15	654	*	185	58	196
GILBERT SOUTH	720	12	541	6	112	55	127
GLENDALE CENTRAL	1,670	149	1,107	27	1,255	111	1,090
GLENDALE NORTH	1,264	50	981	14	593	83	541
GLENDALE WEST	598	29	427	*	230	48	226
GLOBE	181	20	125	9	108	17	121
GOLD CANYON	85	*	53	6	48	*	45
GOLDEN VALLEY	68	7	43	*	49	6	38
GOODYEAR / LITCHFIELD PARK	1,045	29	776	*	381	71	362
GRAND CANYON VILLAGE	91	*	50	*	57	9	45
GREEN VALLEY	37	0	18	*	24	*	26
HOPI TRIBE	93	*	48	*	76	8	75
HUALAPAI TRIBE	16	0	*	*	15	*	12
KINGMAN	583	38	455	10	374	46	297
LAKE HAVASU CITY	367	7	266	6	241	30	178
LAVEEN VILLAGE	954	52	659	13	469	82	480
MARANA	672	12	468	16	175	44	180
MARICOPA	774	37	571	16	344	57	356
MARYVALE VILLAGE	3,739	315	2,423	81	2,734	297	2,342
MESA CENTRAL	1,280	86	827	39	659	93	578
MESA EAST	790	19	588	17	272	45	267
MESA GATEWAY	1,329	35	989	13	351	78	370
MESA NORTH	1,047	39	758	16	341	79	347
MESA WEST	1,798	98	1,176	85	953	125	957
MORENCI	121	9	86	0	35	11	36

TABLE 9A (continued)
SELECTED CHARACTERISTICS OF NEWBORNS AND MOTHERS BY PRIMARY CARE AREA, ARIZONA, 2020

	Total births	Mother 19 years old or younger	Prenatal care in the 1st trimester	No prenatal care	Public payer for birth[a]	LBW newborns (<2,500 grams at birth)	Unwed mother
NAVAJO NATION	1,059	73	636	38	904	92	833
NEW RIVER / CAVE CREEK	120	*	106	0	23	6	24
NOGALES	302	27	145	38	223	23	161
NORTH GATEWAY / RIO VISTA VILLAGE	365	*	310	*	75	21	84
NORTH MOUNTAIN VILLAGE	2,088	110	1,443	44	1,260	163	1,150
ORO VALLEY	261	*	183	*	45	17	40
PAGE	126	12	86	*	74	11	73
PARADISE VALLEY	60	0	52	0	7	*	12
PARADISE VALLEY VILLAGE	1,812	47	1,463	16	529	134	531
PARKER	54	*	26	*	42	*	40
PASCUA YAQUI TRIBE	52	6	28	7	40	*	49
PAYSON	188	9	125	*	111	15	82
PEORIA NORTH	1,076	15	929	*	208	67	226
PEORIA SOUTH	925	38	734	13	457	79	435
PICTURE ROCKS	87	0	57	*	44	11	35
PRESCOTT	286	11	223	*	120	19	111
PRESCOTT VALLEY	559	25	435	7	299	42	227
QUARTZSITE	54	*	28	*	35	*	26
QUEEN CREEK	593	10	452	*	105	34	101
RIO RICO	287	15	153	25	159	28	134
SADDLEBROOKE	91	8	64	*	54	*	53
SAFFORD	177	19	136	*	76	19	82
SAHUARITA	366	*	245	11	90	25	93
SALT RIVER PIMA-MARICOPA INDIAN COMMUNITY	111	12	74	*	90	11	91
SAN CARLOS APACHE TRIBE	165	23	79	14	142	12	133
SAN LUIS	642	50	258	74	460	38	299
SAN TAN VALLEY	1,510	49	1,072	12	500	78	447
SAN XAVIER	25	*	10	*	21	*	18
SCOTTSDALE CENTRAL	675	6	564	*	77	53	106
SCOTTSDALE NORTH	341	0	278	*	23	29	56
SCOTTSDALE SOUTH	530	12	423	*	124	37	152
SHOW LOW	304	19	228	0	181	15	128
SIERRA VISTA	594	42	360	28	245	38	214
SNOWFLAKE / HEBER	234	12	180	0	124	18	71
SOMERTON	249	20	125	18	182	13	137
SOUTH MOUNTAIN VILLAGE / GUADALUPE	1,954	161	1,247	45	1,255	160	1,179
SPRINGERVILLE / EAGER	184	20	129	*	98	21	74
SUN CITY	93	*	70	*	43	*	44
SUN CITY WEST	4	0	0	0	*	*	*
SUN LAKES	3	0	*	0	*	0	*
SURPRISE NORTH / WICKENBURG	337	20	235	*	143	20	129
SURPRISE SOUTH	1,126	44	802	14	395	65	406
TANQUE VERDE	92	*	52	*	27	8	28
TEMPE NORTH	1,091	48	775	29	488	95	521
TEMPE SOUTH	545	6	422	11	148	34	176
THATCHER	224	17	163	*	106	22	76
TOHONO O'ODHAM NATION	98	19	36	19	81	13	89
TUCSON CENTRAL	1,193	65	633	70	738	99	651
TUCSON EAST	1,031	49	646	35	511	78	494
TUCSON ESTATES	112	6	76	*	74	12	67
TUCSON FOOTHILLS	997	46	585	59	582	85	514
TUCSON SOUTH	2,146	189	1,237	146	1,526	172	1,322
TUCSON SOUTH EAST	542	6	369	15	117	46	114
TUCSON WEST	298	14	196	10	152	24	157
VAIL	214	13	141	7	55	21	51
VALENCIA WEST	295	11	206	7	135	20	153
WHITE MOUNTAIN APACHE TRIBE	207	29	110	15	185	15	149
WILLCOX / BOWIE	104	7	56	*	56	13	52
WILLIAMSON	73	*	52	*	31	8	27
WINSLOW	281	16	187	*	207	17	186
YUMA	1,802	112	1,068	92	1,018	115	821
UNKNOWN	58	*	34	*	50	6	43

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6; [a] Includes both Arizona Health Care Cost Containment System (AHCCCS) the State's Medicaid program and Indian Health Services (IHS).

9B

Number of Deaths by Age Group and Primary Care Area, Arizona, 2020

TABLE 9B
NUMBER OF DEATHS BY AGE GROUP AND PRIMARY CARE AREA, ARIZONA, 2020

	Total	Age group						
		Infants <1	Children 1-14	Adole-scents 15-19	Young adults 20-44	Middle-aged adults 45-64	Elderly 65+	Unknown
TOTAL STATE	75,700	400†	240†	390†	5,380†	14,000†	55,280†	10†
AHWATUKEE FOOTHILLS VILLAGE	550†	*	0	*	27	95	426	0
AJO	60†	0	0	0	*	12	46	0
ALHAMBRA VILLAGE	1,422	12	12	15	159	368	856	0
ANTHEM	180†	0	*	0	7	27	145	0
APACHE JUNCTION	900†	*	*	6	33	152	707	0
AVONDALE	680†	*	*	*	71	176	425	0
BENSON	210†	0	0	0	*	26	179	0
BISBEE	310†	*	0	0	12	60	235	0
BLACK CANYON CITY	270†	*	0	*	23	56	186	0
BUCKEYE	820†	*	*	8	88	188	527	0
BULLHEAD CITY	1,360†	*	*	*	32	242	1,076	0
CAMELBACK EAST VILLAGE	1,300†	12	*	*	109	272	893	0
CASA GRANDE	730†	6	*	*	46	143	529	0
CASAS ADOBES	1,000†	*	0	*	48	121	826	0
CATALINA FOOTHILLS	770†	*	*	0	29	72	661	0
CENTRAL CITY VILLAGE	580†	*	*	*	92	218	262	0
CHANDLER CENTRAL	830†	7	*	*	79	177	553	0
CHANDLER NORTH	700†	*	*	*	56	117	523	0
CHANDLER SOUTH	500†	*	0	0	15	51	436	0
CHINO VALLEY	370†	*	0	*	17	60	292	0
COLORADO CITY	90†	*	0	*	8	14	68	0
COLORADO RIVER INDIAN TRIBE	55	0	0	0	8	12	35	0
COOLIDGE	210†	0	0	*	16	56	136	0
COTTONWOOD / SEDONA	1,140†	*	*	*	31	170	930	0
DEER VALLEY VILLAGE	1,490†	9	*	9	116	346	1,011	0
DESERT VIEW VILLAGE	360†	0	0	*	22	39	302	0
DOUGLAS / PIRTLEVILLE	270†	*	*	*	9	45	207	0
DREXEL HEIGHTS	250†	0	0	*	16	40	193	0
EL MIRAGE / YOUNGTOWN	390†	*	*	*	38	86	264	0
ELOY	370†	*	*	*	21	76	262	0
ENCANTO VILLAGE	510†	6	*	8	64	122	308	0
ESTRELLA VILLAGE / TOLLESON	575	15	11	15	86	168	280	0
FLAGSTAFF	550†	*	*	*	68	117	355	*
FLORENCE	330†	*	*	*	23	72	227	0
FLOWING WELLS	220†	*	*	0	17	48	152	0
FORT MCDOWELL YAVAPAI NATION RESERVATION	20†	0	0	0	8	*	*	0
FORTUNA FOOTHILLS	550†	*	0	0	12	57	481	0
FOUNTAIN HILLS / RIO VERDE	400†	0	0	*	10	35	352	0
GILA RIVER INDIAN COMMUNITY	200†	*	*	*	52	75	65	0
GILBERT CENTRAL	480†	6	*	*	43	77	352	0
GILBERT NORTH	550†	*	*	*	27	103	409	0
GILBERT SOUTH	450†	7	*	*	31	63	341	0
GLENDALE CENTRAL	839	14	8	10	118	246	443	0
GLENDALE NORTH	1,420†	8	*	6	99	249	1,052	0
GLENDALE WEST	330†	*	*	*	24	73	221	0
GLOBE	270†	*	0	*	21	50	191	0
GOLD CANYON	270	0	0	0	10	39	221	0
GOLDEN VALLEY	250†	0	*	0	6	48	192	0
GOODYEAR / LITCHFIELD PARK	860†	*	*	7	54	143	646	0
GRAND CANYON VILLAGE	90†	*	0	0	*	24	65	0
GREEN VALLEY	700†	0	*	0	6	47	647	0
HOPI TRIBE	180†	0	0	*	27	59	92	0
HUALAPAI TRIBE	20†	0	*	0	*	9	7	0
KINGMAN	1,190†	*	*	*	54	244	886	0
LAKE HAVASU CITY	1,110†	*	*	*	34	143	920	0
LAVEEN VILLAGE	380†	*	*	11	64	107	190	0
MARANA	590†	*	0	*	30	92	467	0
MARICOPA	500†	*	*	*	38	117	332	0
MARYVALE VILLAGE	1,490	18	12	14	202	408	836	0
MESA CENTRAL	750†	*	6	8	78	190	466	0
MESA EAST	1,400†	*	*	*	50	191	1,152	0
MESA GATEWAY	1,370†	*	*	*	48	205	1,102	0
MESA NORTH	1,240†	*	*	*	62	171	1,000	0
MESA WEST	1,199	9	6	8	153	280	743	0
MORENCI	80†	0	*	*	8	13	52	0

TABLE 9B (continued)
NUMBER OF DEATHS BY AGE GROUP AND PRIMARY CARE AREA, ARIZONA, 2020

	Total	Age group						
		Infants <1	Children 1-14	Adole-scents 15-19	Young adults 20-44	Middle-aged adults 45-64	Elderly 65+	Unknown
NAVAJO NATION	1,650†	9	*	13	311	453	861	0
NEW RIVER / CAVE CREEK	240†	0	*	*	*	42	187	0
NOGALES	240†	*	0	0	11	51	181	0
NORTH GATEWAY / RIO VISTA VILLAGE	220†	0	*	*	17	37	160	0
NORTH MOUNTAIN VILLAGE	1,806	11	6	15	161	434	1,179	0
ORO VALLEY	590†	*	*	*	17	31	540	0
PAGE	100†	*	0	0	20	28	51	0
PARADISE VALLEY	130†	*	0	0	*	11	115	0
PARADISE VALLEY VILLAGE	1,840†	6	*	6	92	317	1,419	0
PARKER	50†	*	0	0	*	17	26	0
PASCUA YAQUI TRIBE	47	0	0	0	8	19	20	0
PAYSON	520†	0	*	*	18	66	433	0
PEORIA NORTH	1,130†	*	*	*	34	124	958	0
PEORIA SOUTH	986	6	0	7	69	191	713	0
PICTURE ROCKS	132	0	0	0	9	29	94	0
PRESCOTT	930†	*	0	*	33	73	814	0
PRESCOTT VALLEY	860†	*	6	8	32	123	691	0
QUARTZSITE	268	0	0	0	11	50	207	0
QUEEN CREEK	290†	*	*	*	13	49	216	0
RIO RICO	220†	0	*	*	10	42	163	0
SADDLEBROOKE	306	0	0	0	10	27	269	0
SAFFORD	160†	*	*	0	14	24	117	0
SAHUARITA	330†	*	*	*	12	33	284	0
SALT RIVER PIMA-MARICOPA INDIAN COMMUNITY	160†	0	*	*	32	56	66	0
SAN CARLOS APACHE TRIBE	220†	0	*	*	38	81	91	0
SAN LUIS	300†	*	0	*	22	58	207	0
SAN TAN VALLEY	630†	*	*	6	50	138	423	0
SAN XAVIER	44	0	0	0	10	15	19	0
SCOTTSDALE CENTRAL	1,020†	*	*	*	28	109	878	0
SCOTTSDALE NORTH	730†	0	*	*	15	64	648	0
SCOTTSDALE SOUTH	760†	*	0	*	35	126	590	0
SHOW LOW	420†	0	*	*	21	77	322	0
SIERRA VISTA	670†	*	*	*	21	116	524	0
SNOWFLAKE / HEBER	270†	*	*	*	10	47	209	0
SOMERTON	130†	0	*	0	14	32	79	0
SOUTH MOUNTAIN VILLAGE / GUADALUPE	1,180†	11	*	13	146	329	680	0
SPRINGERVILLE / EAGER	240†	*	*	*	20	47	164	0
SUN CITY	1,558	0	0	0	8	97	1,453	0
SUN CITY WEST	950†	0	0	0	*	30	916	0
SUN LAKES	420†	0	0	0	*	21	400	0
SURPRISE NORTH / WICKENBURG	380†	*	*	*	24	61	293	0
SURPRISE SOUTH	1,460†	*	*	7	70	159	1,217	0
TANQUE VERDE	200†	*	*	*	11	26	161	0
TEMPE NORTH	720†	6	*	*	103	140	463	0
TEMPE SOUTH	490†	*	*	*	38	79	367	0
THATCHER	180†	*	0	*	10	42	129	0
TOHONO O'ODHAM NATION	130†	0	*	*	20	57	50	0
TUCSON CENTRAL	1,210†	8	*	*	127	294	780	0
TUCSON EAST	1,330†	*	*	9	88	209	1,017	0
TUCSON ESTATES	240†	*	0	0	11	39	185	0
TUCSON FOOTHILLS	1,528	6	0	7	94	272	1,149	0
TUCSON SOUTH	1,700†	16	*	12	175	433	1,057	0
TUCSON SOUTH EAST	490†	*	6	*	32	68	378	0
TUCSON WEST	340†	*	*	*	22	56	257	0
VAIL	170†	*	0	*	8	27	135	0
VALENCIA WEST	180†	*	*	0	10	44	118	0
WHITE MOUNTAIN APACHE TRIBE	230†	*	*	*	60	72	91	0
WILLCOX / BOWIE	180†	0	0	*	7	34	138	0
WILLIAMSON	200†	*	*	0	*	34	157	0
WINSLOW	320†	*	*	*	45	72	195	0
YUMA	1,469	15	6	10	92	314	1,032	0
UNKNOWN	340†	*	0	*	68	152	107	*

Notes: * Cell suppressed due to non-zero count less than 6; † Sum rounded to nearest tens unit due to non-zero addend less than 6.

9C

Number of Deaths from Selected Causes by Primary Care Area, Arizona, 2020

TABLE 9C
NUMBER OF DEATHS FROM SELECTED CAUSES BY PRIMARY CARE AREA, ARIZONA, 2020

	All causes	Cardio-vascular diseases	COVID-19‡	Lung cancer	Breast cancer	Motor vehicle accident	Homicide	Suicide	Injury by firearms	Drug-induced deaths	Alcohol-induced deaths
TOTAL	75,700	19,060†	8,430†	2,590†	890†	1,040†	530†	1,360†	1,260†	2,670†	1,570†
AHWATUKEE FOOTHILLS VILLAGE	550†	150	42	28	15	*	*	*	*	14	13
AJO	60†	17	*	0	0	*	0	*	*	*	*
ALHAMBRA VILLAGE	1,422	342	148	43	13	31	30	30	36	99	32
ANTHEM	180†	42	18	7	*	*	*	*	*	*	7
APACHE JUNCTION	900†	273	72	39	13	12	*	14	11	24	13
AVONDALE	684	141	120	27	7	10	7	16	11	32	14
BENSON	210†	61	17	9	*	*	*	*	*	*	*
BISBEE	310†	97	24	18	*	*	0	10	7	14	*
BLACK CANYON CITY	270†	77	10	21	6	6	*	7	8	13	*
BUCKEYE	820	184	110	31	8	22	7	18	20	28	7
BULLHEAD CITY	1,356	382	134	68	14	7	6	20	16	18	36
CAMELBACK EAST VILLAGE	1,295	340	122	32	17	13	6	19	19	73	30
CASA GRANDE	728	183	59	35	11	14	6	14	13	21	13
CASAS ADOBES	1,000†	261	76	31	9	13	*	12	10	22	13
CATALINA FOOTHILLS	770†	182	44	31	6	9	*	15	11	18	13
CENTRAL CITY VILLAGE	580†	116	84	9	*	10	14	10	16	84	15
CHANDLER CENTRAL	830†	198	125	34	11	15	*	26	19	26	20
CHANDLER NORTH	700†	166	85	26	13	*	*	12	11	20	15
CHANDLER SOUTH	500†	143	44	19	*	*	*	*	*	6	7
CHINO VALLEY	370†	95	20	20	7	7	*	12	12	11	7
COLORADO CITY	90†	29	*	*	*	*	0	*	*	*	6
COLORADO RIVER INDIAN TRIBE	60†	17	*	0	0	*	*	0	0	*	*
COOLIDGE	210†	50	19	7	*	*	0	*	*	6	9
COTTONWOOD / SEDONA	1,140†	281	77	61	16	9	*	14	11	23	27
DEER VALLEY VILLAGE	1,494	361	124	64	17	26	7	22	15	70	26
DESERT VIEW VILLAGE	360†	85	18	18	9	*	*	9	7	14	*
DOUGLAS / PIRTLEVILLE	270†	61	59	6	*	*	*	*	*	7	*
DREXEL HEIGHTS	250†	58	39	*	*	8	*	*	*	9	*
EL MIRAGE / YOUNGTOWN	390†	98	54	15	*	6	6	*	8	12	*
ELOY	370†	99	37	24	6	*	*	7	7	9	9
ENCANTO VILLAGE	510†	123	64	13	*	8	*	10	*	45	9
ESTRELLA VILLAGE / TOLLESON	580†	105	105	10	*	18	15	13	20	39	6
FLAGSTAFF	550†	111	40	20	13	11	*	21	16	25	25
FLORENCE	330†	91	41	12	*	*	0	7	*	10	*
FLOWING WELLS	220†	69	12	10	*	*	*	*	7	*	8
FORT MCDOWELL YAVAPAI NATION RESERVATION	20†	*	*	0	0	*	0	0	0	*	*
FORTUNA FOOTHILLS	550†	143	80	18	9	7	*	*	*	11	0
FOUNTAIN HILLS / RIO VERDE	400†	111	31	8	*	0	0	8	*	7	*
GILA RIVER INDIAN COMMUNITY	200†	37	34	*	0	*	9	*	10	9	14
GILBERT CENTRAL	480†	132	38	17	7	*	*	12	8	18	*
GILBERT NORTH	550†	154	45	17	8	*	*	11	7	18	10
GILBERT SOUTH	450†	118	50	21	6	*	*	8	8	11	*
GLENDALE CENTRAL	839	169	127	28	6	25	17	14	20	70	19
GLENDALE NORTH	1,419	340	152	50	13	23	6	17	15	47	32
GLENDALE WEST	330†	73	48	9	6	7	*	*	*	10	*
GLOBE	270†	84	18	7	*	*	*	8	9	11	*
GOLD CANYON	270†	94	25	10	*	6	0	6	*	7	*
GOLDEN VALLEY	250†	66	12	15	*	6	*	*	9	*	6
GOODYEAR / LITCHFIELD PARK	856	208	110	32	13	11	9	15	19	26	9
GRAND CANYON VILLAGE	90†	26	*	*	0	*	*	*	*	*	*
GREEN VALLEY	700†	224	68	26	10	6	*	14	10	8	*
HOPI TRIBE	180†	23	63	0	0	*	*	*	*	*	24
HUALAPAI TRIBE	20†	0	8	*	0	0	*	*	*	0	*
KINGMAN	1,190†	303	81	60	13	14	*	29	24	25	30
LAKE HAVASU CITY	1,110†	362	86	44	18	12	*	15	13	12	29
LAVEEN VILLAGE	380†	74	58	10	*	7	14	6	18	24	*
MARANA	590†	151	36	34	7	*	*	12	7	13	9
MARICOPA	500†	115	53	13	10	*	6	6	8	13	9
MARYVALE VILLAGE	1,490	318	292	38	15	38	23	27	36	94	29
MESA CENTRAL	750	172	89	25	12	8	7	22	18	40	14
MESA EAST	1,402	410	127	44	11	7	6	16	17	23	13
MESA GATEWAY	1,370†	387	115	53	16	13	*	24	20	31	24
MESA NORTH	1,240†	334	101	47	19	6	*	27	19	32	13
MESA WEST	1,199	294	127	30	16	24	11	24	24	75	36
MORENCI	80†	22	*	6	0	*	0	*	*	*	*

TABLE 9C (continued)
NUMBER OF DEATHS FROM SELECTED CAUSES BY PRIMARY CARE AREA, ARIZONA, 2020

	All causes	Cardio-vascular diseases	COVID-19‡	Lung cancer	Breast cancer	Motor vehicle accident	Homicide	Suicide	Injury by firearms	Drug-induced deaths	Alcohol-induced deaths
NAVAJO NATION	1,650†	168	546	*	*	43	25	37	25	34	143
NEW RIVER / CAVE CREEK	240†	49	12	7	*	*	0	6	*	7	*
NOGALES	240†	44	66	*	*	*	*	*	*	9	*
NORTH GATEWAY / RIO VISTA VILLAGE	220†	51	16	9	*	*	*	7	9	7	7
NORTH MOUNTAIN VILLAGE	1,806	470	186	70	21	20	20	34	37	115	27
ORO VALLEY	590†	151	52	12	10	*	*	14	10	6	*
PAGE	100†	10	17	*	*	*	0	*	*	6	11
PARADISE VALLEY	130†	38	*	*	*	*	0	*	*	0	0
PARADISE VALLEY VILLAGE	1,843	440	191	62	23	22	8	30	28	58	28
PARKER	50†	16	6	*	0	*	*	*	*	*	*
PASCUA YAQUI TRIBE	50†	9	9	0	0	0	*	0	*	*	*
PAYSON	520†	156	45	27	9	*	*	7	8	*	7
PEORIA NORTH	1,130†	320	101	26	14	9	*	11	12	15	18
PEORIA SOUTH	986	250	104	42	14	9	9	22	23	33	21
PICTURE ROCKS	130†	35	*	6	*	*	0	0	0	7	*
PRESCOTT	925	238	68	38	14	6	0	21	17	20	17
PRESCOTT VALLEY	860†	229	63	32	12	15	*	18	15	26	14
QUARTZSITE	270†	102	23	9	*	7	*	*	*	8	9
QUEEN CREEK	290†	76	26	12	7	*	0	6	*	*	*
RIO RICO	220†	44	37	7	*	*	0	*	*	9	*
SADDLEBROOKE	310†	83	19	14	*	*	0	*	*	6	*
SAFFORD	160†	40	20	6	*	*	*	*	*	*	*
SAHUARITA	330†	100	36	17	*	*	*	11	10	*	*
SALT RIVER PIMA-MARICOPA INDIAN COMMUNITY	160†	25	33	*	0	*	*	*	*	17	9
SAN CARLOS APACHE TRIBE	220†	39	59	0	0	10	*	*	*	*	14
SAN LUIS	300†	45	135	*	*	*	0	*	0	9	*
SAN TAN VALLEY	630†	151	39	27	6	14	*	7	8	23	*
SAN XAVIER	40†	*	6	0	0	*	*	*	0	0	6
SCOTTSDALE CENTRAL	1,020†	264	66	35	16	6	*	23	15	25	9
SCOTTSDALE NORTH	730†	190	60	13	7	7	*	9	11	7	11
SCOTTSDALE SOUTH	760†	208	78	18	10	6	*	11	9	25	19
SHOW LOW	420†	120	29	11	10	*	*	10	8	12	12
SIERRA VISTA	670†	170	47	36	6	*	*	14	10	19	10
SNOWFLAKE / HEBER	270†	84	16	10	*	*	0	8	6	6	8
SOMERTON	130†	24	43	*	*	*	*	*	*	*	*
SOUTH MOUNTAIN VILLAGE / GUADALUPE	1,184	249	180	36	17	22	29	27	38	73	28
SPRINGERVILLE / EAGER	240†	77	12	7	0	*	*	11	6	*	7
SUN CITY	1,560†	523	131	64	19	*	0	14	7	13	14
SUN CITY WEST	950†	310	77	30	11	*	0	8	*	*	8
SUN LAKES	420†	123	38	18	11	*	*	*	*	*	*
SURPRISE NORTH / WICKENBURG	380†	115	34	11	7	*	0	10	7	13	8
SURPRISE SOUTH	1,460†	402	127	58	15	16	*	11	11	33	14
TANQUE VERDE	200†	46	20	9	*	*	*	*	*	*	*
TEMPE NORTH	720†	178	68	15	9	10	*	21	18	50	23
TEMPE SOUTH	490†	109	51	15	7	*	*	16	13	14	9
THATCHER	180†	44	24	7	*	*	0	*	*	*	*
TOHONO O'ODHAM NATION	130†	18	21	0	0	6	*	*	*	*	14
TUCSON CENTRAL	1,214	301	108	44	9	16	12	27	23	78	23
TUCSON EAST	1,333	362	109	38	19	21	6	31	25	43	23
TUCSON ESTATES	240†	65	16	11	*	*	*	8	*	*	*
TUCSON FOOTHILLS	1,528	395	127	34	11	17	7	21	21	61	31
TUCSON SOUTH	1,698	384	283	36	13	34	20	20	31	114	36
TUCSON SOUTH EAST	490†	101	40	22	6	7	*	12	11	9	7
TUCSON WEST	340†	73	39	10	*	*	*	7	7	15	*
VAIL	170†	42	*	11	*	*	*	*	*	*	*
VALENCIA WEST	180†	38	23	7	*	*	*	*	*	6	*
WHITE MOUNTAIN APACHE TRIBE	230†	27	56	*	0	*	7	11	*	*	31
WILLCOX / BOWIE	180†	46	25	6	*	*	*	*	*	7	*
WILLIAMSON	200†	51	13	8	*	*	0	9	6	*	6
WINSLOW	320†	58	84	9	*	9	7	*	8	13	22
YUMA	1,469	392	285	48	9	24	6	14	15	33	14
UNKNOWN	340†	59	30	*	*	14	6	*	7	77	14

Note: * Cell suppressed due to non-zero count less than 6; ‡ The COVID-19 data collection began in mid-March 2020.

CHAPTER 10

POPULATION DENOMINATORS, ARIZONA, 2020

TABLE 10A-1
POPULATION OF INFANTS, CHILDREN (1-14 YEARS), ADOLESCENTS (15-19 YEARS), YOUNG ADULTS (20-44 YEARS), MIDDLE-AGED ADULTS (45-64 YEARS), AND ELDERLY (65+) BY GENDER, AND COUNTY OF RESIDENCE, ARIZONA, 2020

		<1	1-14	15-19	20-44	45-64	65+	Total
Arizona	Total	80,759	1,259,819	471,519	2,365,158	1,709,336	1,289,810	7,176,401
	Male	41,309	642,364	241,176	1,215,554	831,568	593,532	3,565,503
	Female	39,450	617,455	230,343	1,149,604	877,768	696,278	3,610,898
Apache	Total	859	13,886	4,932	20,132	15,823	10,418	66,050
	Male	441	6,966	2,389	10,473	7,616	4,716	32,601
	Female	418	6,920	2,543	9,659	8,207	5,702	33,449
Cochise	Total	1,322	21,120	7,646	36,736	29,816	29,078	125,718
	Male	678	10,622	4,036	19,952	14,491	13,875	63,654
	Female	644	10,498	3,610	16,784	15,325	15,203	62,064
Coconino	Total	1,529	22,761	14,775	56,851	30,834	18,947	145,697
	Male	783	11,716	6,817	28,374	15,097	9,029	71,816
	Female	746	11,045	7,958	28,477	15,737	9,918	73,881
Gila	Total	509	8,299	2,676	12,418	13,729	15,672	53,303
	Male	260	4,287	1,369	6,304	6,619	7,595	26,434
	Female	249	4,012	1,307	6,114	7,110	8,077	26,869
Graham	Total	520	8,082	2,871	13,655	8,075	5,432	38,635
	Male	268	4,138	1,491	8,016	4,293	2,495	20,701
	Female	252	3,944	1,380	5,639	3,782	2,937	17,934
Greenlee	Total	144	2,073	600	3,340	2,105	1,300	9,562
	Male	74	1,032	331	1,800	1,107	605	4,949
	Female	70	1,041	269	1,540	998	695	4,613
La Paz	Total	149	2,155	705	3,567	3,421	6,590	16,587
	Male	78	1,136	394	1,828	1,638	3,429	8,503
	Female	71	1,019	311	1,739	1,783	3,161	8,084
Maricopa	Total	52,311	810,267	296,903	1,522,160	1,066,277	688,786	4,436,704
	Male	26,738	413,052	152,102	770,989	519,748	310,523	2,193,152
	Female	25,573	397,215	144,801	751,171	546,529	378,263	2,243,552
Mohave	Total	1,754	27,656	9,873	50,695	57,541	66,466	213,985
	Male	898	14,102	5,139	27,020	28,041	33,060	108,260
	Female	856	13,554	4,734	23,675	29,500	33,406	105,725
Navajo	Total	1,379	22,003	7,291	30,336	25,704	20,056	106,769
	Male	708	11,190	3,752	15,787	12,475	9,479	53,391
	Female	671	10,813	3,539	14,549	13,229	10,577	53,378
Pima	Total	10,817	167,527	68,545	344,860	241,618	212,222	1,045,589
	Male	5,537	85,636	34,600	176,621	115,931	96,439	514,764
	Female	5,280	81,891	33,945	168,239	125,687	115,783	530,825
Pinal	Total	4,214	74,653	25,501	136,214	98,279	89,359	428,220
	Male	2,154	37,960	13,411	76,760	49,747	42,929	222,961
	Female	2,060	36,693	12,090	59,454	48,532	46,430	205,259
Santa Cruz	Total	632	9,897	3,626	13,631	11,173	8,828	47,787
	Male	326	4,997	1,822	6,726	5,156	4,008	23,035
	Female	306	4,900	1,804	6,905	6,017	4,820	24,752
Yavapai	Total	1,789	29,336	11,346	52,820	64,702	77,080	237,073
	Male	915	15,070	6,102	27,198	30,090	36,470	115,845
	Female	874	14,266	5,244	25,622	34,612	40,610	121,228
Yuma	Total	2,831	40,104	14,229	67,743	40,239	39,576	204,722
	Male	1,451	20,460	7,421	37,706	19,519	18,880	105,437
	Female	1,380	19,644	6,808	30,037	20,720	20,696	99,285

Note: Population denominator tables can be found:
http://pub.azdhs.gov/health-stats

TABLE 10A-2
POPULATION OF INFANTS, CHILDREN (1-14 YEARS), ADOLESCENTS (15-19 YEARS), YOUNG ADULTS (20-44 YEARS), MIDDLE-AGED ADULTS (45-64 YEARS), AND ELDERLY (65+) BY GENDER IN URBAN AND RURAL AREAS[a], ARIZONA, 2020

		<1	1-14	15-19	20-44	45-64	65+	Total
Arizona	**Total**	80,759	1,259,819	471,519	2,365,158	1,709,336	1,289,810	7,176,401
	Male	41,309	642,364	241,176	1,215,554	831,568	593,532	3,565,503
	Female	39,450	617,455	230,343	1,149,604	877,768	696,278	3,610,898
Urban	**Total**	70,173	1,092,551	405,178	2,070,977	1,446,413	1,029,943	6,115,235
	Male	35,880	557,108	207,534	1,062,076	704,945	468,771	3,036,314
	Female	34,293	535,443	197,644	1,008,901	741,468	561,172	3,078,921
Rural	**Total**	10,586	167,268	66,341	294,181	262,923	259,867	1,061,166
	Male	5,429	85,256	33,642	153,478	126,623	124,761	529,189
	Female	5,157	82,012	32,699	140,703	136,300	135,106	531,977

Notes: [a] Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; Population denominator tables can be found: http://pub.azdhs.gov/health-stats

TABLE 10B-1
POPULATION BY TEN-YEAR AGE GROUPS, GENDER, AND COUNTY OF RESIDENCE,
ARIZONA, 2020

		<1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	Total
Arizona	Total	80,759	342,810	917,009	960,685	992,870	883,122	840,328	869,008	741,087	404,990	143,733	7,176,401
	Male	41,309	175,041	467,323	494,289	515,211	447,230	416,488	415,080	345,665	188,168	59,699	3,565,503
	Female	39,450	167,769	449,686	466,396	477,659	435,892	423,840	453,928	395,422	216,822	84,034	3,610,898
Apache	Total	859	3,575	10,311	9,082	8,762	7,220	7,269	8,554	6,155	3,225	1,038	66,050
	Male	441	1,782	5,184	4,480	4,605	3,777	3,534	4,082	2,888	1,434	394	32,601
	Female	418	1,793	5,127	4,602	4,157	3,443	3,735	4,472	3,267	1,791	644	33,449
Cochise	Total	1,322	5,821	15,299	14,667	15,526	14,189	13,159	16,657	16,461	9,634	2,983	125,718
	Male	678	2,907	7,715	7,982	8,503	7,503	6,596	7,895	7,926	4,664	1,285	63,654
	Female	644	2,914	7,584	6,685	7,023	6,686	6,563	8,762	8,535	4,970	1,698	62,064
Coconino	Total	1,529	6,176	16,585	35,004	20,420	16,202	14,336	16,498	12,051	5,169	1,727	145,697
	Male	783	3,228	8,488	16,224	10,684	8,283	7,214	7,883	5,959	2,371	699	71,816
	Female	746	2,948	8,097	18,780	9,736	7,919	7,122	8,615	6,092	2,798	1,028	73,881
Gila	Total	509	2,276	6,023	5,038	5,352	4,704	5,337	8,392	9,012	5,066	1,594	53,303
	Male	260	1,174	3,113	2,608	2,688	2,377	2,618	4,001	4,426	2,504	665	26,434
	Female	249	1,102	2,910	2,430	2,664	2,327	2,719	4,391	4,586	2,562	929	26,869
Graham	Total	520	2,178	5,904	5,651	5,759	5,116	4,147	3,928	3,130	1,663	639	38,635
	Male	268	1,115	3,023	3,111	3,402	2,994	2,311	1,982	1,479	747	269	20,701
	Female	252	1,063	2,881	2,540	2,357	2,122	1,836	1,946	1,651	916	370	17,934
Greenlee	Total	144	617	1,456	1,229	1,404	1,307	1,070	1,035	712	383	205	9,562
	Male	74	292	740	680	738	713	549	558	368	171	66	4,949
	Female	70	325	716	549	666	594	521	477	344	212	139	4,613
La Paz	Total	149	613	1,542	1,384	1,484	1,404	1,405	2,016	2,981	2,747	862	16,587
	Male	78	316	820	771	709	742	682	956	1,513	1,423	493	8,503
	Female	71	297	722	613	775	662	723	1,060	1,468	1,324	369	8,084
Maricopa	Total	52,311	220,809	589,458	589,846	651,227	577,990	549,607	516,670	398,111	211,223	79,452	4,436,704
	Male	26,738	112,733	300,319	301,808	331,912	289,371	271,373	248,375	183,153	95,563	31,807	2,193,152
	Female	25,573	108,076	289,139	288,038	319,315	288,619	278,234	268,295	214,958	115,660	47,645	2,243,552
Mohave	Total	1,754	7,474	20,182	19,084	22,142	19,342	22,562	34,979	37,380	22,698	6,388	213,985
	Male	898	3,868	10,234	10,080	11,978	10,101	11,282	16,759	18,494	11,590	2,976	108,260
	Female	856	3,606	9,948	9,004	10,164	9,241	11,280	18,220	18,886	11,108	3,412	105,725
Navajo	Total	1,379	5,788	16,215	13,199	12,980	11,448	11,426	14,278	12,119	6,177	1,760	106,769
	Male	708	2,937	8,253	6,847	6,813	5,879	5,681	6,794	5,835	2,903	741	53,391
	Female	671	2,851	7,962	6,352	6,167	5,569	5,745	7,484	6,284	3,274	1,019	53,378
Pima	Total	10,817	46,112	121,415	157,813	135,402	120,190	112,473	129,145	120,057	66,459	25,706	1,045,589
	Male	5,537	23,561	62,075	80,044	71,042	60,135	55,123	60,808	55,798	30,221	10,420	514,764
	Female	5,280	22,551	59,340	77,769	64,360	60,055	57,350	68,337	64,259	36,238	15,286	530,825
Pinal	Total	4,214	19,233	55,420	49,395	56,627	55,693	47,678	50,601	52,826	29,001	7,532	428,220
	Male	2,154	9,737	28,223	27,156	32,474	30,541	25,507	24,240	24,831	14,514	3,584	222,961
	Female	2,060	9,496	27,197	22,239	24,153	25,152	22,171	26,361	27,995	14,487	3,948	205,259
Santa Cruz	Total	632	2,676	7,221	6,592	5,528	5,137	5,390	5,783	5,081	2,773	974	47,787
	Male	326	1,335	3,662	3,388	2,763	2,397	2,493	2,663	2,342	1,275	391	23,035
	Female	306	1,341	3,559	3,204	2,765	2,740	2,897	3,120	2,739	1,498	583	24,752
Yavapai	Total	1,789	7,828	21,508	21,857	21,607	20,702	24,219	40,483	45,740	23,728	7,612	237,073
	Male	915	4,129	10,941	11,726	11,142	10,432	11,686	18,404	21,591	11,586	3,293	115,845
	Female	874	3,699	10,567	10,131	10,465	10,270	12,533	22,079	24,149	12,142	4,319	121,228
Yuma	Total	2,831	11,634	28,470	30,844	28,650	22,478	20,250	19,989	19,271	15,044	5,261	204,722
	Male	1,451	5,927	14,533	17,384	15,758	11,985	9,839	9,680	9,062	7,202	2,616	105,437
	Female	1,380	5,707	13,937	13,460	12,892	10,493	10,411	10,309	10,209	7,842	2,645	99,285

Note: Population denominator tables can be found:
http://pub.azdhs.gov/health-stats

TABLE 10B-2
POPULATION BY TEN-YEAR AGE GROUPS, AND GENDER IN URBAN AND RURAL[a] AREAS, ARIZONA, 2020

		<1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	Total
Arizona	**Total**	80,759	342,810	917,009	960,685	992,870	883,122	840,328	869,008	741,087	404,990	143,733	7,176,401
	Male	41,309	175,041	467,323	494,289	515,211	447,230	416,488	415,080	345,665	188,168	59,699	3,565,503
	Female	39,450	167,769	449,686	466,396	477,659	435,892	423,840	453,928	395,422	216,822	84,034	3,610,898
Urban	**Total**	70,173	297,788	794,763	827,898	871,906	776,351	730,008	716,405	590,265	321,727	117,951	6,115,235
	Male	35,880	151,958	405,150	426,392	451,186	392,032	361,842	343,103	272,844	147,500	48,427	3,036,314
	Female	34,293	145,830	389,613	401,506	420,720	384,319	368,166	373,302	317,421	174,227	69,524	3,078,921
Rural	**Total**	10,586	45,022	122,246	132,787	120,964	106,771	110,320	152,603	150,822	83,263	25,782	1,061,166
	Male	5,429	23,083	62,173	67,897	64,025	55,198	54,646	71,977	72,821	40,668	11,272	529,189
	Female	5,157	21,939	60,073	64,890	56,939	51,573	55,674	80,626	78,001	42,595	14,510	531,977

Notes: [a] Urban = Maricopa, Pima, Pinal, and Yuma counties; the remaining counties comprise Arizona's rural areas; Population denominator tables can be found: http://pub.azdhs.gov/health-stats

TABLE 10C-1
POPULATION BY TEN-YEAR AGE GROUPS, GENDER, AND RACE/ETHNICITY, ARIZONA, 2020

		<1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+	Total
All groups	**Total**	80,759	342,810	917,009	960,685	992,870	883,122	840,328	869,008	741,087	404,990	143,733	7,176,401
	Male	41,309	175,041	467,323	494,289	515,211	447,230	416,488	415,080	345,665	188,168	59,699	3,565,503
	Female	39,450	167,769	449,686	466,396	477,659	435,892	423,840	453,928	395,422	216,822	84,034	3,610,898
White non-Hispanic	**Total**	32,379	136,372	373,182	412,246	467,831	443,416	478,073	593,661	575,974	332,090	119,545	3,964,769
	Male	16,578	69,928	190,442	212,808	241,333	225,466	239,704	284,345	271,208	157,157	50,700	1,959,669
	Female	15,801	66,444	182,740	199,438	226,498	217,950	238,369	309,316	304,766	174,933	68,845	2,005,100
Hispanic or Latino	**Total**	36,744	156,718	405,208	405,554	365,079	307,600	251,300	181,975	105,160	46,689	15,739	2,277,766
	Male	18,798	79,931	206,635	207,484	190,840	156,057	123,280	87,351	48,568	20,175	5,906	1,145,025
	Female	17,946	76,787	198,573	198,070	174,239	151,543	128,020	94,624	56,592	26,514	9,833	1,132,741
Black or African American	**Total**	4,819	21,563	57,362	57,649	62,452	48,681	40,723	35,416	21,374	8,860	2,756	361,655
	Male	2,450	10,903	29,451	30,366	33,872	25,642	20,940	17,924	9,994	3,926	1,043	186,511
	Female	2,369	10,660	27,911	27,283	28,580	23,039	19,783	17,492	11,380	4,934	1,713	175,144
American Indian or Alaska Native	**Total**	3,998	16,869	48,570	45,661	48,631	36,189	31,856	29,778	18,319	8,328	2,688	290,887
	Male	2,042	8,583	24,499	23,122	24,623	17,529	15,036	13,351	8,078	3,285	964	141,112
	Female	1,956	8,286	24,071	22,539	24,008	18,660	16,820	16,427	10,241	5,043	1,724	149,775
Asian or Pacific Islander	**Total**	2,819	11,288	32,687	39,575	48,877	47,236	38,376	28,178	20,260	9,023	3,005	281,324
	Male	1,441	5,696	16,296	20,509	24,543	22,536	17,528	12,109	7,817	3,625	1,086	133,186
	Female	1,378	5,592	16,391	19,066	24,334	24,700	20,848	16,069	12,443	5,398	1,919	148,138

Note: Population denominator tables can be found:
http://pub.azdhs.gov/health-stats

Technical Notes

Sources of Data

Definitions

- Urban and Rural Areas
- Race / Ethnicity
- Rates
- Terms Related to Reproductive Health
- Medical Terms Used on the Birth Certificate
  - √ OBSTETRIC PROCEDURES
  - √ MEDICAL RISK FACTORS FOR THIS PREGNANCY
  - √ COMPLICATIONS OF LABOR AND/OR DELIVERY
  - √ ABNORMAL CONDITIONS OF THE NEWBORN
  - √ CONGENITAL ANOMALIES OF CHILD
- Diagnosis and Procedure Codes used to analyze the Hospital Discharge Data
- Terms Related to Mortality

SOURCES OF DATA

Information on births, deaths, and fetal deaths is compiled from the original documents filed with the Arizona Department of Health Services' Office of Vital Records and from transcripts of original birth and death certificates filed in other states but affecting Arizona residents (copies of certificates for births, deaths, and fetal deaths occurring to Arizona residents outside the United States are not sent to Arizona).

Information on induced terminations of pregnancy (abortions) performed on Arizona women is compiled from reports sent to the Arizona Department of Health Services by facilities within but only rarely outside the state.

Pregnancies are the sum of live births, spontaneous terminations of pregnancy (fetal deaths or stillbirths), and abortions.

Arizona has no central registry for marriage and divorce records. Statistics are limited to counts of marriages and divorces reported monthly by the Clerk of the Superior Court in each county in which the marriage or divorce occurred. These reports contain no demographic data on the people marrying or divorcing.

Data on morbidity, levels of disease and disability in the population, are obtained for certain infectious diseases that must be reported by law. The ADHS Epidemiology and Disease Control Services conduct surveillance and monitoring of these reportable diseases and provided data for the morbidity sections in this report.

All State-licensed nonfederal hospitals in Arizona are required to submit uniform patient reports to the Arizona Department of Health Services every six months. Beginning in 2010 the psychiatric hospitals also are subject to reporting requirements. The Section of Cost Reporting and Discharge Data Review in the Bureau of Public Health Statistics collect the information about both hospital inpatient discharges and emergency room visits.

Population denominators for Arizona residents, used to calculate rates for 1980, 1990, 2000 and 2010, are census enumerations from the U.S. Census Bureau. Regarding the 2020 data year, per compliance with Arizona Executive Order 2011-04, population denominators from the Arizona Commerce Authority, Office of Economic Opportunity, were used in this report. This marks a change from previous decadal census enumerations. Population denominators for the intercensal years utilize the best available data sources. They are described in detail at http://pub.azdhs.gov/health-stats.

Our website at http://pub.azdhs.gov/health-stats provides additional reports and studies, as well as links to other sources of information on topics such as morbidity from certain diseases or population composition.

DEFINITIONS

Urban and Rural Areas

For the purpose of this report, the following are Arizona's **urban areas**: Phoenix-Scottsdale-Mesa Metropolitan Statistical Area (Maricopa and Pinal Counties), Tucson Metropolitan Statistical Area (Pima County), and Yuma Metropolitan Statistical Area (Yuma County). The remaining counties (Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Mohave, Navajo, Santa Cruz, and Yavapai) comprise Arizona's **rural areas**.

Race / Ethnicity

Racial/ethnic designations used in this report are White non-Hispanic, Hispanic or Latino, Black or African-American, American Indian or Alaska Native (including Aleut and Eskimo), and Asian or Pacific Islander (including Hawaiian). In some of the trend tables the designation "Other" includes Asian and Pacific Islanders for years prior to 2012. Non-White Hispanics are included in their appropriate race groups.

The American Indian figures include those living both on and off the reservation.

The race/ethnicity of mother, father, or decedent is as stated on the certificate.

This year's report continues with the method of combining, or bridging, race/ethnicity for individuals identified as both Hispanic and one other race introduced in the 2012 report. This method allows us to match the categories of race/ethnicity used by the Arizona Department of Administration to create the population projections used as denominators in this report, as well as to create more meaningful racial/ethnic categories by placing individuals identified with both race and ethnicity into the group representing a smaller proportion of Arizona's population. Prior to 2012, individuals who identified as both Hispanic and any other race were identified as Hispanic. Individuals identified as Hispanic plus another race are now included in the racial/ethnic category with the lowest population in the state. This approach to bridging is defined as the smallest group deterministic whole method. In this method, individuals identified as both White and Hispanic are classified as Hispanic, where individuals identified as Hispanic and any other race (Black or African American, American Indian or Alaska Native, and Asian or Pacific Islander) are categorized by their racial identification. Race/ethnicity was bridged in the birth, death, and fetal death data, but was left un-bridged in the abortion and HDD data to allow comparison with other reports using differing racial/ethnic categorization.

Rates

Rate is a measure of the frequency of some event in relation to a unit of population during a specified time period such as a year; events in the numerator of the year occur to individuals in the denominator. Rates express the likelihood (or risk) of the event in the specified population during a particular time and are generally expressed as units of population in the denominator (per 1,000, 10,000, 100,000 and so forth).

Many rates shown in this report are based on a small population, a small number of events, or both. Rates based on small numbers are unreliable and thus should be viewed with caution. Rates for many counties or Arizona's ethnic minorities also vary considerably from year to year due to small populations and/or few events. Finally, the difference in methods used to calculate population denominators can lead to variation in rates that do not accurately reflect changes in the number of events occurring in the population. We recommend analyzing the underlying counts for each event before interpreting variation in rates between years.

Terms Related to Reproductive Health

Abortion Rate - Number of reported abortions to females of all ages during a calendar year per 1,000 females of childbearing age (15-44 years).

Abortion Ratio - Number of abortions reported during a period per 1,000 live births occurring during the same period.

Birth or Live Birth - The complete expulsion or extraction from its mother of a product of human conception, irrespective of the duration of pregnancy which, after such expulsion or extraction, breathes or shows any other evidence of life such as beating of the heart, pulsation of the umbilical cord or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached. Heartbeats are to be distinguished from transient cardiac contractions; respirations are to be distinguished from fleeting respiratory efforts or gasps.

Birth rate - Number of live births during a calendar year per 1,000 population.

Birth weight - The weight of a neonate determined immediately after delivery or as soon thereafter as possible.

Fetal death - Death prior to the complete expulsion or extraction from its mother of a product of human conception, irrespective of the duration of pregnancy and which is not an induced termination of pregnancy. The death is indicated by the fact that, after such expulsion or extraction, the fetus does not breathe or show any other evidence of life, such as beating of the heart, pulsation of the umbilical cord or definite movement of voluntary muscles. Heartbeats are to be distinguished from transient cardiac contractions; respirations are to be distinguished from fleeting respiratory efforts or gasps.

Fetal death rate - Number of fetal deaths at 20 or more weeks of gestation per 1,000 live births + fetal deaths.

Fertility rate (general) - Total number of live births to women of all ages during a calendar year per 1,000 *women* of childbearing age (15-44 years old).

Fertility rate (total) - The sum of age-specific birth rates of women at each age group 10-14 through 45-49. Since five-year age groups are used, the sum is multiplied by five.

Infant death - Any death at any time from birth up to, but not including, the first year of age (364 days, 23 hours, 59 minutes from the moment of birth).

Infant mortality rate - Number of infant deaths per 1,000 live births.

Low-birthweight - Any neonate weighing less than 2,500 grams at birth (less than 5 pounds 8 ounces).

Maternal mortality rate - Number of deaths attributed to maternal conditions (i.e. related to or aggravated by pregnancy or its management) per 100,000 live births.

Neonatal death - Death of a live born neonate before the neonate becomes 28 days old (up to and including 27 days, 23 hours, 59 minutes from the moment of birth).

Neonatal mortality rate - Number of neonatal deaths per 1,000 live births.

Perinatal mortality rate - The sum of infant deaths of less than 7 days and fetal deaths with a stated or presumed period of gestation of 28 weeks or more per 1,000 live births + fetal deaths of 28 or more weeks of gestation.

Postneonatal death - Any death of a live born infant at least 28 days of age but less than one year of age.

Postneonatal mortality rate - Number of postneonatal deaths per 1,000 live births.

Post term - Any neonate whose birth occurs from the beginning of the first day (295th day) of the 43rd week following onset of the last menstrual period.

Pregnancy rate - The sum of live births, fetal deaths, and induced terminations of pregnancy per 1,000 women of childbearing age (15-44 years old).

Preterm - Any neonate whose birth occurs through the end of the last day of the 37th week (259th day), following onset of the last menstrual period.

Term - Any neonate whose birth occurs from the beginning of the first day (260th day) of the 38th week, through the end of the last of the 42nd week (294th day), following onset of the last menstrual period.

Very Low-Birthweight - Any neonate whose weight at birth is 1,500 grams or less (less than 3 pounds 5 ounces).

Medical Terms Used on the Birth Certificate

Obstetric procedures

Induction of labor – Artificially starting labor. Initiation of uterine contractions by medical and/or surgical means for the purpose of delivery before the spontaneous onset of labor.

Augmentation of labor – Speeding up the course of labor in progress. Stimulation of uterine contractions by drug or manipulative technique with the intent to reduce the time to delivery.

Cervical cerclage – Circumferential banding or suture of the cervix to prevent or treat passive dilation.

Tocolysis - Administration of any agent with the intent to inhibit pre-term uterine contractions to extend the length of the pregnancy.

External cephalic version successful – Attempted conversion of a fetus from a non-vertex presentation to a vertex presentation by external manipulation.

External cephalic version failed - Attempted conversion of a fetus from a non-vertex presentation to a vertex presentation by external manipulation.

Births with medical risk factors

Pre-existing diabetes - Metabolic disorder characterized by excessive discharge of urine and persistent thirst diagnosed prior to onset of pregnancy.

Gestational diabetes – The occurrence of diabetes during pregnancy.

Pre-existing hypertension - Blood pressure persistently greater than 140/90, diagnosed prior to onset of pregnancy or before the 20th week of gestation.

Gestational hypertension - An increase in blood pressure of at least 30 mm hg systolic or 15 mm hg diastolic on two measurements taken 6 hours apart after the 20th week of gestation.

Eclampsia - The occurrence of convulsions and/or coma unrelated to other cerebral conditions in women with signs and symptoms of preeclampsia.

Previous preterm - Previous birth of an infant prior to term, before 37 completed weeks of gestation.

Other previous poor pregnancy outcome - History of pregnancies continuing into the 20th week of gestation and resulting in perinatal death, small-for-gestational age or intrauterine growth restricted birth.

Gonorrhea – A highly contagious sexually transmissible disease that is caused by the bacterium Neisseria gonorrhea.

Syphilis - A sexually transmitted infection that can cause serious health problems if it is not treated. Syphilis is divided into stages (primary, secondary, latent, and tertiary), and there are different signs and symptoms associated with each stage.

Chlamydia – A wide-spread sexually transmissible disease caused by the bacterium Chlamydia trachomatis. Chlamydia during pregnancy can increase the risk of stillbirth or premature birth.

Hepatitis B - A potentially serious form of liver inflammation due to infection by the hepatitis B virus.

Hepatitis C - Type of liver inflammation that causes primarily a long-lasting disease.

Birth with complications of labor and/or delivery

Premature rupture of membranes (more than 12 hours) - Rupture of membranes at any time during pregnancy and 12 hours or more before the onset of labor.

Precipitous labor - Extremely rapid labor and delivery lasting less than 3 hours.

Prolonged labor - Abnormally slow progress of labor lasting for 20 hours or more.

Breech presentation – At birth, presentation of the fetus in which the buttocks or feet appear first as opposed to head.

Chorioamnionitis - Acute inflammation of the membranes and chorion of the placenta, typically due to ascending infectious organisms in the setting of membrane rupture. Clinical signs of chorioamnionitis include fundal tenderness, maternal tachycardia (>100/min), fetal tachycardia (>160/min) and purulent or foul amniotic fluid.

Meconium staining of the amniotic fluid – Fetal defecation of meconium while in utero resulting in amniotic fluid with a greenish discoloration. Moderate to heavy amounts of meconium in the amniotic fluid noted during labor and/or delivery indicate fetal distress.

Fetal intolerance - Fetal intolerance of fetus to labor such that one or more of the following actions, that is, in utero resuscitation measures, further fetal assessment, or operative delivery are taken to relieve fetal distress. In utero resuscitative measures include any of the following: maternal position change, oxygen administration to the mother, intravenous fluid administered to the mother, amnioinfusion, support of maternal blood pressure, and administration of uterine relaxing agents.

Maternal transfusion – Infusion of blood or blood components occurring 24 hours prior delivery or within 24 hours of delivery.

Third or fourth degree perineal laceration – Serious types of perineal injury that can be sustained during childbirth. A third-degree perineal laceration is a severe tear in the vaginal tissue, perineal skin, and perineal muscles that extends into the anal sphincter. A fourth-degree laceration is the most severe type of perineal injury; the tear goes completely into the anal sphincter through the rectal mucosa.

Ruptured uterus - Tearing of the uterus wall during labor and delivery.

Unplanned hysterectomy - Surgical removal of the uterus that was not planned prior to admission for delivery.

Admission to intensive care unit - Any admission, planned or unplanned, of the mother to a facility/unit designated as providing intensive care.

Unplanned surgery following delivery - Any unplanned operative procedure, excluding postpartum tubal litigations, prior to the admission for delivery.

Abnormal conditions of the newborn

Assisted ventilation immediately after delivery - A mechanical method of assisting respiration for newborns with respiratory failure, required immediately following delivery.

Assisted ventilation for more than 6 hours - Newborn placed on assisted ventilation for more than 6 hours.

Surfactant replacement therapy – Procedure to directly provide surfactant before the lungs are capable of producing it naturally, to make lung expansion and breathing easier. This treatment is administered immediately after birth for extremely premature babies or later once respiratory problems have manifested themselves to prevent respiratory distress syndrome.

Suspected neonatal sepsis - Neonates presenting signs of sepsis-an invasive infection, commonly bacterial-occurring during the neonatal period. Treatment is with antibacterial drug given systemically (intravenous or intramuscular).

Seizure or serious neurologic dysfunction – A seizure of any etiology; neurologic impairment such as obtundation, stupor, or coma.

Significant birth injury - Impairment of the infant's body function or structure due to adverse influences that occurred at birth. Injuries include skeletal fracture(s), peripheral nerve injury and/or soft tissue/solid organ hemorrhage which requires intervention. Skeletal fracture includes any bony fracture or weakness or loss of sensation, but excludes fractured clavicles and transient facial nerve palsy. Soft tissue hemorrhage includes sub-galeal (progressive extravasation within the scalp) hemorrhage, giant cephalohematoma, extensive truncal, facial and /or extremity ecchymossi accompanied by evidence of anemia and/or hypovolemia and or hypotension. Solid organ hemorrhage includes subcapsular hematoma of the liver, fractures of the spleen, or adrenal hematoma.

Congenital anomalies of the newborn

Anencephalus – Absence of the cerebral hemispheres.

Spina bifida/meningocele – Developmental anomaly characterized by defective closure of the bony encasement of the spinal cord, through which the cord and meninges may or may not protrude.

Cyanotic congenital heart disease – Congenital anomalies of heart.

Congenital diaphragmatic hernia – Defect in the diaphragm, characterized by an abnormal opening that allows abdominal organs to move into the chest, usually resulting in respiratory distress.

Omphalocele/Gastroschisis– An omphalocele is a protrusion of variable amounts of abdominal viscera from a midline defect at the base of the umbilicus. In gastroschisis, the abdominal viscera protrude through an abdominal wall defect, usually on the right side of the umbilical cord insertion.

Limb reduction defect – Complete or partial absence of any part of a limb or limbs, excluding congenital amputation and dwarfing syndromes).

Cleft lip/palate – Cleft lip is a fissure or elongated opening of the lip; cleft palate is a fissure in the roof of the mouth. These are failures of embryonic development.

Down's syndrome – The most common chromosomal defect with most cases resulting from an extra chromosome (Trisomy 21).

Suspected chromosomal disorder – Any group of congenital malformations resulting from or compatible with known syndromes caused by noticeable defects in chromosome structure.

Hypospadias – Congenital anomaly of the male genitalia characterized by an incomplete closure of the urethra.

Diagnosis and Procedure Codes Used to Analyze the Hospital Discharge Data

Diagnostic groupings and code numbers used in Chapter 4 and Chapter 7 are based on the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) and on the International Classification of Diseases, 10th Revision, Clinical

Modification/Procedure Coding Systems (ICD-10-CM/PCS) implemented on October 1st, 2015.

The tabulations of the hospital inpatient data by first-listed diagnosis utilize the diagnostic categories available at:
http://pub.azdhs.gov/health-stats/hip/cat/icd9-10primary.xlsx.

The ICD-9-CM and ICD-10-CM diagnostic categories used to identify specific mental disorders are available online at:
http://pub.azdhs.gov/health-stats/hip/for/mental/2017/mental117.xlsx

ICD-10-CM/PCS is very different from ICD-9-CM, both in content and structure of the codes used to describe the severity and complexity of various diseases/injuries and inpatient procedures. The transition to ICD-10-CM/PCS has some impact on comparability of hospital discharge data and continuity of statistical trends.

Any comparison of hospital discharge events between 2015 and previous years should take into account the differences between the classification systems.

Terms Related to Mortality

The most common, and perhaps the most valuable, measure of the likelihood (or risk) of death in the specified population during a particular time is the ***crude death rate***. It is computed as the number of deaths per 1,000 or 100,000 population.

Age-adjusted mortality rates - Because mortality from most causes of death occurs predominately among the elderly, a population group with a larger proportion of older persons would have a higher mortality rate. The "age-adjustment" removes the effect of the age differences among sub-populations (or in the same population over time) by placing them all in a population with a standard age distribution. All age-adjusted mortality rates in this report were computed by the direct method, that is, by weighting the age-specific rates for a given year by the age distribution of a standard population. The weighted age-specific rates are then added to produce the summary rate for all ages combined. Beginning with the 2000 data year, a new population standard for the age adjustment of mortality rates has replaced the standard based on the 1940 population and used since 1943. The new standard uses the age composition of the 2000 U.S. projected population. The standard is expressed in terms of a "standard million": the relative distribution of the 2000 population of the United States totaling 1 million in 10-year age groups:

Age group	2020 population	2020 deaths	Age-specific rates in 2020	2000 standard	Age-adjusted rate for 2020
A	B	C	D (C/B)*100000	E	F D*E
<1	80,759	404	500.3	.013818	6.9
1-4	342,810	101	29.5	.055317	1.6
5-14	917,009	139	15.2	.145565	2.2
15-24	960,685	1,082	112.6	.138646	15.6
25-34	992,870	2,065	208.0	.135573	28.2
35-44	883,122	2,618	296.4	.162613	48.2
45-54	840,328	4,316	513.6	.134834	69.3
55-64	869,008	9,687	1114.7	.087247	97.3
65-74	741,087	15,434	2082.6	.066037	137.5
75-84	404,990	19,310	4768.0	.044842	213.8
85+	143,733	20,539	14289.7	.015508	221.6
	7,176,401	75,700		TOTAL	∑ = 842.2

The age-adjusted mortality rates should be viewed as relative indexes rather than as actual measures of mortality risk. It is also important to note that age-adjusted rates can only be compared to other age-adjusted rates that use the same population standard.

In this report, all age-adjusted mortality rates are based on the 2000 standard, and they CANNOT BE compared to rates using the 1940 standard population.

Age-specific mortality - Number of deaths in a specific age group during a calendar year.

Alcohol-induced deaths – This category was expanded in 2003. Causes of death attributable to alcohol mortality include mental and behavioral disorders due to alcohol use, degeneration of nervous system due to alcohol use, alcoholic polyneuropathy, alcoholic cardiomyopathy, alcoholic gastritis, alcoholic liver disease, finding of alcohol in blood, accidental poisoning by and exposure to alcohol, intentional self-poisoning by alcohol, poisoning by alcohol, undetermined intent.

Cause of death - For the purpose of national mortality statistics, every death is attributed to one underlying condition, based on information reported on the death certificate and utilizing the international rules for selecting the underlying cause of death from the reported conditions.

Cause-specific mortality - Number of deaths from a specified cause during a calendar year.

Classification of causes of death - The cause of death used in this report is the underlying cause classified according to the *International Classification of Diseases (ICD)*. Beginning with the 2000 data year in Arizona (1999 nationally), a new revision of the International Classification of Diseases was implemented. The Tenth Revision (ICD-10) has replaced the Ninth Revision (ICD-9), which was in effect since 1979.

Comparability ratios - Comparability ratios are measures of comparison between ICD-9 and ICD-10. Any comparison of causes of mortality in Arizona before and after the implementation of ICD-10 needs to take into account the changes in statistical trends that can be attributed to changes in the classification system alone. Comparability ratio of 1.0 indicates that the same number of deaths would be assigned to a cause-of-death when ICD-9 or ICD-10 was used. Comparability-modified number of deaths and mortality rates are shown for the four causes of death for which the discontinuity in trend is substantial (influenza and pneumonia, Alzheimer's disease, nephritis, or septicemia).

Drug-induced deaths – This category was expanded in 2003. Causes of death attributable to drug-related mortality include mental and behavioral disorders due to psychoactive substance use, accidental poisoning by and exposure to drugs, suicide by drugs, homicide by drugs and poisoning by drugs, undetermined intent.

Opioid-induced deaths – This sub-category was included in 2016. Opioids include drugs such as morphine, heroin, oxycodone, tramadol, and methadone.

Firearm mortality – Causes of death attributable to firearm mortality include accidental discharge of firearms, suicide by firearms, homicide by firearms, legal intervention involving discharge of firearms, terrorism involving firearms and discharge of firearms, undetermined intent.

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(Numbers and letters refer to tables)

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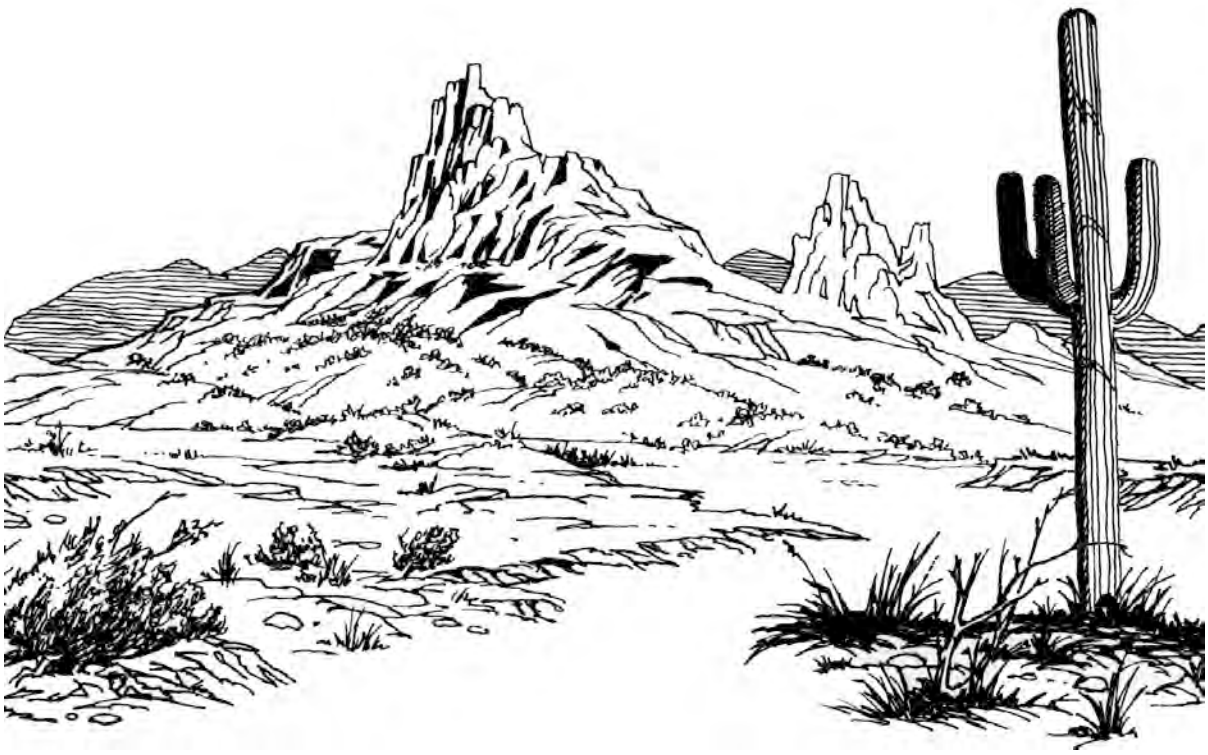
Our Web site at http://pub.azdhs.gov/health-stats provides access to a wide range of statistical information about the health status of Arizonans. The Arizona Health Status and Vital Statistics annual report examines trends in natality, mortality, and morbidity towards established health objectives. Additional reports and studies include Advance Vital Statistics by County of Residence, Injury Mortality among Arizona Residents (all injury, accidents, suicides, homicides, legal intervention, undetermined, firearm-related fatalities, drug-related deaths, drowning deaths, falls among Arizonans 65 years or older), Hospital Inpatient and Emergency Room Statistics (first-listed diagnosis, procedures, alcohol abuse, asthma, diabetes, substance abuse, falls, influenza and pneumonia, injury, and mental disorders), Abortions in Arizona, Community Vital Statistics, Teenage Pregnancy, Differences in Health Status Among Racial/Ethnic Groups, Health Status Profile of American Indians in Arizona, Suicide and Self-Inflicted Injury, Mortality from Alzheimer's Disease, Heart Disease vs. Cancer: An Epidemiologic Transition in Mortality Risks, and Deaths from Exposure to Excessive Natural Heat Occurring in Arizona.



ARIZONA DEPARTMENT OF HEALTH SERVICES
Business Intelligence Office
Vital Statistics Program

APPENDIX 14

Arizona Department of Health Services, Population Health and Vital Statistics, Population Denominators

Bureau of Public Health Statistics Home
Population Health and Vital Statistics Home
Health Status Monitoring Reports
Monthly Vital Statistics
Various Health Statistics
Hospital Inpatient Discharge & Emergency Room Visit Statistics
Data Sources & Definitions
Population Denominators
Vital Statistics Trends in Arizona
Status on Healthy People 2020 Objectives
Additional Resources

Looking for Birth or Death Records?
(602) 364-1300

Bureau of Public Health Statistics
150 N. 18th Avenue, Suite 550
Phoenix, AZ 85007
(602) 542-7333
(602) 364-0082 Fax

Population Health and Vital Statistics

Population Denominators

2022 | 2021 | 2020 | 2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 | 2002 | 2001 | 2000 | 1991 - 1999

2022

The 2022 Arizona Department of Health Services provisional population denominators were developed (5/16/2023) using the 2022 population estimates (published 12/15/2022) from the Arizona Office of Economic Opportunity. Contact vitalstats@azdhs.gov if you have any questions on the provisional dataset methods. Finalized data is expected to be completed by September 2023.

- Population of Infants, Children (1-14 Years), Adolescents (15-19 Years), Young Adults (20-44 Years), Middle-Aged Adults (45-64 Years), and Elderly (65+) by Gender, and County of Residence
- Population of Infants, Children (1-14 Years), Adolescents (15-19 Years), Young Adults (20-44 Years), Middle-Aged Adults (45-64 Years), and Elderly (65+) by Gender, in Urban and Rural Areas
- Population by Ten-Year Age Groups, Gender, and County of Residence
- Population by Ten-Year Age Groups, and Gender in Urban and Rural Areas
- Population by Ten-Year Age Groups, Gender, and Race/Ethnicity
- Population by Five-Year Age Groups, Gender, and Race/Ethnicity
- Population by Five-Year Age Groups, Gender, and County of Residence
- Population by Five-Year Age Groups, County, Gender, and Race/Ethnicity
- Population aged 0-17 Years by Race/Ethnicity, Gender, and County of Residence
- Population of Females 10-19 Years by Race/Ethnicity
- Population of Females 10-19 Years by County of Residence

Note: Information provided in Excel files.

This page last updated May 16, 2023

APPENDIX 15

Arizona Child Fatality Review Team, 29th Annual Report, 2022

Arizona Child Fatality Review Team

Twenty-Ninth Annual Report

November 15, 2022

Mission: To reduce preventable child fatalities in Arizona through a systematic, multi-disciplinary, multi-agency, and multi-modality review process. Prevention strategies, interdisciplinary training, community-based education, and data-driven recommendations are derived from this report to aid legislation and public policy.

Twenty-Ninth Annual Report

November 15, 2022

The Arizona Child Fatality Review Program's (CFRP) goal is to reduce child deaths in Arizona by conducting a comprehensive review of all child deaths to determine what steps could have been taken, if any, to prevent each child's death. In 2021, 863 children died in Arizona, an increase from 838 deaths in 2020. The leading causes of death were prematurity, congenital anomalies, motor vehicle crashes, firearm injuries, and suffocation. Prematurity was the most common cause of death for neonates (infants less than 28 days old) while suffocation was the common cause of death among infants 28 days to less than 1 year of age. Drowning was the most common cause of death in children 1-4 years of age as 68% of the 44 drowning deaths occurred in this age group. The drowning death rate doubled from 2020 to 2021.

Of the 863 deaths, 410 (48%) were determined to be preventable by the local review teams. The three most common causes of preventable death were motor vehicle crashes, firearm injuries, and suffocation. In 43% of the preventable deaths, substance use was a contributing factor, and in 33% of these deaths, poverty was a risk factor.

There were 44 suicide deaths in 2021. In 68% of these deaths, recent warning signs for suicide were the most common risk factor, and 17 suicide deaths were due to firearm injury. In 2021, 56 children died from a firearm injury, and 100% of these deaths were determined to be preventable.

Sudden Unexpected Infant Death (SUID) is the death of a healthy infant who is not initially found to have any underlying medical condition that could have caused their death. Most of the SUIDs are due to suffocation and unsafe sleep environments. There were 65 SUIDs in 2021. An unsafe sleep environment was a factor in 95% of these deaths and bedsharing in 58% of the deaths.

Arizona's abuse/neglect mortality rate increased 36.2% from 5.8 in 2020 to 7.9 in 2021. Of the 128 children who died in 2021 from abuse/neglect, substance use was a contributing factor in 59% of the deaths, and the child's families had prior involvement with a CPS agency in 46% of the deaths.

In 2021, 31 Arizona children died from COVID-19 and 61% of these children were less than 12 years old. There were also 27 deaths where COVID-19 indirectly caused or contributed to the child's death, and 56% of these children were less than 12 years old. The fatality review team recognizes that COVID-19 is indirectly related to other child deaths and may have been a factor in child deaths due to suffocation, poisoning, strangulation, and firearm injuries included in this report.

I would like to thank all our volunteers for their support of the CFR program and its mission to prevent child deaths in Arizona. Five of us have participated in the CFR program for over 25 years: Susan Newberry, MEd (Maricopa Team), Kathy Bowen, MD and Lori Groenewold (Pima Team), and Patti Perry, MD (Yuma Team). The ongoing support of the Arizona Department of Health Services and the Arizona Chapter of the American Academy of Pediatrics is greatly appreciated.

Sincerely,

Mary Ellen Rimsza, MD FAAP

Chair, Arizona Child Fatality State Team

Submitted to:

The Honorable Douglas A. Ducey, Governor, State of Arizona
The Honorable Karen Fann, President, Arizona State Senate
The Honorable Russell Bowers, Speaker, Arizona State House of Representatives
This report is provided as required by A.R.S. §36-3501. C.3

Prepared by:

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Acknowledgments:

The 10 Local CFR teams and their coordinators in Arizona, whose persistent efforts, conducted 100% of child fatality reviews to aid in prevention recommendations. Because of their hard work and dedication to the program, over the last 29 years, the CFRP has overall continued to decrease preventable deaths for our Arizona children.

The CFRP team members who have served for ten or more years with the program. Because of their dedicated time and volunteer commitment to the program, all child deaths in Arizona are reviewed to determine if steps, if any, could have prevented the child's death from occurring. It is because of their expertise and many years of experience with the program that this report is made possible. A star is notated next to their name at the end of this report.

This publication can be made available in alternative formats. Contact the CFRP at (602) 542-1875 (voice) or Individuals with hearing or speech challenges, call 711 for Relay.

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Table of Contents

Disclaimers to the Annual Report

Disclaimers

Public Health and Vital Statistics:

Data in this report may differ from the data published by the Bureau of Public Health Statistics (BPHS). BPHS only reports data on Arizona residents whereas the Child Fatality Review Program (CFRP) investigates and reports on the death of all children who die in Arizona regardless of state residency.

Department of Child Safety (DCS)/Child Protective Services (CPS):

Data in this report may differ from the data published by the Department of Child Safety/Child Protective Services as the CFRP and DCS/CPS have different definitions of child abuse/neglect. The CFRP works closely with DCS/CPS to further improve our surveillance of child abuse/neglect. A more detailed explanation can be found in the appendix.

Race/Ethnicity Referencing:

Due to spacing issues, the figures throughout the report will refer to the following race/ethnicity groups: American Indian, Asian, Black, Hispanic, and White. However, please note, American Indian includes Alaska Native, Asian includes Pacific Islander, Black includes African American, and Hispanic includes Latino. All text accompanying the figures will be all-inclusive.

Racial Disparities:

Although portions of the report show progress in reducing child deaths in Arizona overall, racial disparities in mortality remain or have increased in recent years. American Indian and Black children are disproportionately affected by mortality at greater levels than White and Hispanic children despite both groups representing small proportions of the total Arizona population. Further investigation of these disparities can lead to evidence-based tailored public health programs and interventions to improve mortality rates for Arizona's American Indian and Black communities.

Prevention Recommendations:

The prevention recommendations included in this report are developed by the CFRP State Team and does not necessarily reflect the official views of ADHS or the State of Arizona. The local review team recommendations and a literature review conducted by the CFRP make up the recommendations that are presented to the CFRP State Team for inclusion in this report.

Report Highlights

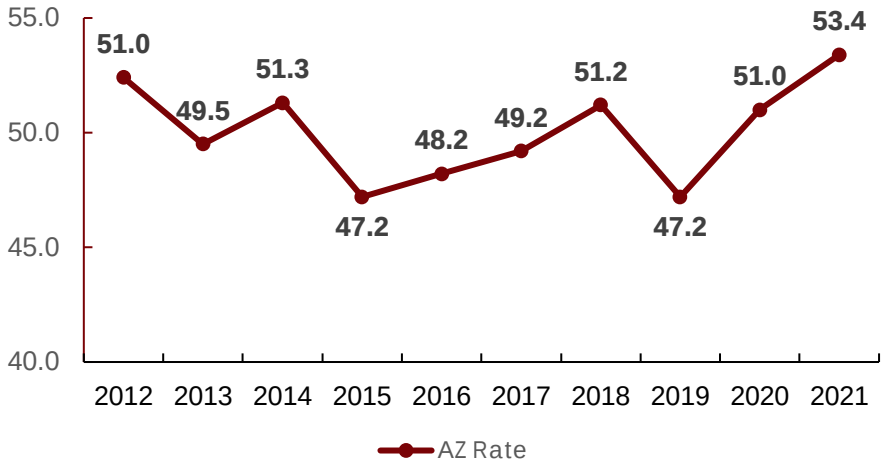
Total Deaths
863

Preventable Deaths
410
(48% of all deaths)

Deaths Under 1 Year
428
(50% of all deaths)

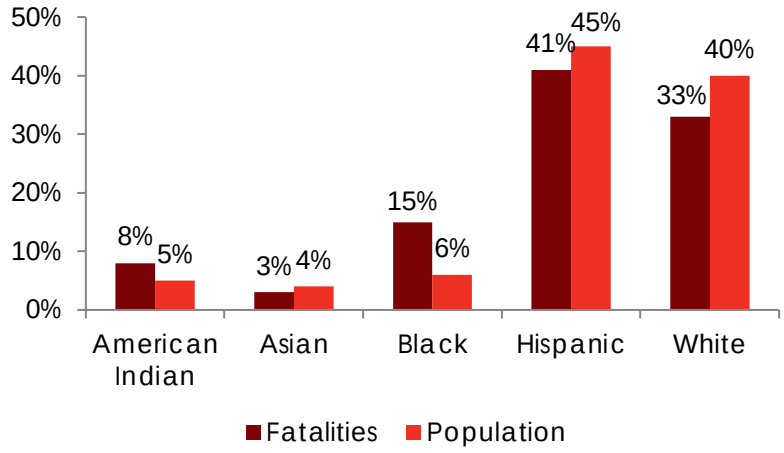
Abuse/Neglect Deaths
128
(15% of all deaths)

Mortality Rate per 100,000 Children, Ages 0-17 Years, Arizona, 2012-2021[2-11]



Natural Causes	Accidents	Homicides	Suicides	Undetermined
59%	28%	5%	5%	3%
511 child deaths	238 child deaths	47 child deaths	44 child deaths	23 child deaths

Percentage of Deaths among Children by Race/Ethnicity, Compared to the Population, Ages 0-17 Years (n=863)[2]



Top 5 Leading Causes of Death:

1. Prematurity (n=206)
2. Congenital Anomaly (n=108)
3. Motor Vehicle Crash (n=72)
4. Firearm Injury (n=56)
5. Suffocation (n=54)

Substance Use was involved in
1 out of every 5
child fatalities

Boys were victim to
79%
of firearm injury deaths

75% of children who died of abuse/neglect were **less than five years of age**

95% of the Sudden Unexpected Infant Deaths (SUIDs) occurred in an **unsafe sleep environment**

Introduction

The Arizona Child Fatality Review Program (CFRP) annually provides a comprehensive review of every child less than 18 years of age who died in Arizona, including all deaths due to injuries and medical conditions. While most deaths due to medical conditions are not preventable, deaths due to intentional (suicides, homicides) and unintentional injuries (drowning, suffocation, motor vehicle crashes) are preventable and vary by age. Historical data shows that infants are most often injured by suffocation resulting from an unsafe sleep environment, toddlers are more likely to drown, and older children are more vulnerable to motor vehicle or firearm injury. Analyzing risk factors allows injuries to be anticipated and thus prevented when the appropriate protective measures are in place.

The CFRP was established to review all possible factors surrounding a child's death. The intent of the program is to identify ways of reducing preventable fatalities. Legislation was passed in 1993 (A.R.S. § 36-342, 36- 3501) authorizing the creation of the CFRP. In 1994, the review process and data collection began. Today 10 local teams conduct initial reviews with oversight from the State Team and its two subcommittees.

This report utilizes descriptive statistics and trend analyses to present summary information about child fatalities as well as the leading causes under each manner of death by factors such as age, sex, and race/ethnicity. The demographic and prevention information in this report are used to help broadly inform public health initiatives and the community. Recommendations for prevention are decided upon by both state and local review teams based on the information collected and reviewed on each child's death.

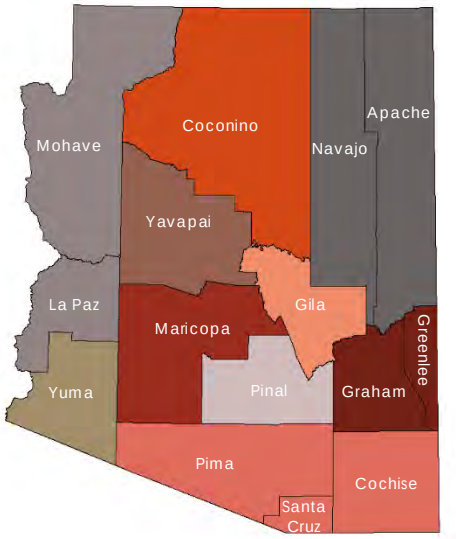
According to the National Center for Child Death Review, there are six basic steps to conduct an effective review meeting[1]:

1. Share, question, and clarify all case information
2. Discuss the investigation
3. Discuss the delivery of services
4. Identify risk factors
5. Recommend systems improvements
6. Identify and take action to implement prevention recommendations

Methods

Review Process

Local Review Teams*



*Same color in map = Same review team

Arizona has 10 Local CFR Teams that complete reviews at the community level. Second level reviews of SUID and Abuse/Neglect deaths are done at the state level by subcommittees of the State Team. The review process begins when the death of a child less than 18 years old is identified through a vital records report. The CFR program sends a copy of the death certificate to a local CFR team that is based in the community where the deceased child lived. If the child was not a resident of Arizona, the local team in the community where the death occurred will conduct the review. Information collected during the review is then entered into the National Child Death Review Database. Funding for the NCFRP is provided in large part by the Maternal and Child Health Bureau (Title V Social Security Act), Health Resources Services Administration, US Department of Health and Human Services. The resulting dataset is used to produce the statistics found in this annual report.

Local Team Membership

The CFRP partners with local county health departments, academia, and non-profit organizations to establish review teams. These teams are located throughout the state and membership includes (A.R.S. § 36-3502):

- County attorney's office
- County health department
- County medical examiner's office
- Department of Child Safety (DCS)
- Domestic violence specialist
- Local law enforcement
- Parent
- Pediatrician or family physician
- Psychiatrist or psychologist

Report Statistics

The descriptive statistics in this report summarize the information about these child deaths by manner, cause, age, sex, race/ethnicity, and risk factors. Frequencies and cross-tabulation tables are shown throughout the report. The demographic and prevention information

represented in this report are primarily used to help broadly inform public health initiatives and the community.

Manner of Death versus Cause of Death

In this report, the manner of death includes natural (e.g., cancer), accident (e.g., unintentional car crash), homicide (e.g., assault), suicide (e.g., self-inflicted intentional firearm injury), and undetermined. The cause of death refers to the injury or medical condition that resulted in death (e.g., firearm injury, pneumonia, cancer). Manner of death is not the same as the cause of death, but specifically refers to the intentionality of the cause. For example, if the cause of death was a firearm injury, then the manner of death may have been intentional or accidental. If it was intentional, then the manner of death was suicide or homicide. If the injury was unintentional, then the manner of death was an accident. In some cases, there was insufficient information to determine the manner of death, even though the cause was known. For example, it may not have been clear that a firearm injury was due to an accident, suicide or homicide; and in these cases, the manner of death was listed as undetermined.

Limitations

It is important to note that the report has certain limitations. While every child's death is important, the small numbers in some areas of preventable deaths reduce the ability to examine some trends in detail. The numbers are used to inform public health efforts in a broader sense, but the sample size reduces the ability to make true statements about statistical significance in any differences or causal relationships. It is also of note that much of the collected data is done through qualitative methods such as the collection of witness reports on child injury deaths. This means that there is always the potential for bias when the information is taken. Other variables that may not be captured on the death certificate or other typical records may include family dynamics, mental health issues, or other hazards.

Additionally, data is based upon vital records information and information from local jurisdictions. Arizona has a medical examiner system with each county having its own jurisdiction. Law enforcement also varies around the state. Arizona is home to 22 different American Indian tribes each of whom has their own sovereign laws and protocols. Jurisdiction and records sharing for each tribal government varies. These intricate relationships and individual jurisdictions mean that sources and information may vary to review each case.

Recommendation Highlights

In response to the summary data in the report, the State Child Fatality Review Team makes evidence-based recommendations to prevent child fatalities within the state. Highlighted recommendations are from manners/causes of deaths that report an increase between 2020-2021 including the following:

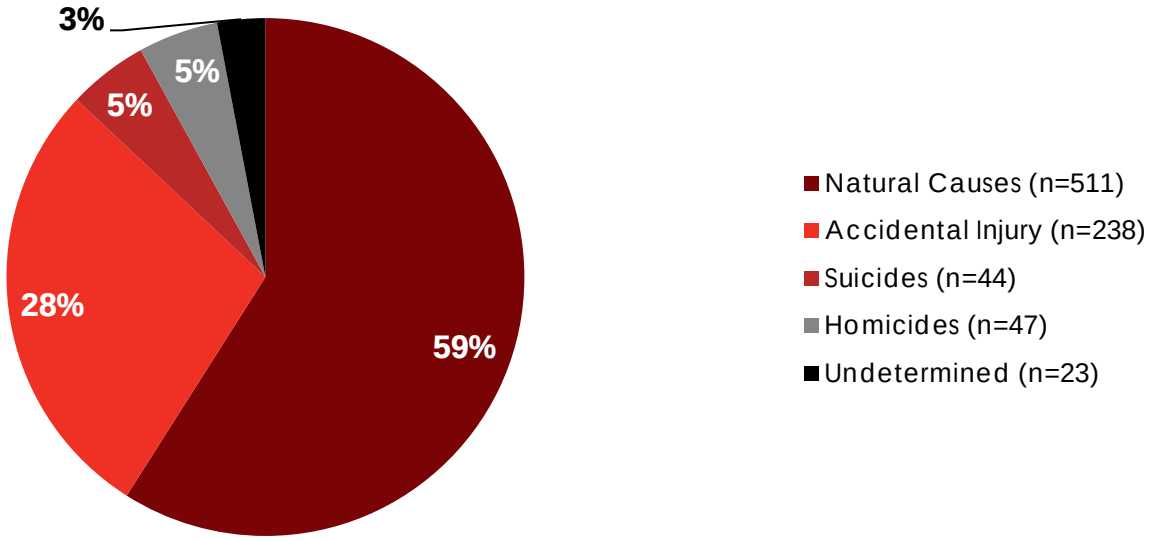
- The mortality rate of **abuse/neglect** deaths increased drastically. Some prevention recommendations include the expansion of the DCS Workforce Resilience program, increasing home visiting programs throughout the state, and increasing awareness and support for the All Babies Cry program.
- The **drowning** mortality rate increased drastically. Some prevention recommendations include increasing public awareness of the dangers of drowning for children, caregivers never leaving a child unattended near pools or open bodies of water, proper pool enclosures for all pools, and teaching children the ability to swim to reduce child drownings.
- The mortality rate for **firearm injury** increased this year. Some prevention recommendations include removing firearms from households with children, proper storage of all firearms which requires keeping the firearm unloaded and locked in a safe with the ammunition stored separately, and interventions to prevent firearm violence among children in school.
- **Prematurity** was identified as the most common cause of death among neonates. Some prevention recommendations include avoiding using substances such as drugs or alcohol during pregnancy because it increases the risk of preterm birth and other complications, encouraging regular prenatal care, increasing the availability of affordable health insurance and awareness of AHCCCS coverage up to one year postpartum, and increasing availability of home visiting programs.
- **Substance use** related death rate increased this year. Some prevention recommendations for substance use include training for professionals in trauma-informed care to better address adverse childhood experiences (ACEs), improve access to personalized substance use disorder treatment plans especially in rural areas, expand access to services for people experiencing unstable housing and homelessness, and increase the availability of naloxone.
- The mortality rate of **Sudden Unexpected Infant Deaths (SUIDs)** increased as well. Some prevention recommendations include educating parents on safe sleeping environments using real-life testimonials in safe sleep education. Infants should be placed on their backs to sleep for every sleep on a firm, flat, non-inclined sleep surface. Alone, on my Back, in a Crib (ABCs) is the safest sleeping practice for an infant until it is 1 year of age. Infants should always sleep on a separate surface. Increasing home visiting programs for infants following birth for up to one year.

A more detailed list of these prevention recommendations begins on page 89.

Overall Demographics: Child Mortality (0-17 Years)

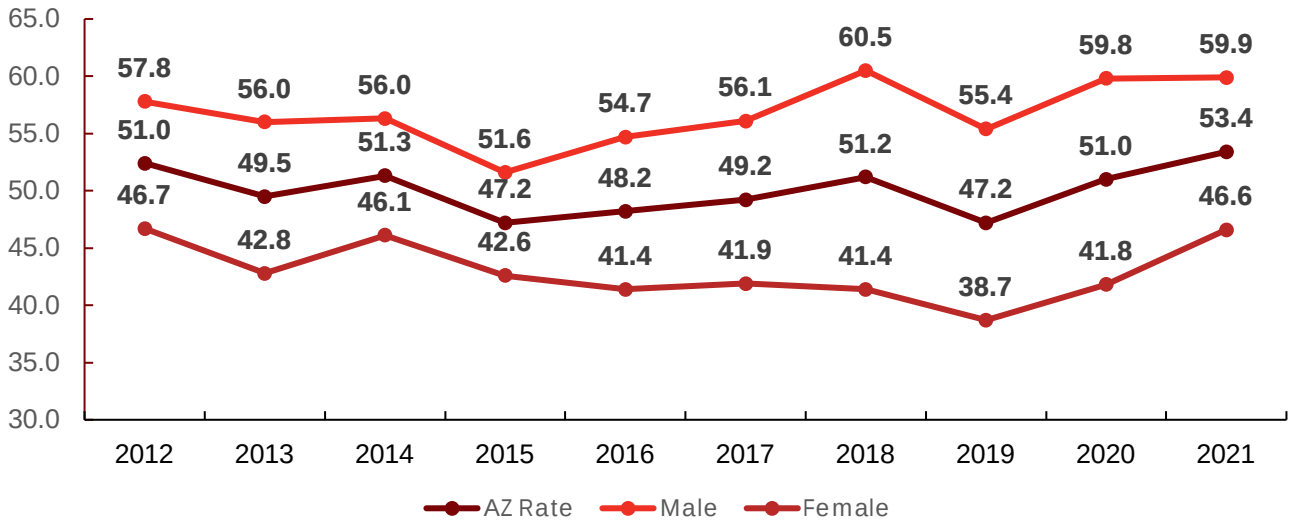
The majority of child deaths were from natural causes (59%), followed by accidental injury deaths (28%) (Figure 1).

Figure 1. Number and Percentage of Deaths among Children by Manner of Death, Ages 0-17 Years, Arizona, 2021 (n=863)



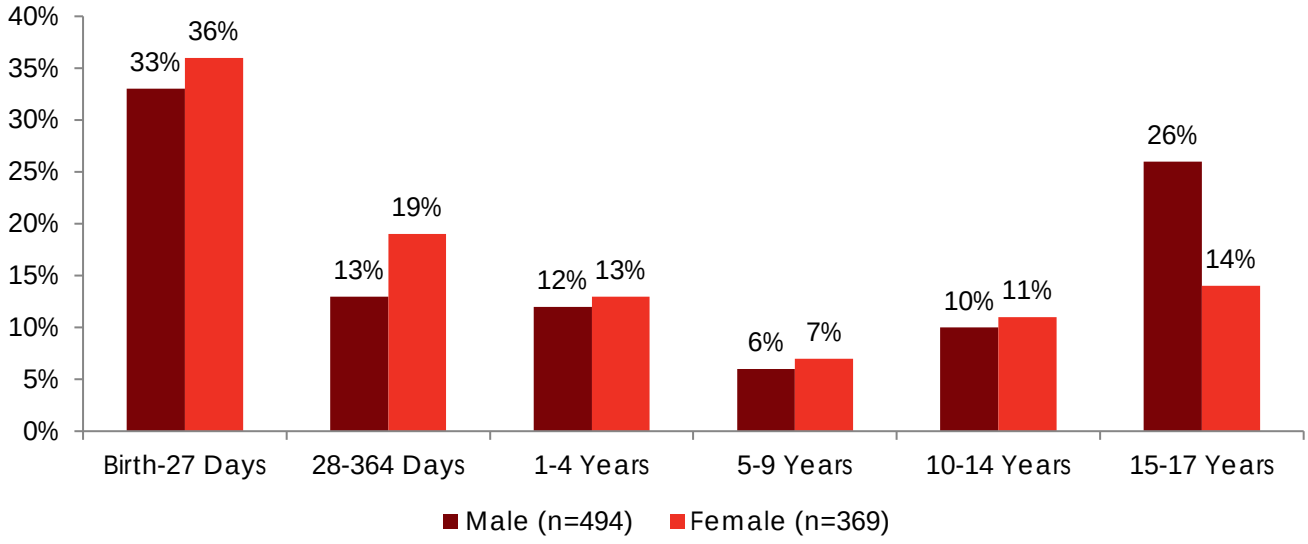
Arizona's child mortality rate has remained relatively stable since 2012. Arizona's child mortality rate increased 4.7% from 51.0 deaths per 100,000 children in 2020 to 53.4 deaths per 100,000 children in 2021. The male child mortality rate is consistently higher than the female child mortality rate (Figure 2).

Figure 2. Mortality Rate per 100,000 Children, Ages 0-17 Years, Arizona, 2012-2021 (n=863)[2-11]



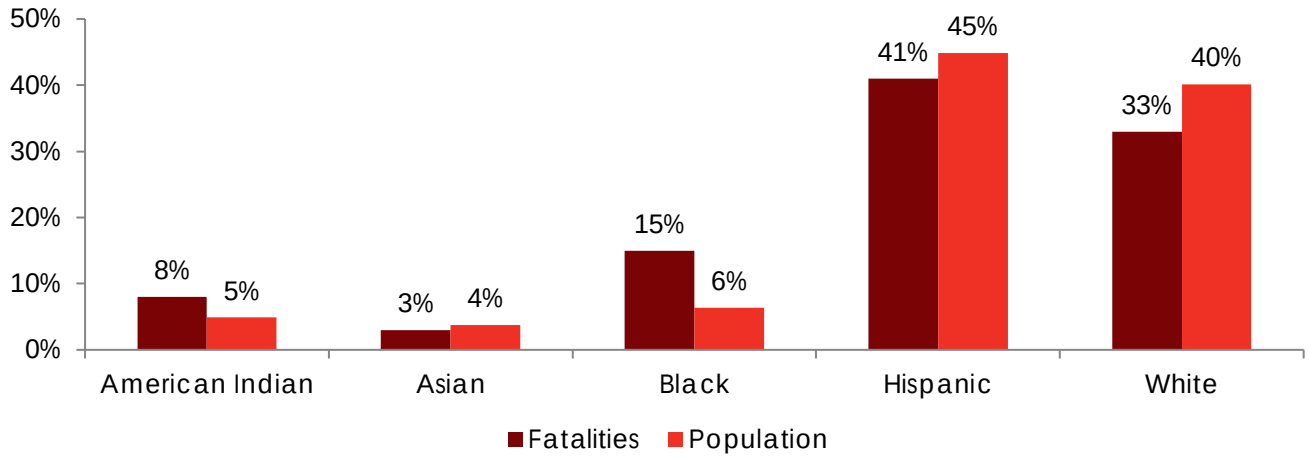
Fifty-seven percent of child deaths were males while 43% were females. The highest percentage of male deaths were among children ages birth-27 days and 15-17 years (36% and 26% respectively). The highest percentage of female deaths were among birth-27 days and 25-364 days (36% and 19% respectively) (Figure 3).

Figure 3. Percentage of Deaths among Children by Age Group and Sex, Ages 0-17 Years, Arizona, 2021 (n=863)



Black and American Indian children made up 15% and 8% of child deaths, respectively, but only make up 6% and 5% of the total child population. The largest percentage of child deaths were among Hispanic (41%) children followed by White (33%) children (Figure 4).

Figure 4. Percentage of Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2021 (n=863)[2]



Prematurity was the leading cause of death for infants 0-27 days while suffocation was the leading cause of death among infants 28 days to less than 1 year of age (Table 1). Among children ages 1-4 years, drowning was the leading cause of death. Among children ages 5-9 years and 10-14 years, motor vehicle crash was the leading cause of death. Among children 15-17 years, firearm injury was the leading cause of death.

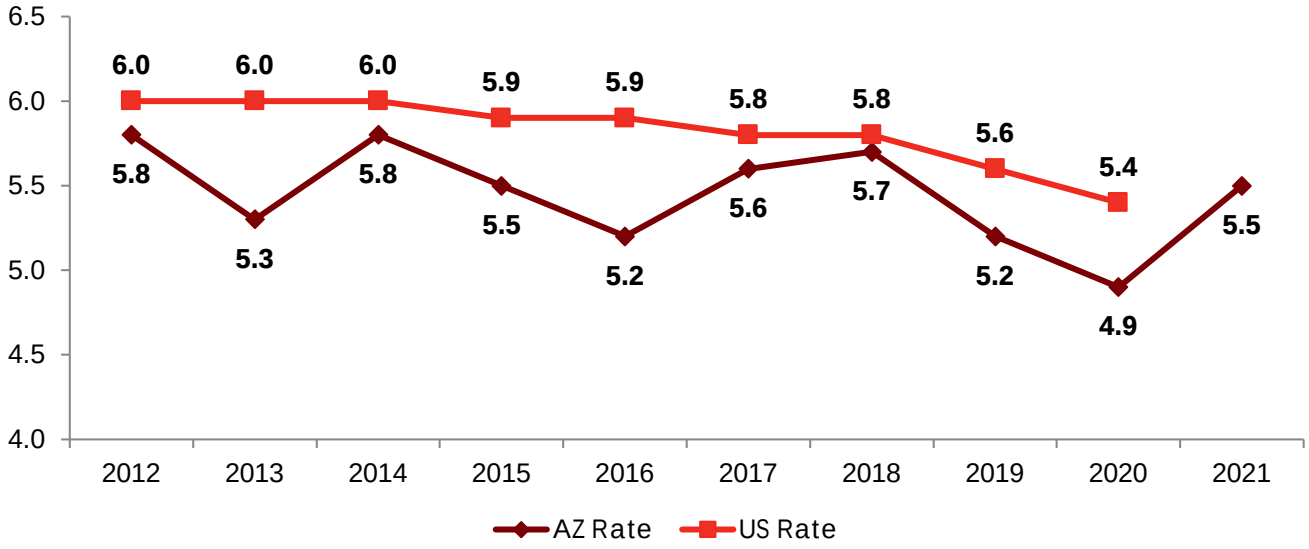
Table 1. Top 5 Leading Causes of Child Death by Age Group, Arizona, 2021

Age Group	Leading Causes of Child Death				
	1	**2**	**3**	**4**	**5**
0-27 Days (n= 295)	Prematurity (n = 187)	Congenital Anomaly (n = 64)	Other Perinatal Condition (n = 20)	Neurological/ Seizure Disorder (n = 7)	Cardiovascular (n = 6)
28 Days - <1 Year (n= 133)	Suffocation (n = 49)	Prematurity (n = 18)	Congenital Anomaly (n = 17)	Undetermined (n = 11)	Cardiovascular (n = 8)
1-4 Years (n= 107)	Drowning (n = 30)	Congenital Anomaly (n = 14)	Poisoning (n = 9)	Cancer (n = 7)	Neurological/ Seizure disorder (n = 7)
5-9 Years (n= 57)	Motor Vehicle Crash (n = 12)	Congenital Anomaly (n = 6)	Drowning (n = 6)	Cancer (n < 6)	COVID-19 (n < 6)
10-14 Years (n= 91)	Motor Vehicle Crash (n = 17)	Cancer (n = 15)	Strangulation (n =10)	Firearm Injury (n = 8)	Poisoning (n= 6)
15-17 Years (n= 180)	Firearm Injury (n= 42)	Motor Vehicle Crash (n = 34)	Poisoning (n = 32)	Strangulation (n= 11)	Cancer (n =10)
All Deaths (N= 863)	**Prematurity (n = 206)**	**Congenital Anomaly (n = 108)**	**Motor Vehicle Crash (n = 72)**	**Firearm Injury (n = 56)**	**Suffocation (n = 54)**

Overall Demographics: Infant Mortality (Less than 1 Year of Age)

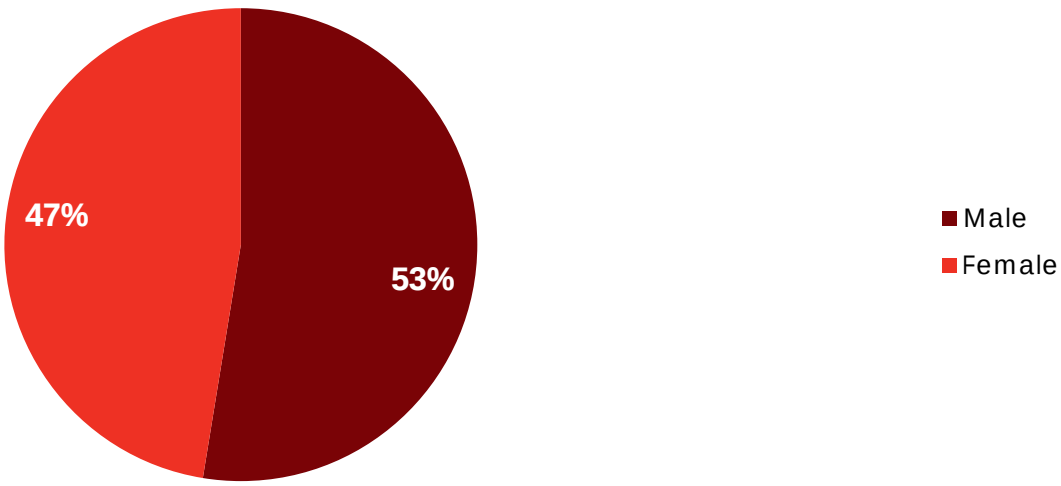
Arizona's infant mortality rate has been fluctuating since 2012. Since 2020, Arizona's infant mortality rate has increased 12.2% from 4.9 deaths per 1,000 live births to 5.5 deaths per 1,000 live births. The Arizona infant mortality rate has consistently been lower than the U.S. rate (Figure 5).

Figure 5. Infant Mortality Rates per 1,000 Live Births, Less than 1 Year of Age, Arizona & U.S., 2012-2021[12-31]



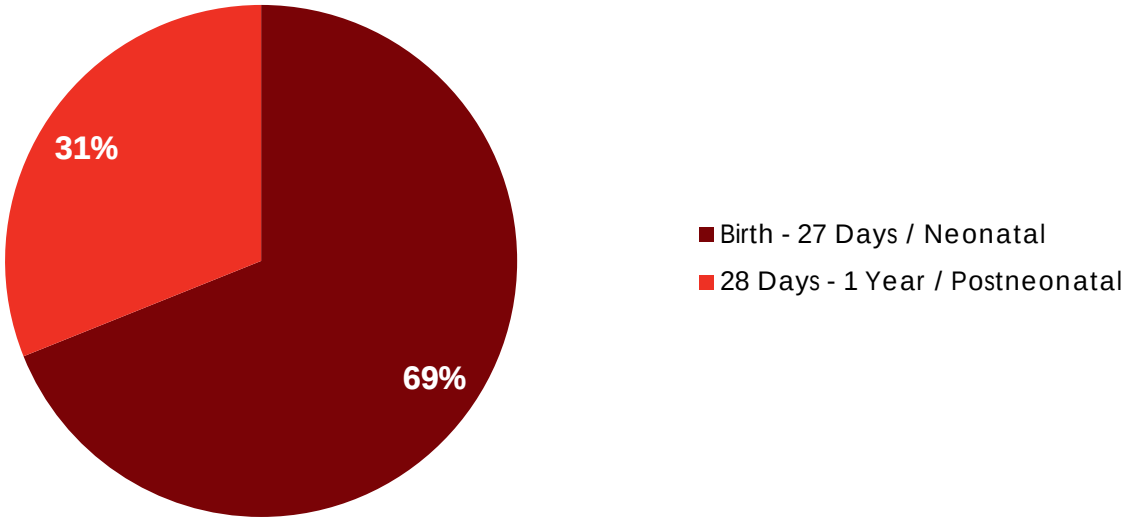
The majority of infant deaths were male (53%) (Figure 6).

Figure 6. Percentage of Deaths among Infants by Sex, Less than 1 Year of Age, Arizona, 2021 (n=428)



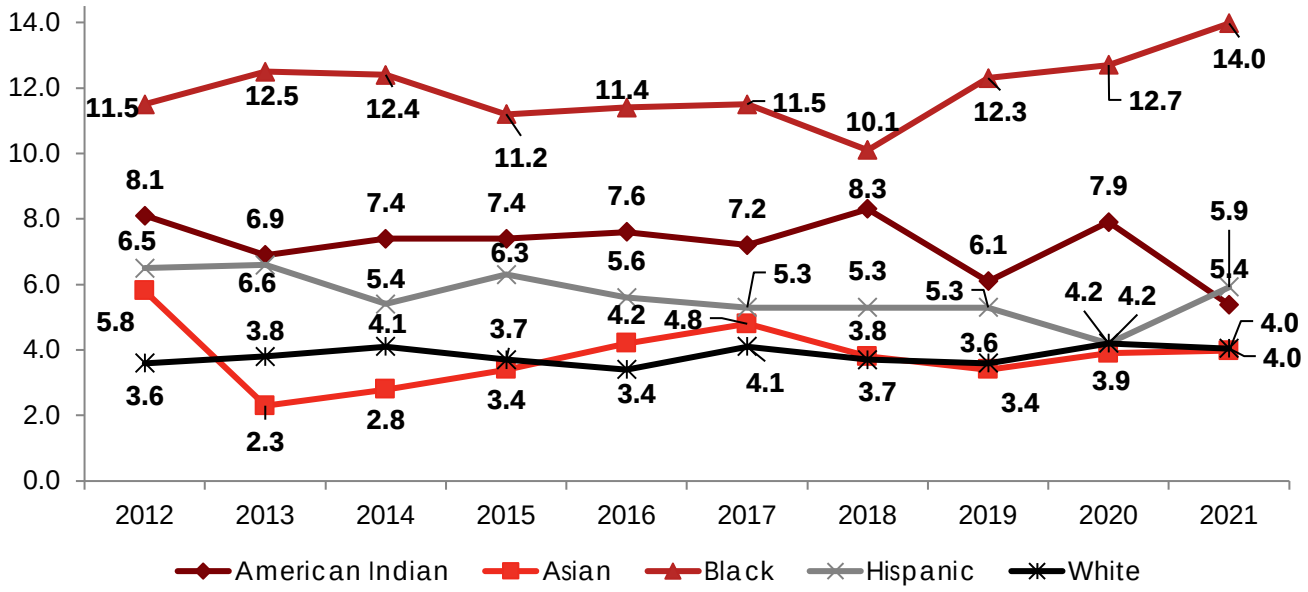
The majority of infant deaths occurred in post-neonatal infants 28 days to one year (69%) (Figure 7).

Figure 7. Number and Percentage of Deaths among Infants by Age Group, Less than 1 Year of Age, Arizona, 2021 (n=428)



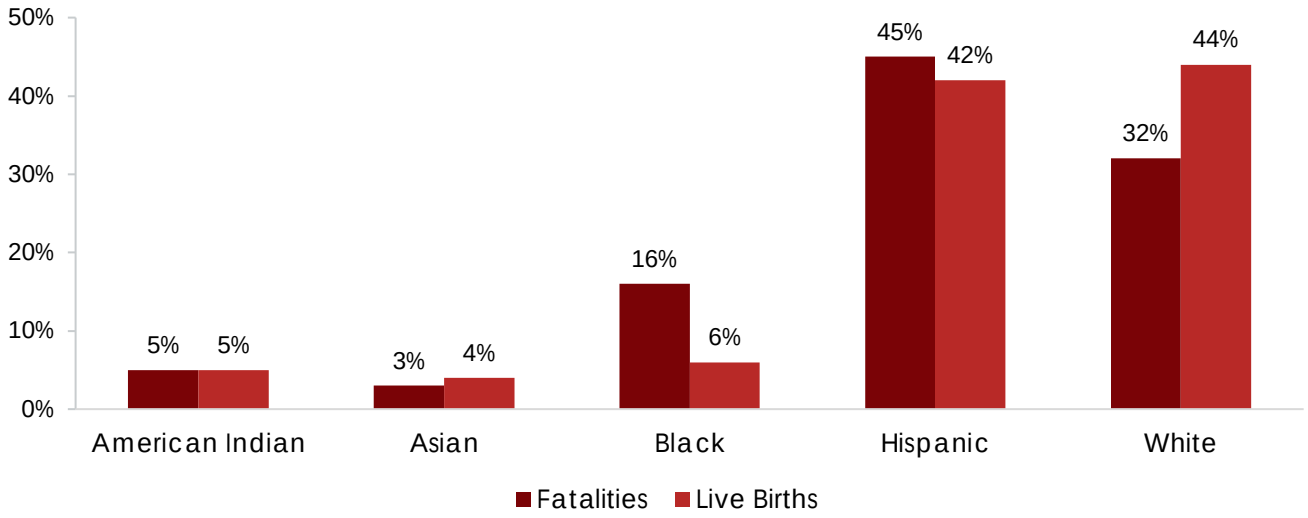
Black and American Indian infants have consistently higher rates of infant mortality. In 2021, the infant mortality rates for Black and American Indian were 14.0 and 5.4 deaths per 1,000 live births, respectively. In comparison, the infant mortality rates for Hispanic and White infants were 5.9 and 4.0 deaths per 1,000 live births. All infant mortality rates, except for American Indian and White infants increased, with the highest rate increase for Black infants of 10.3% from 2020 to 2021 (Figure 8).

Figure 8. Infant Mortality Rates per 1,000 Live Births by Race/Ethnicity, Less than 1 Year of Age, Arizona, 2012-2021[30-31]



Black infants made up 16% of infant deaths but only make up 6% of live births. The majority of infant deaths were among Hispanic (45%) and White (32%) infants (Figure 9).

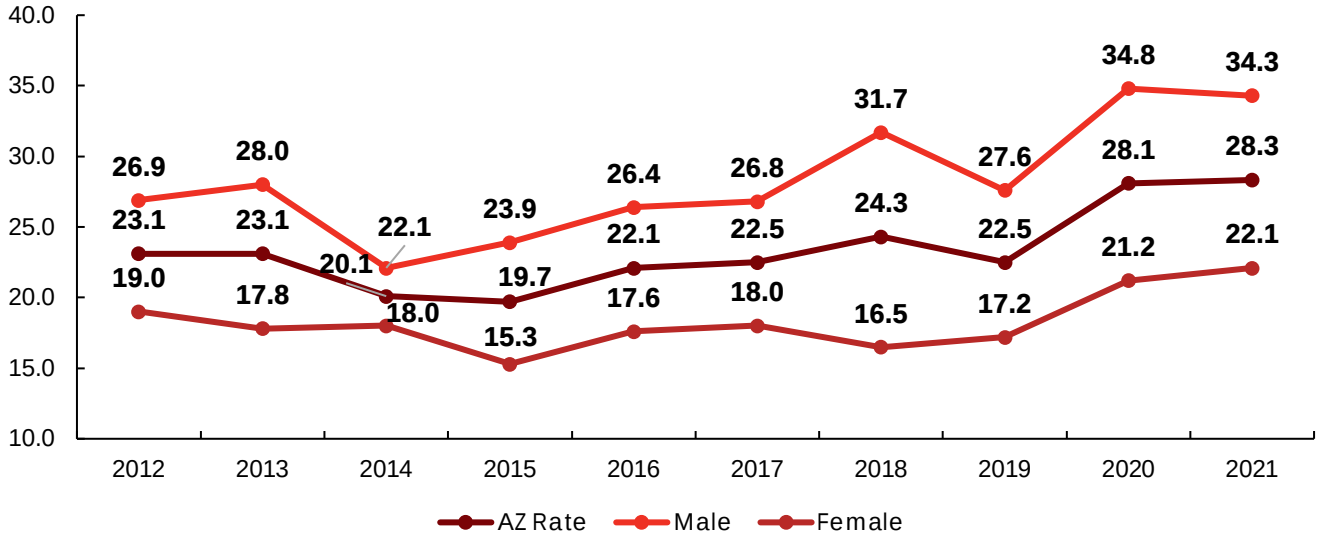
Figure 9. Percentage of Infant Deaths per 1,000 Live Births by Race/Ethnicity, Less than 1 Year of Age, Arizona, 2021 (n=428)[30]



Overall Demographics: Child Mortality (1-17 Years of Age)

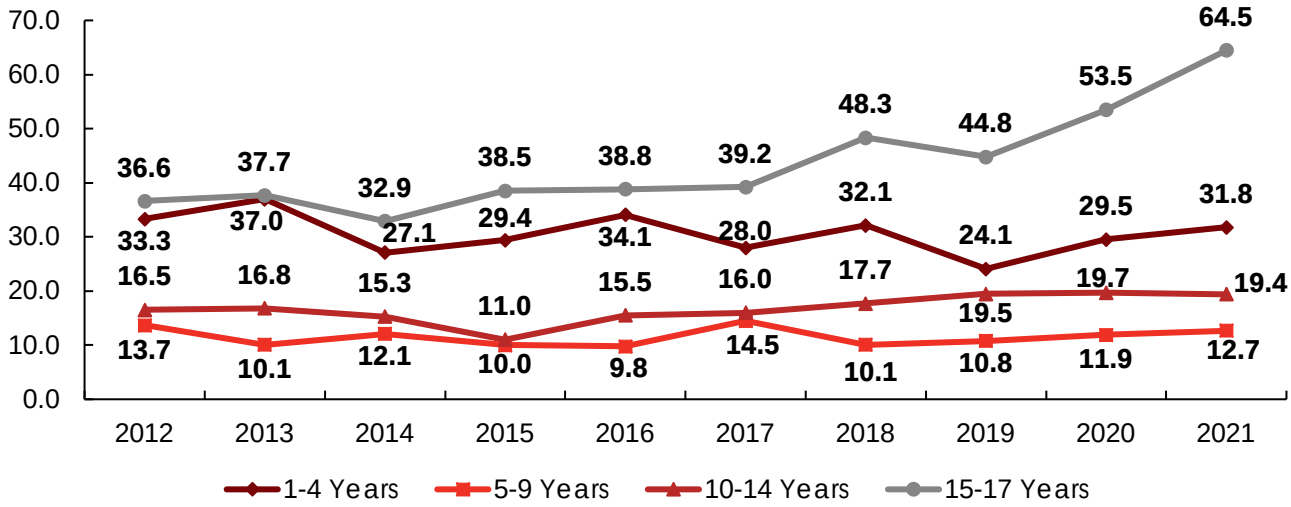
Arizona's child mortality rate remained relatively the same from 28.1 deaths per 100,000 children in 2020 to 28.3 deaths per 100,000 children in 2021. The female child mortality rate has increased since 2018 by 34%. Males have consistently had a higher child mortality rate compared to females (Figure 10).

Figure 10. Mortality Rates per 100,000 Children, Ages 1-17 Years, Arizona, 2012-2021[3-11,32]



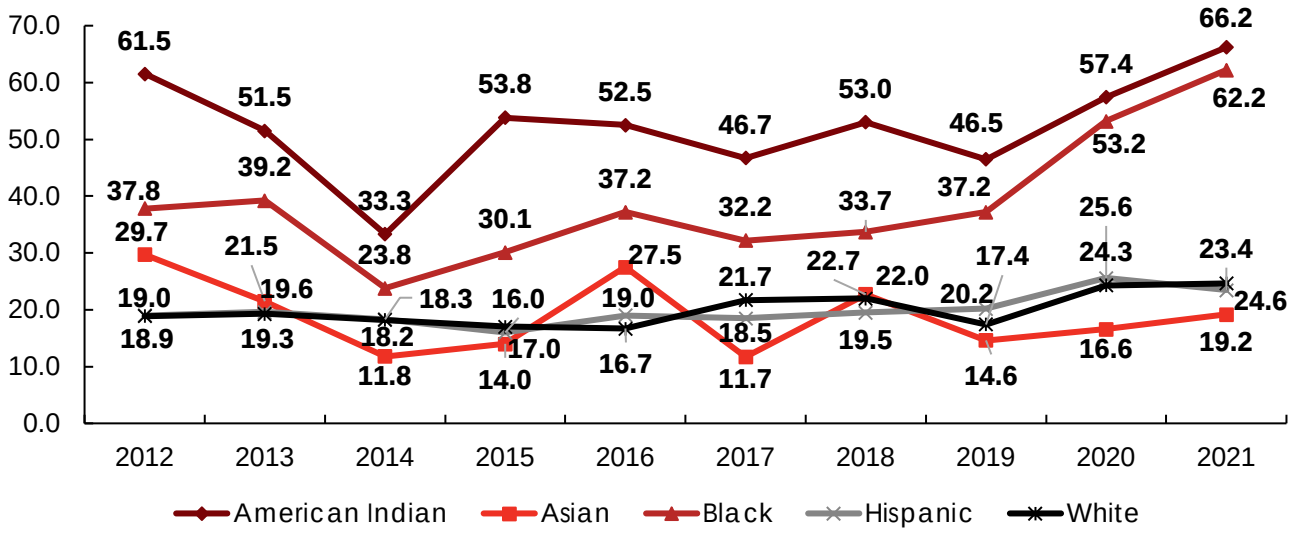
Children ages 10-14 years had a 1.5% decrease in the mortality rate from 2020 to 2021. From 2020-2021, all age groups with the exception of children 10-14 years experienced increases in the mortality rates. Children ages 15-17 experienced the highest increase, 20.6% from 53.5 deaths per 100,000 children in 2020 to 64.5 deaths per 100,000 children in 2021 (Figure 11).

Figure 11. Mortality Rates per 100,000 Children by Age Group, Ages 1-17 Years, Arizona, 2012-2021[32]



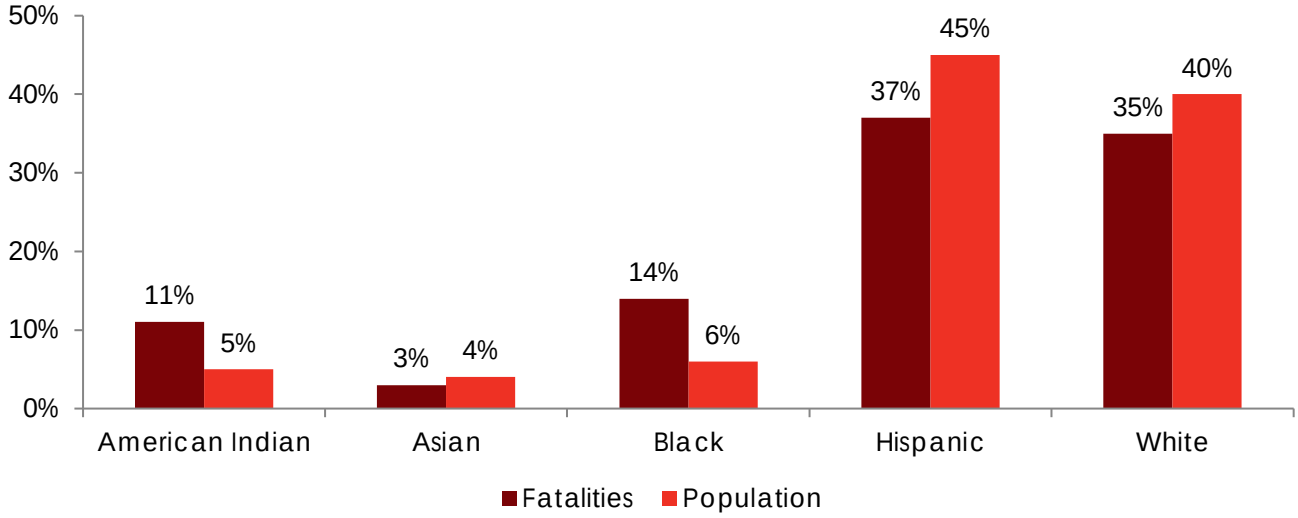
The mortality rate for all racial groups increased from 2020 to 2021 except for Hispanic and White children. American Indian and Black children consistently had higher rates of child mortality from 2012-2021. In 2021, the child mortality rate for American Indian and Black children was 66.2 and 62.2 deaths per 100,000 children and had a 15% and 17% increase, respectively (Figure 12).

Figure 12. Mortality Rates per 100,000 Children by Race/Ethnicity, Ages 1-17 Years, Arizona, 2012-2021[32]



Black and American Indian children made up 14% and 11% of child deaths, respectively, but only comprised 6% and 5% of the total child population. The majority of child deaths were among Hispanic (37%) and White (35%) children (Figure 13).

Figure 13. Percentage of Deaths among Children by Race/Ethnicity, Ages 1-17 Years, Compared to Population, Arizona, 2021 (n=435)[32]



Preventable Deaths

The main purpose of the CFRP is to identify preventable factors in a child's death. Throughout the report the term "preventable death" is used. Each multi-disciplinary team is composed of professionals who review the circumstances of a child's death by reviewing records ranging from autopsies to law enforcement reports. The team then determines if there were any preventable factors present prior to the death. They used one of the following three labels to determine preventability; 1) Yes, probably 2) No, probably not 3) Team could not determine. A determination is based on the program's operational definition of preventability in a child's death.

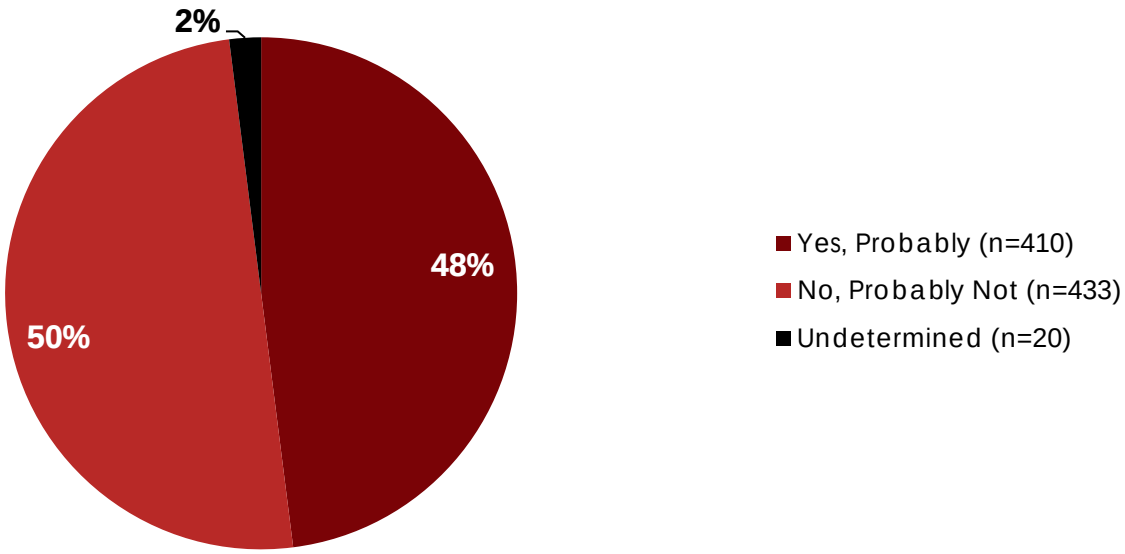
A child's death is considered preventable if the community (education, legislation, etc.) or an individual could reasonably have done something that would have changed the circumstances that led to the child's death.

"Yes, probably," means that some circumstance or factor related to the death could probably have been prevented. "No, probably not" indicates that everything reasonable was most likely done to prevent the death, but the child would still have died. A designation of "Team could not determine" means that there was insufficient information for the team to decide upon preventability.

When discussing all deaths, the report is referring to the total 863 child deaths that took place in 2021. When the text refers to preventable deaths these are the fatalities that the review teams deemed to be preventable. Much of the data discussed in this report are based on those fatalities determined as preventable by the teams. This is important so that efforts are targeted to the areas where prevention initiatives will be most effective.

In 2021, local review teams determined that 410 child deaths were probably preventable (48%), 433 child deaths were probably not preventable (50%) and could not determine the preventability in 20 (2%) of the deaths (Figure 14).

Figure 14. Number and Percentage of Deaths among Children by Preventability, Ages 0-17 Years, Arizona, 2021 (n=863)



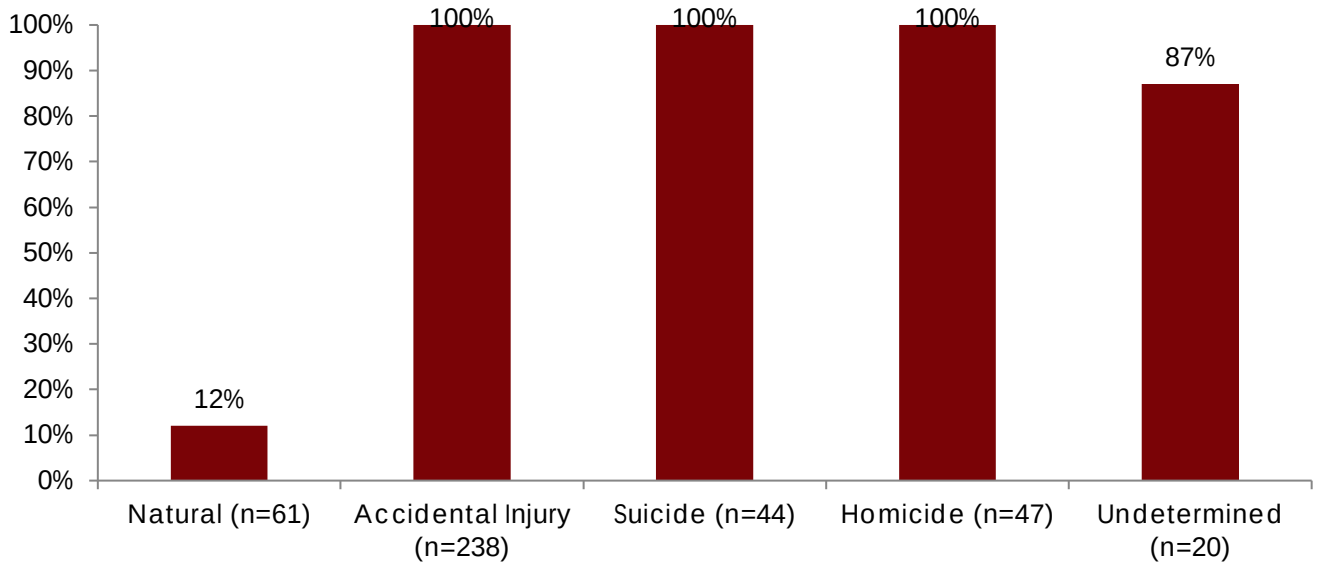
The leading cause of preventable deaths was motor vehicle crash deaths (18%) followed by firearm injury (14%) and suffocation (13%) (Table 2).

Table 2. Leading Causes of Preventable Deaths among Children, Ages 0-17 Years, Arizona, 2021

Leading Causes of Death	Number	Percent
Motor Vehicle Crash	72	18%
Firearm Injury	56	14%
Suffocation	54	13%
Poisoning	50	12%
Drowning	44	11%
Prematurity	27	7%
Strangulation	23	6%

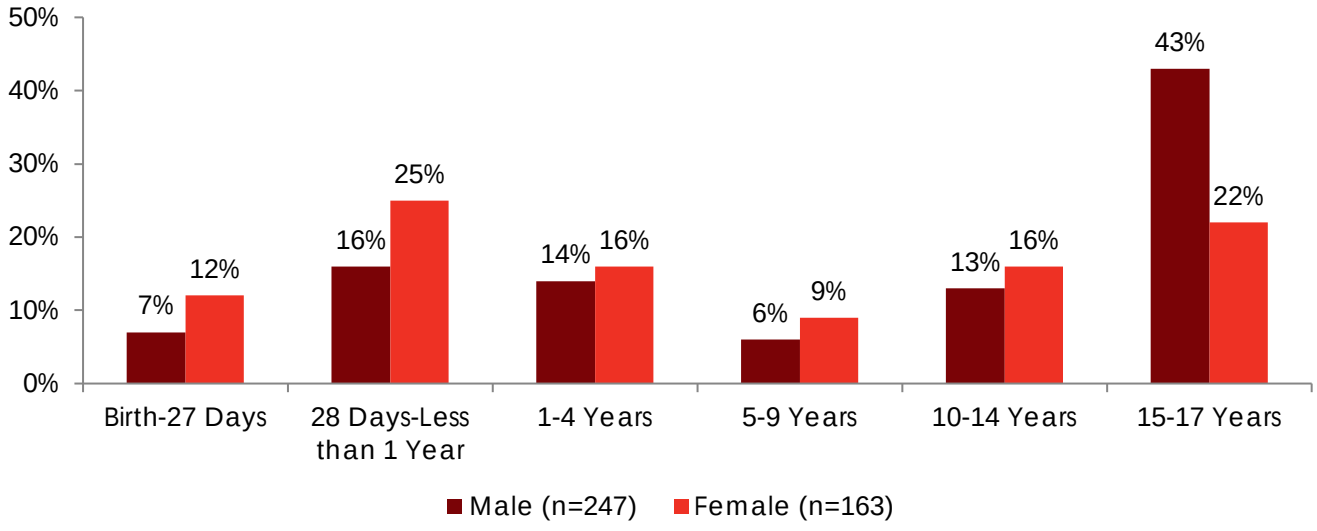
Local review teams determined that 12% of natural deaths (n=61), 100% of accidental injury deaths (n=238), 100% of suicides (n=44), 100% of homicides (n=47), and 87% of undetermined manner of deaths (n=20) were preventable (Figure 15).

Figure 15. Number and Percentage of Preventable Deaths among Children by Manner of Death, Ages 0-17 Years, Arizona, 2021 (n=410)



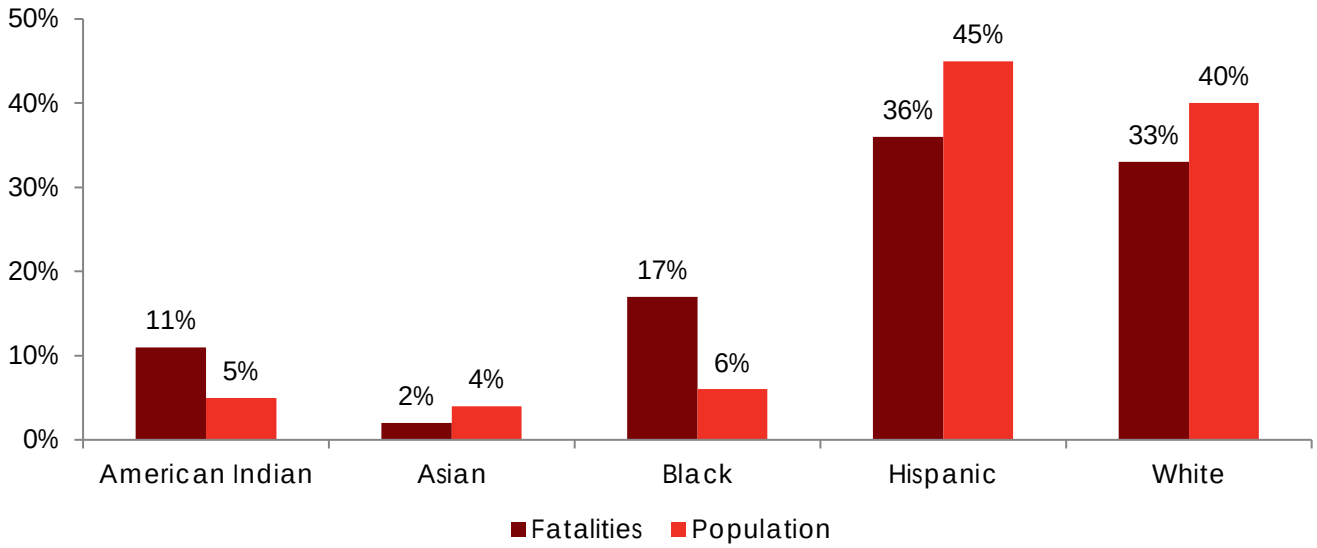
The majority of preventable deaths occurred in children ages 15-17 years (35%) followed by children ages 28 days- 1 year (20%) (not shown). Male children ages 15-17 years made up a large proportion of male preventable deaths. A majority of female preventable deaths occurred in female children ages 28 days – less than 1 year (Figure 16).

Figure 16. Percentage of Preventable Deaths among Children by Age Group and Sex, Ages 0-17 Years, Arizona, 2021 (n=410)



Black and American Indian children made up 17% and 11% of preventable child deaths, respectively, but only comprised 6% and 5% of the total child population. The majority of child deaths were among Hispanic (36%) and White (33%) children (Figure 17).

Figure 17. Percentage of Preventable Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to the Population, Arizona, 2021 (n=410)[2]



The most commonly identified factors of preventable deaths were substance use (43%) followed by CPS history with the family (40%) and poverty (33%) (Table 3).

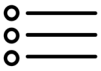
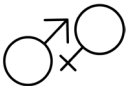
Table 3. Leading Risk Factors of Preventable Deaths among Children, Ages 0-17 Years, Arizona, 2021

Risk Factors*	Number	Percent
Substance Use	176	43%
CPS History with Family	166	40%
Poverty	133	33%
Lack of Supervision	113	28%
Child History of Trauma	84	20%
Child Relationship Issues	79	19%
Access to Firearm	56	14%
*More than one risk factor may have been identified for each death.		

Manner of Death

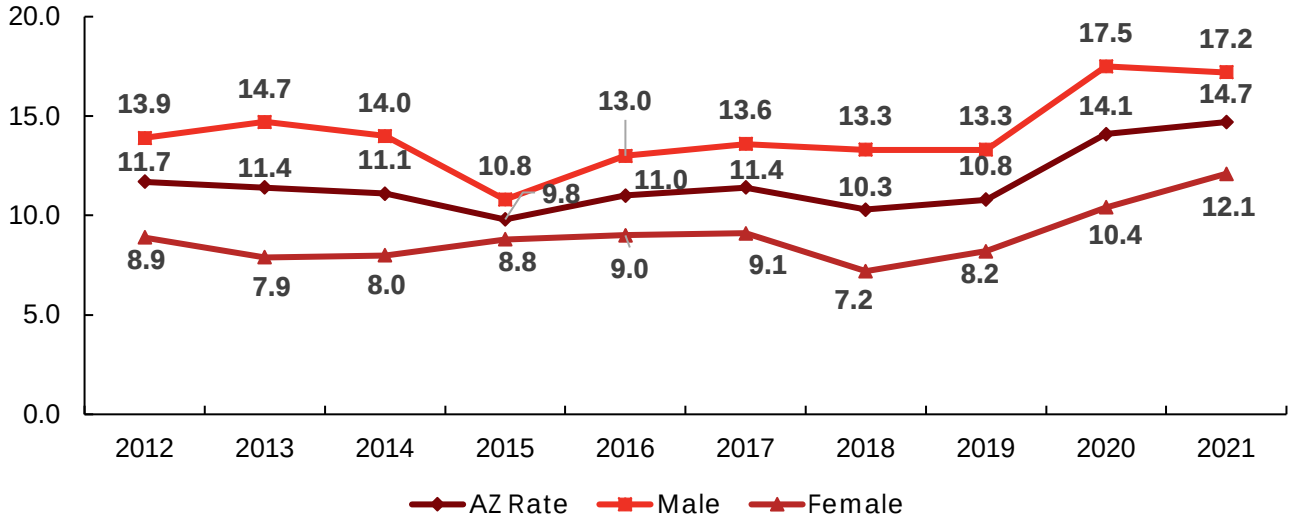
Accidental Injury Deaths

An injury that occurred when there was no intent to cause harm or death; an unintentional injury. See the glossary for further explanation.

	There were 238 accidental injury deaths in 2021, 28% of all child deaths.
	There was a 4% increase in the accidental injury death rate from 2020 to 2021.
	100% of accidental injury deaths were preventable.
	#1 cause: Motor Vehicle Crash (n= 70) #2 cause: Suffocation (n= 54) #3 cause: Drowning (n= 44)
	Of the accidental injury deaths, 60% were male and 40% were female.
	32% of accidental injury deaths occurred in children ages 15-17 years.
	Black and American Indian children were disproportionately affected. Black children made up 15% of accidental injury deaths but only make up 6% of the total population. Similarly, American Indian children made up 11% of accidental injury deaths but only make up 5% of the total population.
	40% of accidental injury deaths involved substance use.
	29% of accidental injury deaths involved abuse/neglect (n=69).

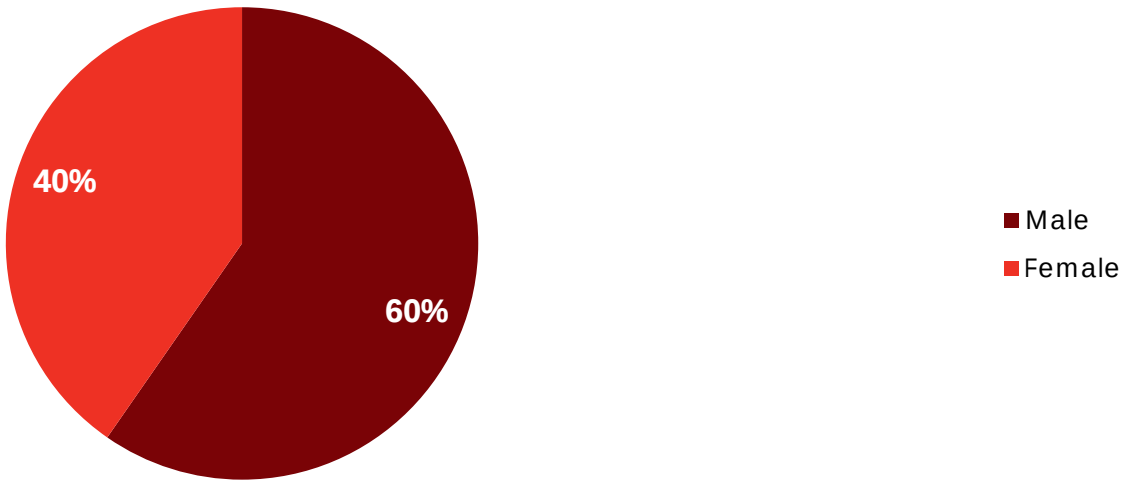
Overall, Arizona's accidental injury mortality rate has increased by 4.3% from 14.1 deaths per 100,000 children in 2020 to 14.7 deaths per 100,000 children in 2021. Males have consistently had a higher accidental injury mortality rate compared to females (Figure 18).

Figure 18. Mortality Rate per 100,000 Children due to Accidental Injury by Sex, Ages 0-17 Years, Arizona, 2012-2021[2-11]



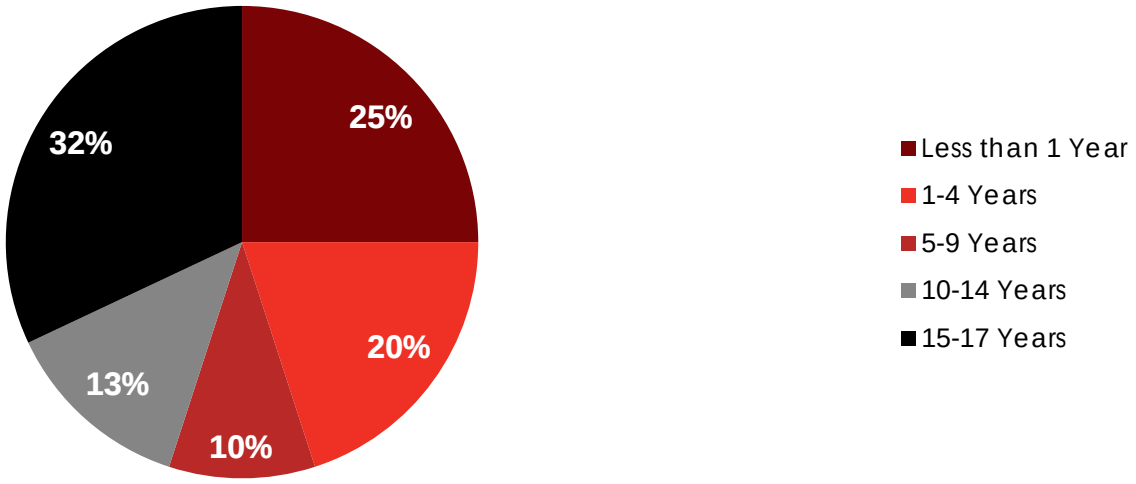
The majority of accidental injury deaths occurred among males (60%) (Figure 19).

Figure 19. Percentage of Accidental Injury Deaths among Children by Sex, Ages 0-17 Years, Arizona, 2021 (n=238)



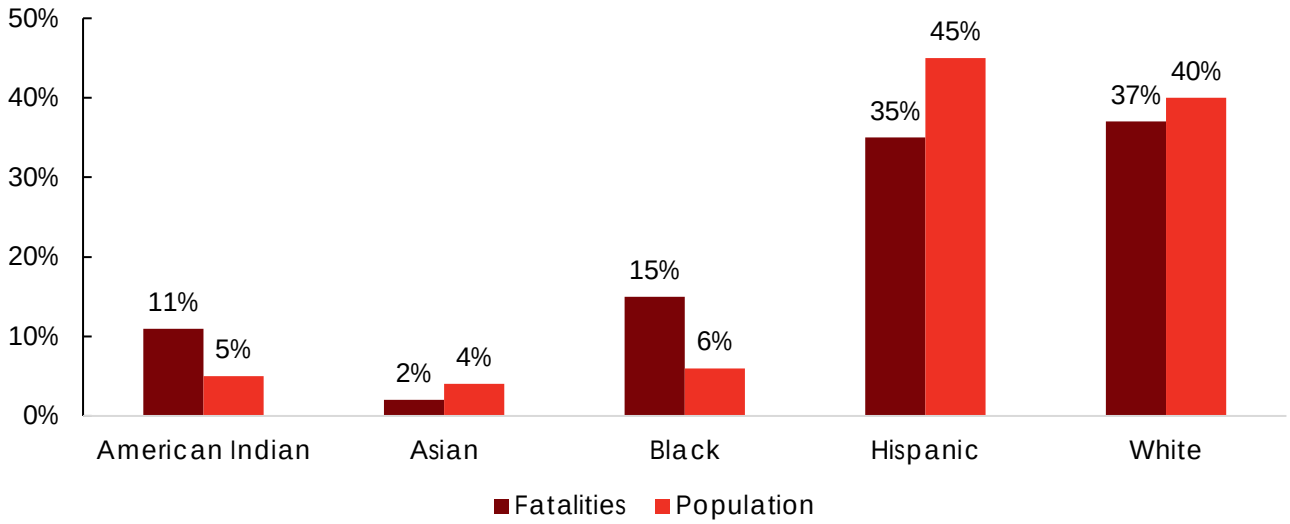
The largest percentage of accidental injury deaths occurred among children ages 15-17 (32%) and children less than 1 year of age (25%) (Figure 20).

Figure 20. Percentage of Accidental Injury Deaths among Children by Age Group, Ages 0-17 Years, Arizona, 2021 (n=238)



Black and American Indian children made up 15% and 11% of accidental injury deaths, respectively, but only comprised 6% and 5% of the total child population. The majority of accidental injury deaths were among White (37%) and Hispanic (35%) children (Figure 21).

Figure 21. Percentage of Accidental Injury Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2021 (n=238)[2]



Among accidental injury deaths, motor vehicle crash (29%) was the leading cause of death for children ages 0-17 years (Table 4).

Table 4. Cause of Accidental Injury Deaths among Children, Ages 0-17 Years, Arizona, 2021

Cause of Death	Number	Percent
Motor Vehicle Crash	70	29%
Suffocation	54	23%
Drowning	44	18%
Poisoning	42	18%
Other Injury (i.e. firearm, choking, falls, etc.)	20	8%
Fire, Burn, Electrocution	8	3%

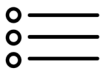
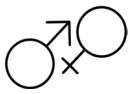
While there are numerous preventable risk factors that contribute to accidental injury deaths, substance use (40%) was the most commonly identified risk factor (Table 5).

Table 5. Leading Risk Factors of Accidental Injury Deaths among Children, Ages 0-17 Years, Arizona, 2021

Risk Factors	Number	Percent
Substance Use	95	40%
CPS History with Family	89	37%
Lack of Supervision	87	37%
Poverty	71	30%
Child History of Trauma	40	17%
Lack of Vehicle Restraint	40	17%
Child Relationship Issues	31	13%
Child's Chronic Disability/Illness	26	11%
*More than one risk factor may have been identified in each death.		

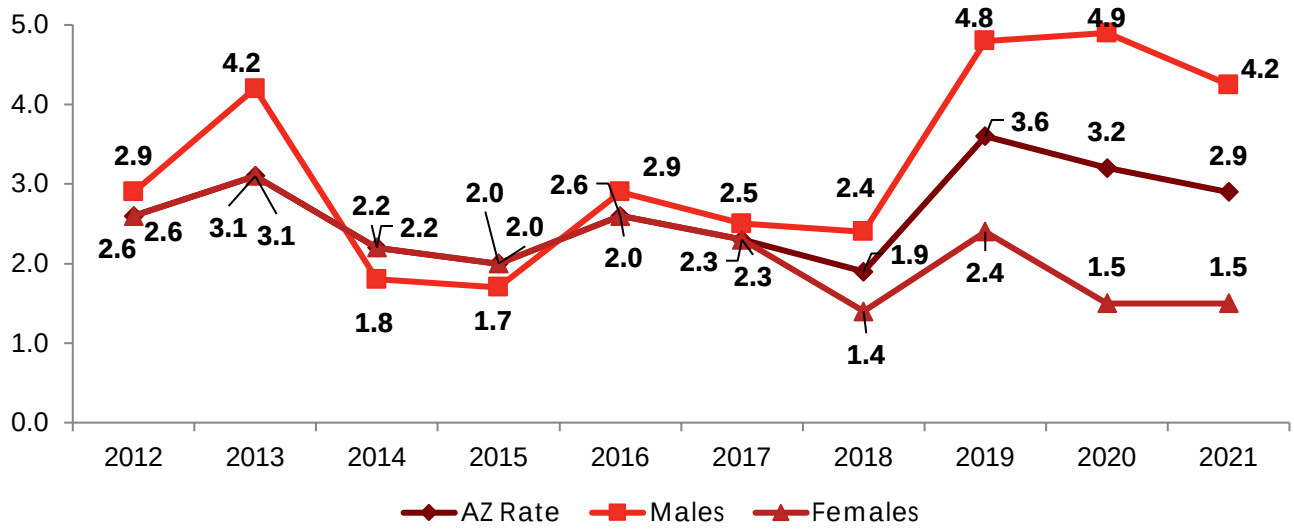
Homicides

Death resulting from injuries inflicted by another person with the intent to cause fear, harm or death.

	There were 47 homicides in 2021, 5% of all child deaths.
	There was a 9% decrease in the homicide death rate from 2020 to 2021.
	100% of homicides were preventable.
	#1 cause: Firearm (n= 34) #2 cause: Other (Stabbing/Poisoning) (n= 7) #3 cause: Blunt Force Trauma (n= 6)
	Of the homicides, 74% were male and 26% were female.
	57% of homicides occurred in children ages 15-17 years.
	Black children were disproportionately affected. Black children made up 26% of homicides but only make up 6% of the total population.
	64% of homicides involved substance use.
	32% of homicides involved abuse/neglect (n=15).

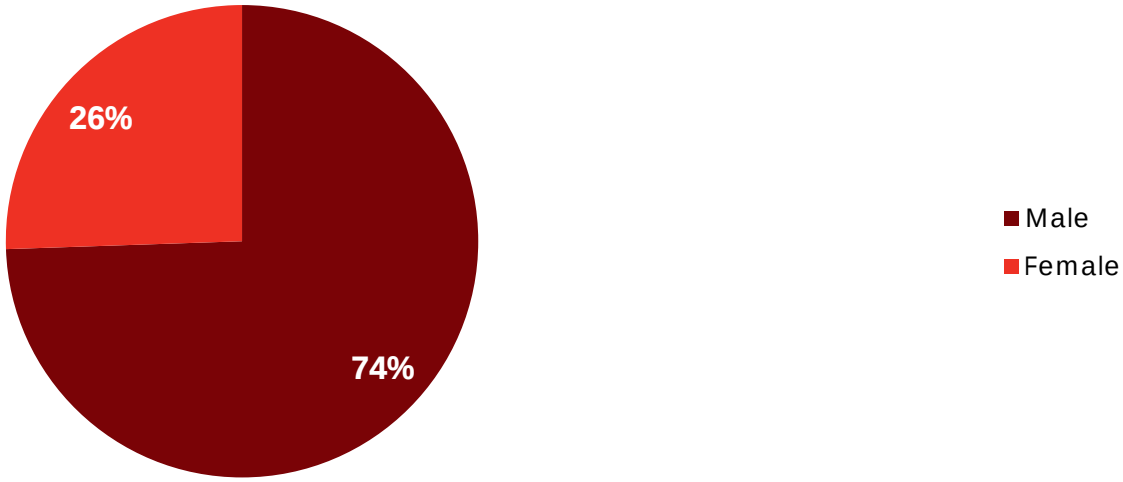
Arizona's child homicide rate decreased by 9.4% from 3.2 deaths per 100,000 children in 2020 to 2.9 per 100,000 children in 2021. Since 2016, males have had a higher homicide rate compared to females (Figure 22).

Figure 22. Mortality Rate per 100,000 Children due to Homicide by Sex, Ages 0-17 Years, Arizona, 2011-2020[2-11]



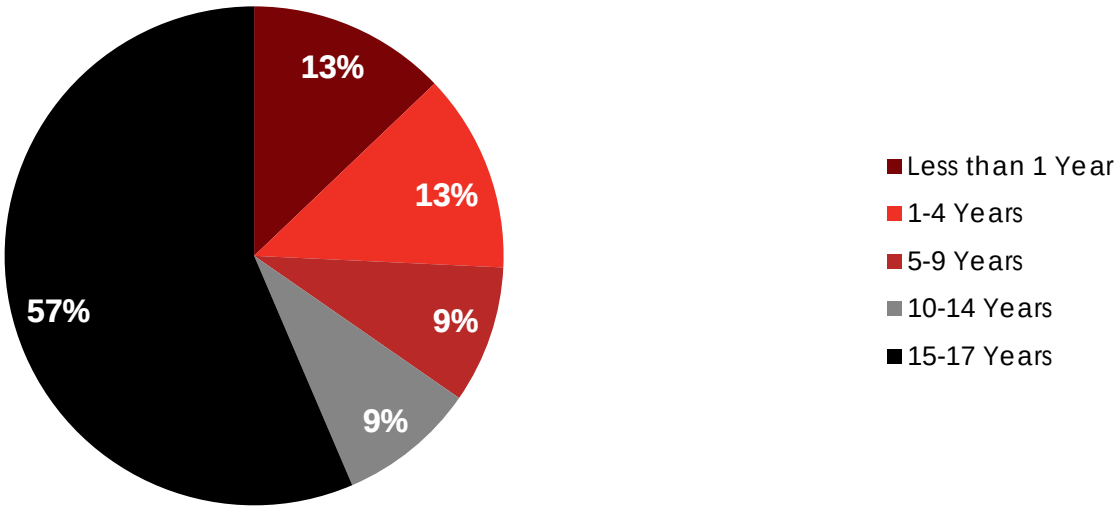
The majority of homicide deaths occurred among males (74%) (Figure 23).

Figure 23. Percentage of Homicide Deaths among Children by Sex, Ages 0-17 Years, Arizona, 2021 (n=47)



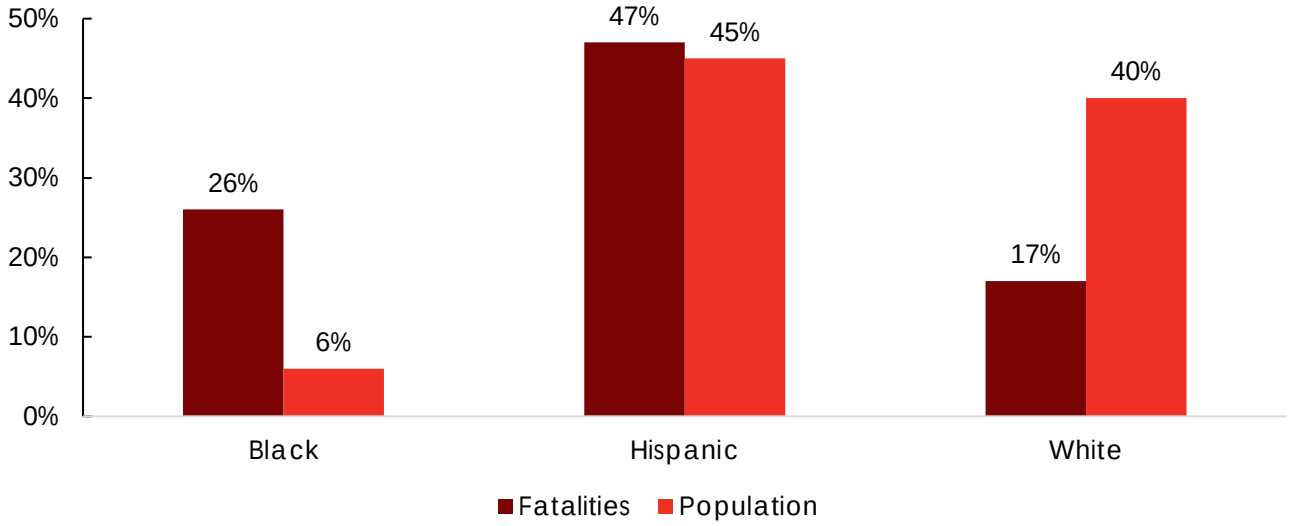
The majority of homicides of children were among children ages 15-17 years (57%), followed by infants less than 1 year (13%) (Figure 24).

Figure 24. Percentage of Homicides among Children by Age Group, Ages 0-17 Years, Arizona, 2021 (n=47)



Black children made up 26% of homicides, but only comprised 6% of the total child population. The majority of homicide child deaths were among Hispanic (47%) and Black (26%) children (Figure 25).

Figure 25. Percentage of Homicides among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2021 (n=47)*[2]



*Data for American Indian and Asian children suppressed due to counts less than 6.

Among homicides, firearm injury (72%) was the leading cause of death for children ages 0-17 years followed by other injuries (15%) and blunt force trauma (13%) (Table 6).

Table 6. Cause of Homicide Deaths, Ages 0-17 Years, Arizona, 2021 (n=47)

Cause of Death	Number	Percent
Firearm Injury	34	72%
Other Injury (i.e. Poisoning/ Stabbing)	7	15%
Blunt Force Trauma	6	13%

Strangers and acquaintances (26%) were the most commonly identified perpetrator of child homicides (Table 7).

Table 7. Number and Percentage of Homicides among Children by Perpetrator, Ages 0-17 Years, Arizona, 2021 (n=47)

Perpetrator*	Number	Percent
Stranger	12	26%
Acquaintance	12	26%
Other	11	23%
Father	7	15%
Mother	7	15%
*There may be more than one perpetrator in each death.		

While there are numerous preventable risk factors that contribute to homicides, access to a firearm was the most commonly identified risk factor (72%) (Table 8).

Table 8. Leading Risk Factors of Homicides among Children, Ages 0-17 Years, Arizona, 2021

Risk Factors*	Number	Percent
Access to Firearm	34	72%
Criminal Activity	32	68%
Substance Use	30	64%
CPS History with Family	25	53%
Child History of Trauma	20	43%
Child Relationship Issues	17	32%
Poverty	13	28%
Lack of Supervision	11	23%
*More than one risk factor may have been identified in each death.		

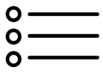
Natural Deaths

In Arizona and nationally, deaths classified as natural deaths due to a medical condition account for the largest percentage of child deaths every year. See the glossary for further explanation.

There were 511 natural deaths in 2021, 59% of all child deaths.

There was a 9% increase in the natural death rate from 2020 to 2021.

12% of natural deaths were preventable.



#1 cause: Prematurity (n= 206)
#2 cause: Congenital Anomaly (n= 108)
#3 cause: Cancer (n= 38)

Of the natural deaths, 54% were male and 46% were female.

68% of natural deaths occurred in infants (less than 1 year of age).

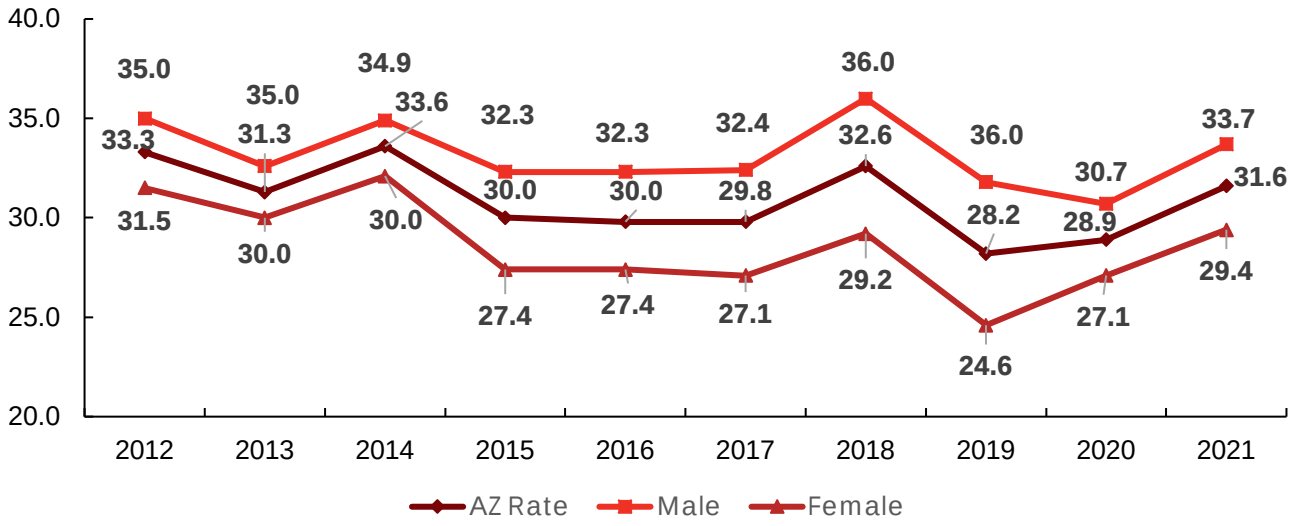
Black children were disproportionately affected. Black children made up 14% of natural deaths but only make up 6% of the total population.

6% of natural deaths involved substance use.

9% of natural deaths involved abuse/neglect (n=45).

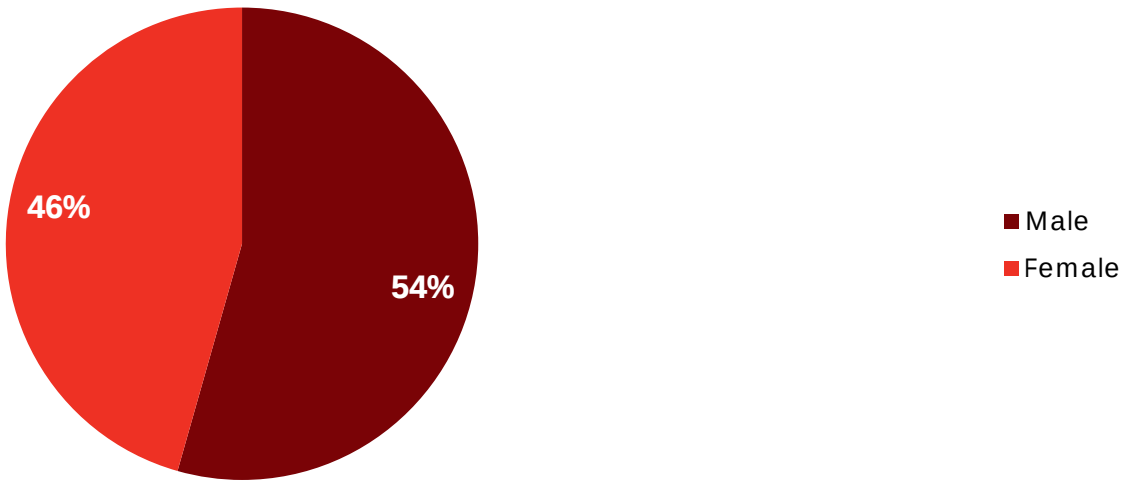
Arizona's natural child mortality rate increased 9.3% from 28.9 deaths per 100,000 children in 2020 to 31.6 deaths per 100,000 children in 2021. Males had consistently a higher natural mortality rate compared to females (Figure 26).

Figure 26. Mortality Rates per 100,000 Children due to Natural Causes by Sex, Ages 0-17 Years, Arizona, 2012-2021[2-11]



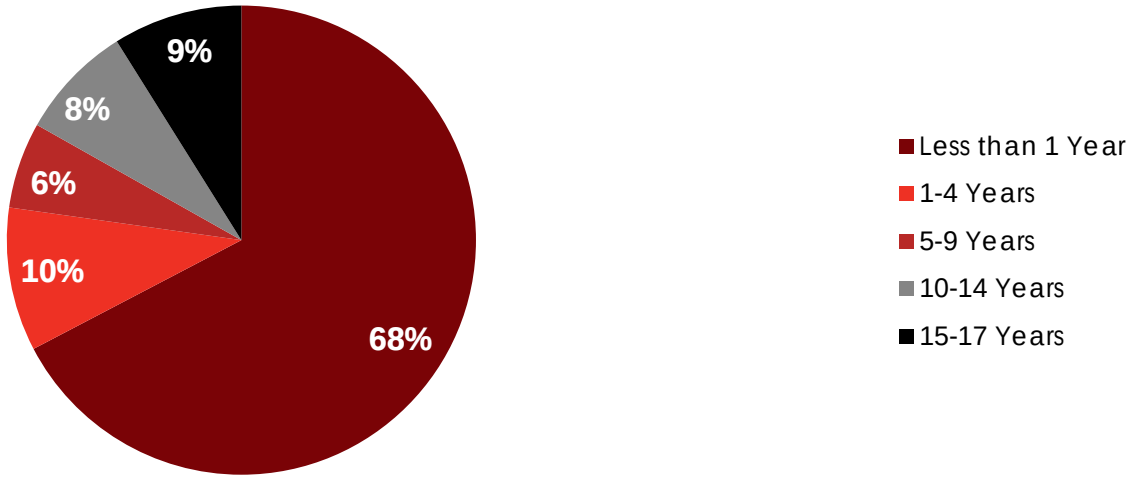
The majority of natural deaths occurred among males (54%) (Figure 27).

Figure 27. Percentage of Natural Deaths among Children by Sex, Ages 0-17 Years, Arizona, 2021 (n=511)



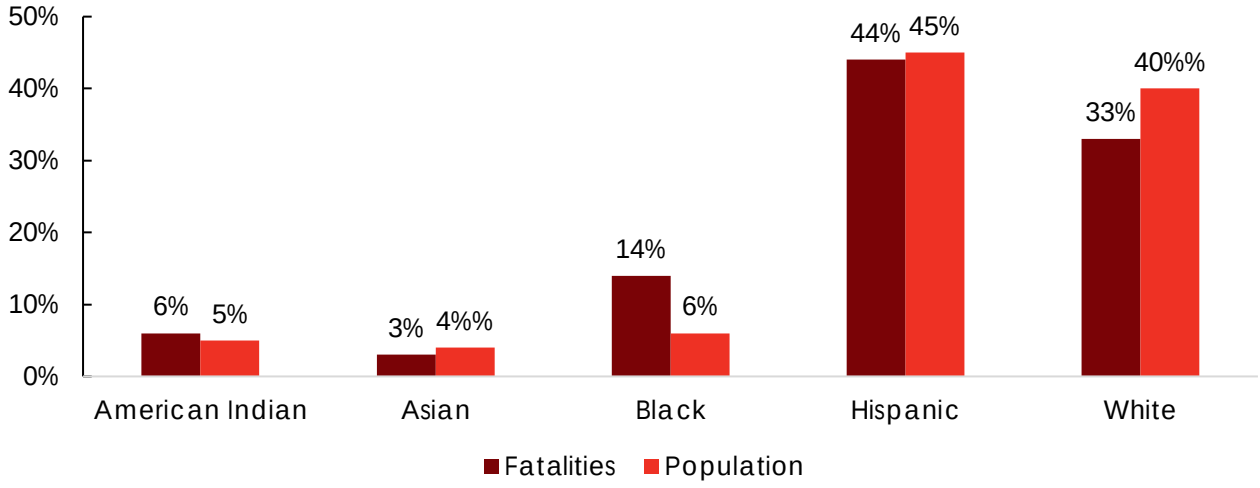
The majority of natural deaths occurred among infants less than 1 year of age (68%) followed by children 1-4 years of age (10%) (Figure 28).

Figure 28. Percentage of Natural Deaths among Children by Age Group, Ages 0-17 Years, Arizona, 2021 (n=511)



Black children made up 14% of natural deaths, but only comprised 6% of the total child population. The majority of natural child deaths were Hispanic (44%) and White (33%) children (Figure 29).

Figure 29. Percentage of Natural Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2021 (n=511)[2]



Among natural deaths, prematurity (40%) was the leading cause of death for children ages 0-17 years (Table 9).

Table 9. Cause of Natural Deaths among Children, Ages 0-17 Years, Arizona, 2021

Cause of Death	Number	Percent
Prematurity	206	40%
Congenital Anomaly	108	21%
Cancer	38	7%
Neurological/seizure disorder	33	6%
Cardiovascular	31	6%
Other Medical Condition	27	5%
Perinatal Condition	22	4%
COVID-19	22	4%
Pneumonia	12	2%
Other Infection	12	2%

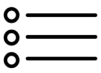
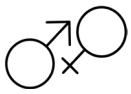
The most commonly identified risk factor for natural deaths was poverty (46%) (Table 10).

Table 10. Leading Risk Factors of Natural Deaths among Children, Ages 0-17 Years, Arizona, 2021

Risk Factors*	Number	Percent
Poverty	236	46%
Child's Chronic Disability/Illness	190	37%
CPS History with Family	68	13%
Child History of Trauma	31	6%
Substance Use	30	6%
*More than one risk factor may have been identified in each death.		

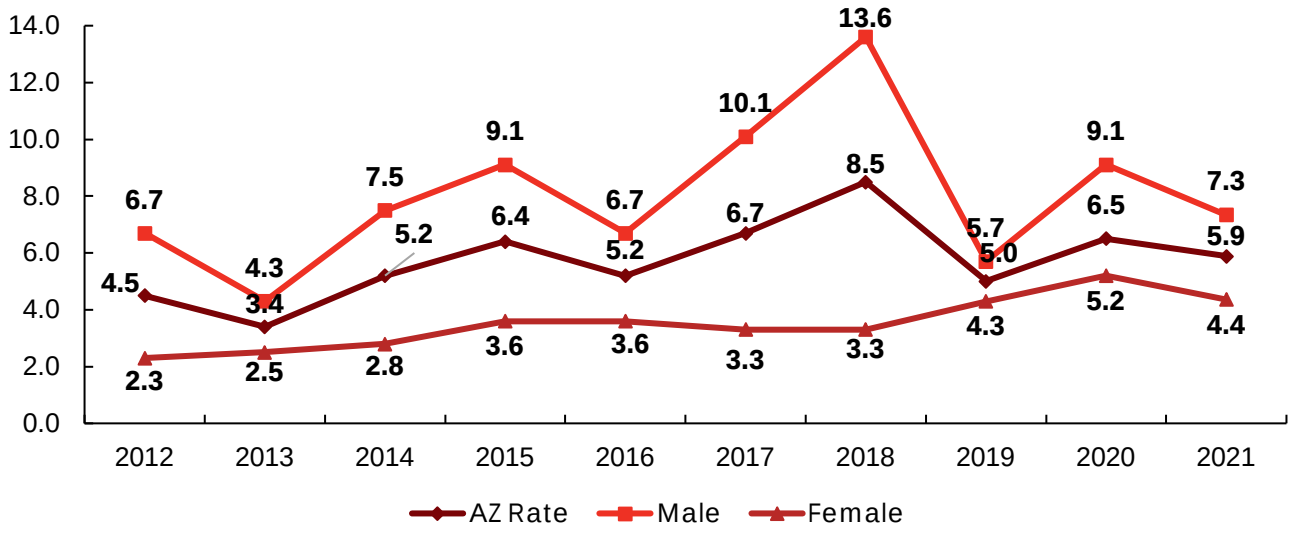
Suicides

A death that is due to a self-directed intentional behavior where the intent is to die because of that behavior. See the glossary for further explanation.

	There were 44 suicides in 2021, 5% of all child deaths.
	There was a 9% decrease in the suicide death rate from 2020 to 2021.
	100% of suicides were preventable.
	#1 cause: Strangulation (n= 20) #2 cause: Firearm Injury (n = 17) #3 cause: Other (Poisoning/ Motor Vehicle Crash/ Falls) (n= 7)
	Of the suicides, 64% were male and 36% were female.
	66% of suicides occurred in children ages 15-17 years.
	American Indian children were disproportionately affected. American Indian children made up 18% of suicides but only make up 5% of the total population.
	32% of suicides involved substance use.
	9% of suicides involved abuse/neglect (n=<6).

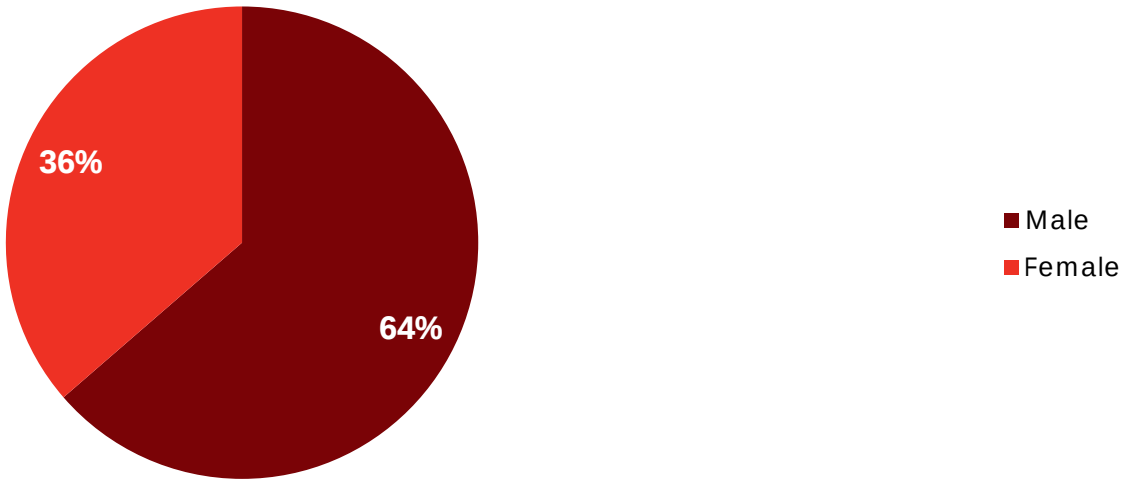
Arizona's child suicide rate decreased 9.2% from 6.5 per 100,000 children in 2020 to 5.9 per 100,000 children in 2021. Males have consistently had a higher suicide rate compared to females. The male suicide rate decreased 19.8% from 9.1 per 100,000 children in 2020 to 7.3 per 100,000 children. In 2021, the female suicide rate decreased 15.4% from 5.2 per 100,000 children in 2020 to 4.4 per 100,000 children in 2021(Figure 30).

Figure 30. Mortality Rate per 100,000 Children due to Suicide by Sex, Ages 10-17 Years, Arizona, 2012-2021[32-34]



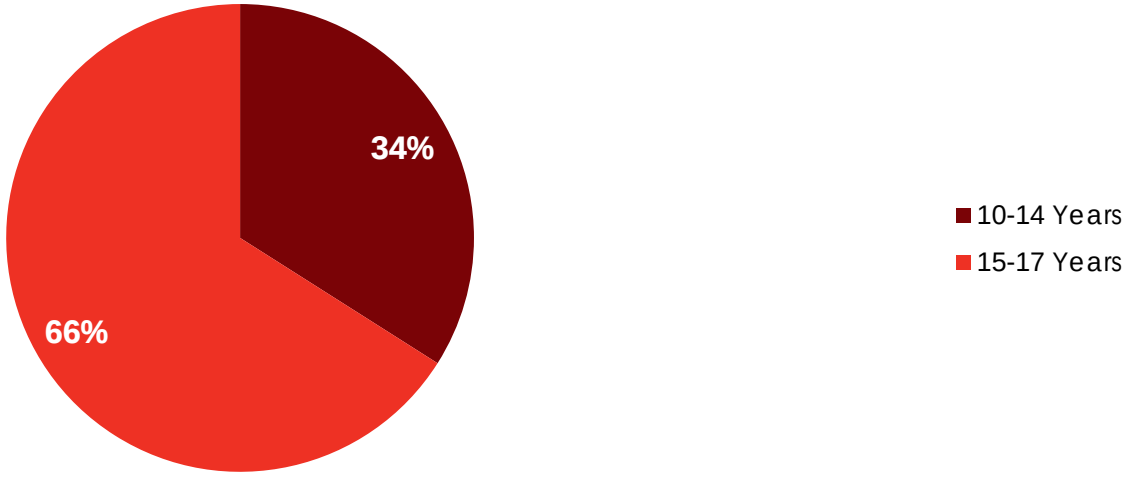
The majority of suicide deaths occurred among males (64%) (Figure 31).

Figure 31. Percentage of Suicide Deaths among Children by Sex, Ages 0-17 Years, Arizona, 2021 (n=44)



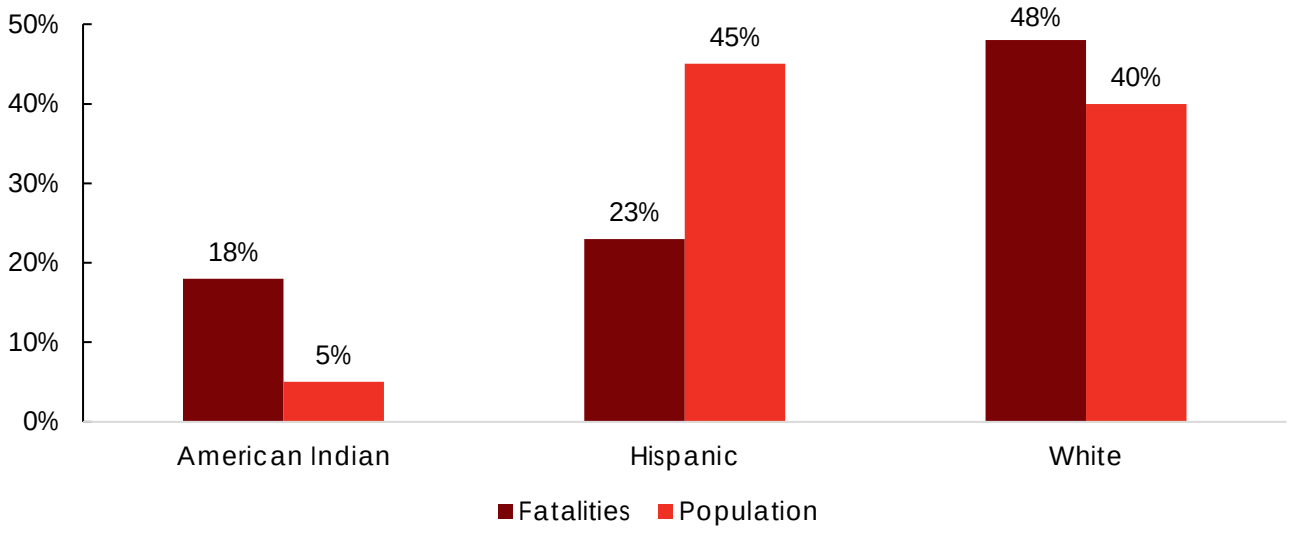
The majority of suicides occurred among children ages 15-17 years (66%) (Figure 32).

Figure 32. Percentage of Suicide Deaths among Children by Age Group, Ages 10-17 Years, Arizona, 2021 (n=44)



American Indian children made up 18% of suicides, but only comprised 5% of the total child population. The majority of suicides were among White (48%) and Hispanic (23%) children (Figure 33).

Figure 33. Percentage of Suicide Deaths among Children by Race/Ethnicity, Ages 10-17 Years, Compared to Population, Arizona, 2021 (n=44)*[32]



*Data for Black and Asian children suppressed due to counts less than 6.

Among suicides, strangulation (45%) was the leading cause of death for children ages 10-17 years followed by firearm injury deaths (39%) (Table 11).

Table 11. Cause of Suicide Deaths among Children, Ages 10-17 Years, Arizona, 2021

Cause of Death	Number	Percent
Strangulation	20	45%
Firearm Injury	17	39%
Other Injury (i.e. MVC, falls)	*	*
Poisoning	*	*
*Number/Percentage suppressed due to count less than 6.		

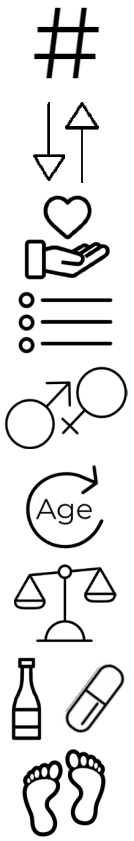
While there are numerous risk factors that can contribute to suicide, the most commonly identified risk factors were recent (within 30 days of the child's death) suicide warnings (68%), child relationship issues (61%), recent (within 30 days of the child's death) crisis (45%) and prior suicide attempt (41%) (Table 12).

Table 12. Leading Risk Factors of Suicide Deaths among Children, Ages 10-17 Years, Arizona, 2021

Risk Factor*	Number	Percent
Recent Suicide Warning	30	68%
Child Relationship Issues	27	61%
Recent Crisis	20	45%
Prior Suicide Attempt	18	41%
CPS History with Family	16	36%
Mental Health Disorder	14	32%
Substance Use	14	32%
Child History of Trauma	11	25%
Death of a Loved One	10	23%
Isolation	7	16%
*More than one risk factor may have been identified in each death.		

Undetermined Deaths

A death that the CFR Team, after review of all available documents is unable to decide whether the manner of death was natural, accident, homicide, or suicide. See the glossary for further explanation.



There were 23 deaths with an undetermined manner in 2021, 3% of all child deaths.

There was a 22% decrease in the undetermined death rate from 2020 to 2021.

87% of undetermined deaths were preventable.

#1 cause: Undetermined (n= 20)
#2 cause: Other (Poisoning/ Motor Vehicle Crash/ Firearm Injury) (n=<6)

Of the undetermined deaths, 48% were male and 52% were female.

65% of undetermined deaths occurred in infants (less than one year).

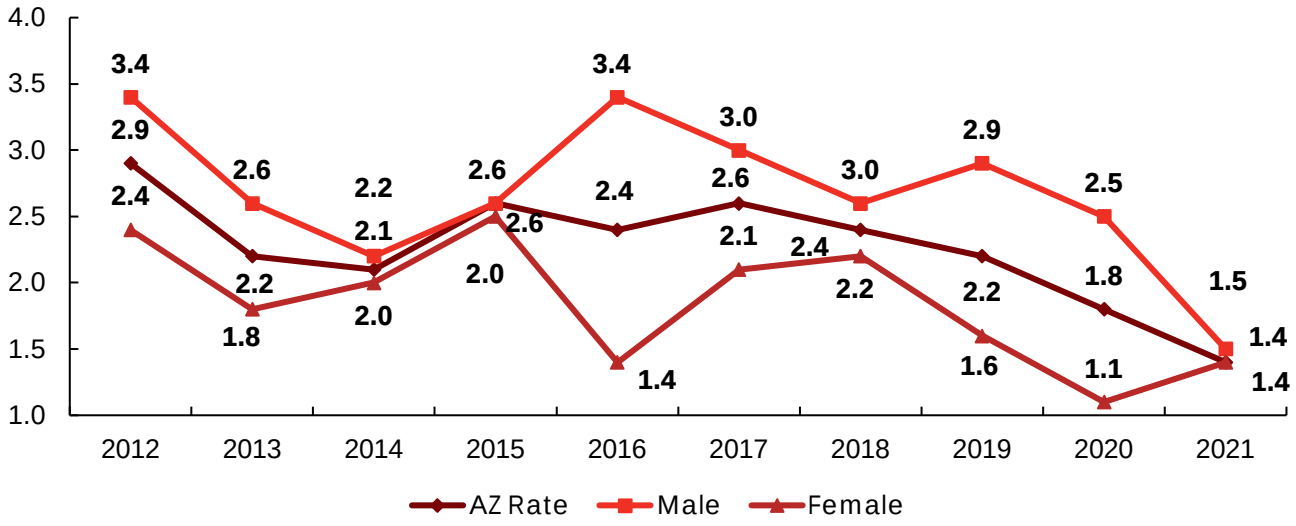
Black children were disproportionately affected. Black made up 26% of undetermined deaths but only make up 6% of the total population.

30% of undetermined deaths involved substance use.

48% of undetermined deaths involved abuse/neglect (n=11).

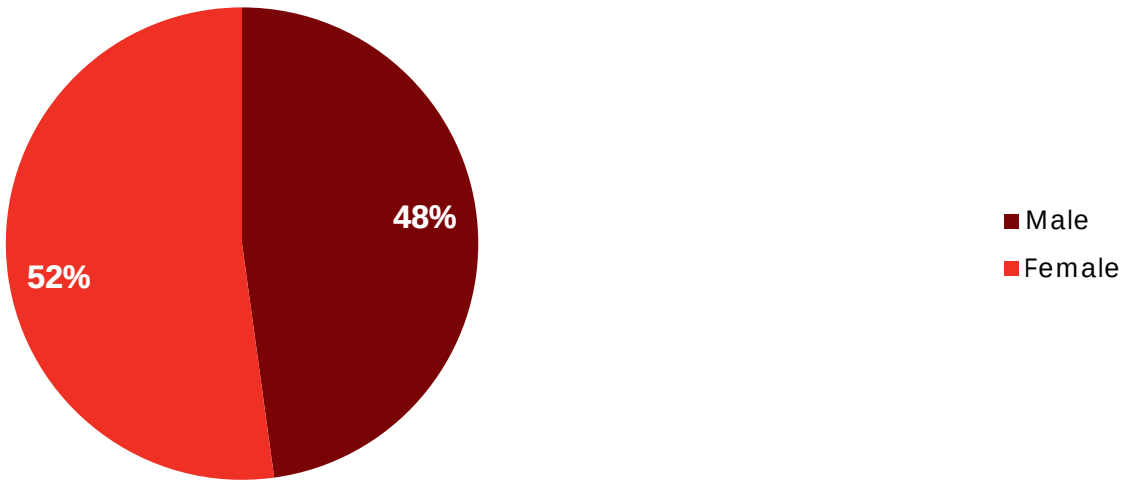
Arizona's undetermined manner of death rate has decreased 22.2% from 1.8 deaths per 100,000 children in 2020 to 1.4 deaths per 100,000 children in 2021 (Figure 34).

Figure 34. Mortality Rate per 100,000 Children due to Undetermined Manner by Sex, Ages 0-17 Years, Arizona, 2012-2021[2-11]



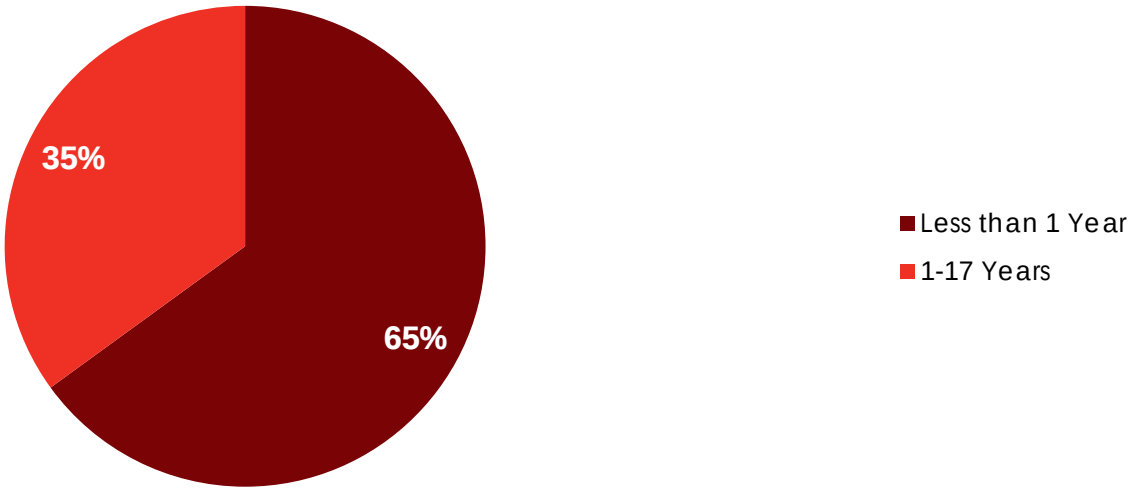
The majority of undetermined deaths occurred among females (52%) (Figure 35).

Figure 35. Percentage of Undetermined Deaths among Children by Sex, Ages 0-17 Years, Arizona, 2021 (n=23)



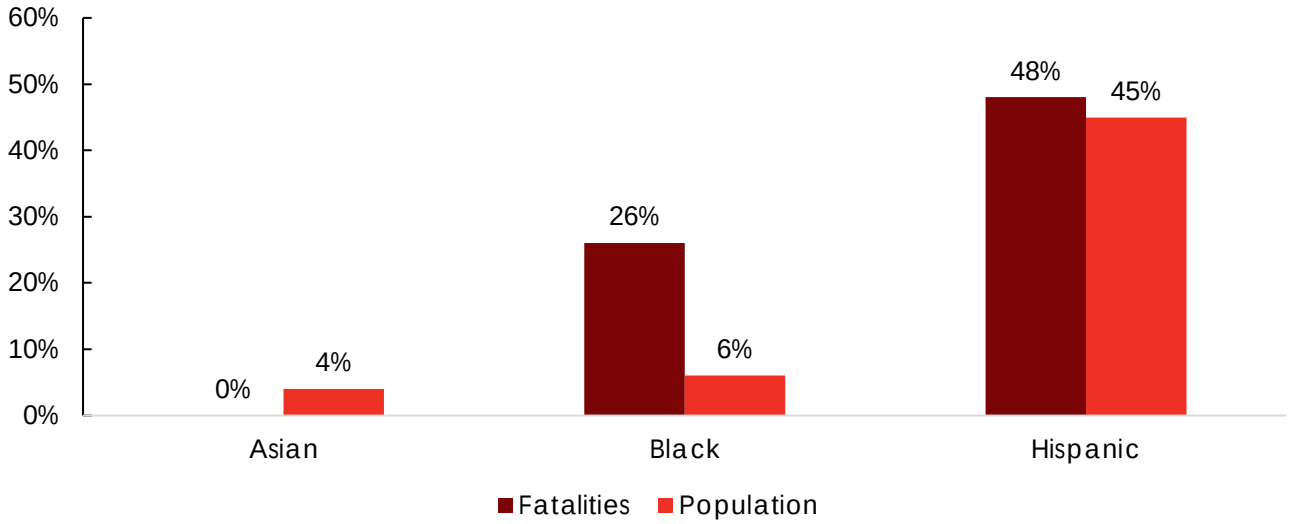
The majority of undetermined deaths occurred among infants less than 1 year of age (65%) (Figure 36).

Figure 36. Percentage of Undetermined Manner Deaths among Children by Age Group, Ages 0-17 Years, 2021 (n= 23)



Black children made up 26% of undetermined deaths but only comprise 6% of the total child population. The majority of child deaths were among Hispanic (48%) and Black (26%) children (Figure 37).

Figure 37. Percentage of Undetermined Manner Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2021 (n=23)*[2]



*Data for American Indian and White children suppressed due to counts less than 6. There were no Asian child deaths.

Among undetermined manner deaths, undetermined (87%) was the leading cause of death for children ages 0-17 years (Table 13).

Table 13. Cause of Undetermined Manner Deaths, Ages 0-17 Years, Arizona, 2021 (n=23)

Cause of Death	Number	Percent
Undetermined	20	87%
Other (i.e. Poisoning/ Motor Vehicle Crash/ Firearm Injury)	*	*
* Number/Percentage suppressed due to count less than 6.		

The most commonly identified risk factor for undetermined deaths was poverty (57%) (Table 14).

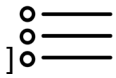
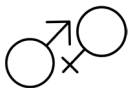
Table 14. Leading Risk Factors for Deaths with Undetermined Manner among Children, Ages 0-17 Years, Arizona, 2021 (n=23)

Risk Factors*	Number	Percent
Poverty	13	57%
CPS History with Family	12	52%
Unsafe Sleep Environment	9	39%
Substance Use	7	30%
Lack of Supervision	7	30%
*More than one risk factor may have been identified in each death.		

Causes of Death

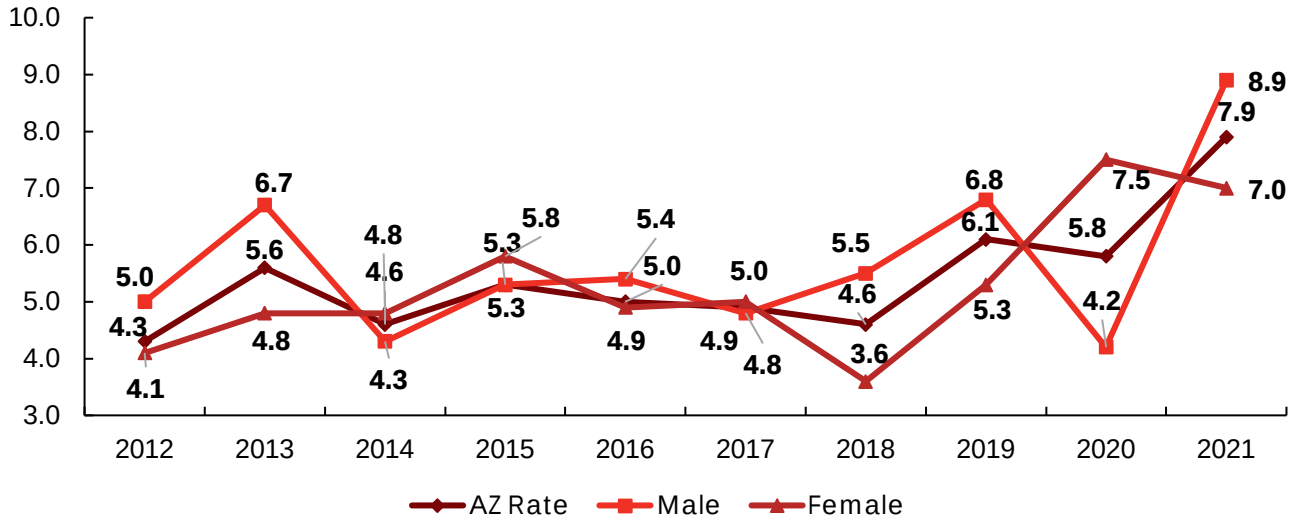
Abuse/Neglect Deaths

An act of physical abuse or neglect against a child. See the glossary for further explanation.

	There were 128 abuse/neglect deaths in 2021, 15% of all child deaths.
	There was a 36% increase in the abuse/neglect death rate from 2020 to 2021.
	100% of abuse/neglect deaths were preventable.
	#1 cause: Suffocation (n= 23) #2 cause: Motor Vehicle Crash (n= 22) #3 cause: Prematurity (n= 22)
	Of the abuse/neglect deaths, 57% were male and 43% were female.
	52% of abuse/neglect deaths occurred in infants (less than one year).
	Black and American Indian children were disproportionately affected. Black children made up 27% of abuse/neglect deaths but only made up 6% of the total population. Similarly, American Indian children made up 9% of abuse/neglect deaths but only made up 5% of the total population
	59% of abuse/neglect deaths involved substance use.

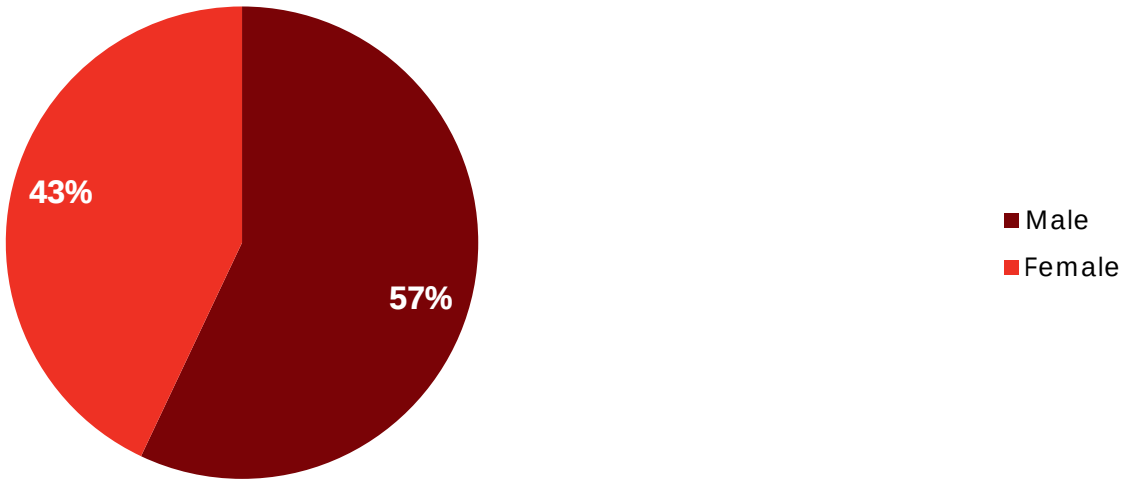
Overall, Arizona's abuse/neglect mortality rate has increased since 2012. Arizona's abuse/neglect mortality rate increased 36.2% from 5.8 deaths per 100,000 children in 2020 to 7.9 deaths per 100,000 children in 2021. Arizona's male abuse/neglect mortality rate has increased 97.8% from 4.2 deaths per 100,000 children in 2020 to 8.9 deaths per 100,000 children in 2021 (Figure 38).

Figure 38. Mortality Rate per 100,000 Children due to Abuse/Neglect by Sex, Ages 0-17 Years, Arizona, 2012-2021[2-11]



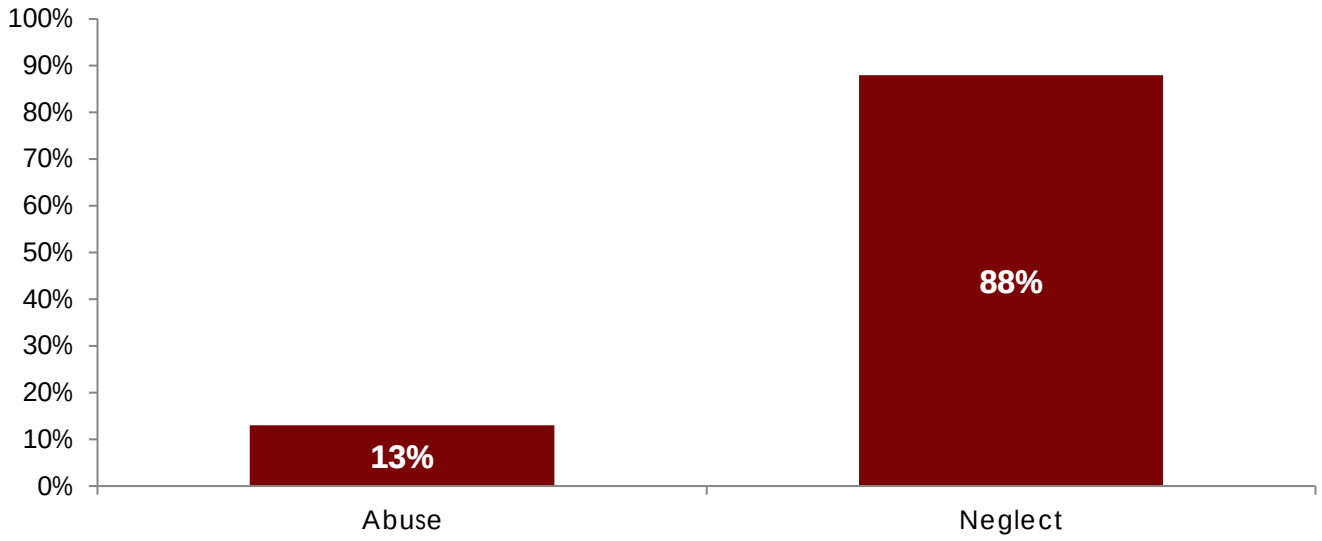
The majority of abuse/neglect deaths occurred among males (57%) (Figure 39).

Figure 39. Percentage of Abuse/Neglect Deaths among Children by Sex, Ages 0-17 Years, Arizona, 2021 (n=128)



In 2021, 88% of all abuse/neglect deaths involved neglect and 13% involved abuse. In some deaths, the child was a victim of both abuse and neglect (Figure 40).

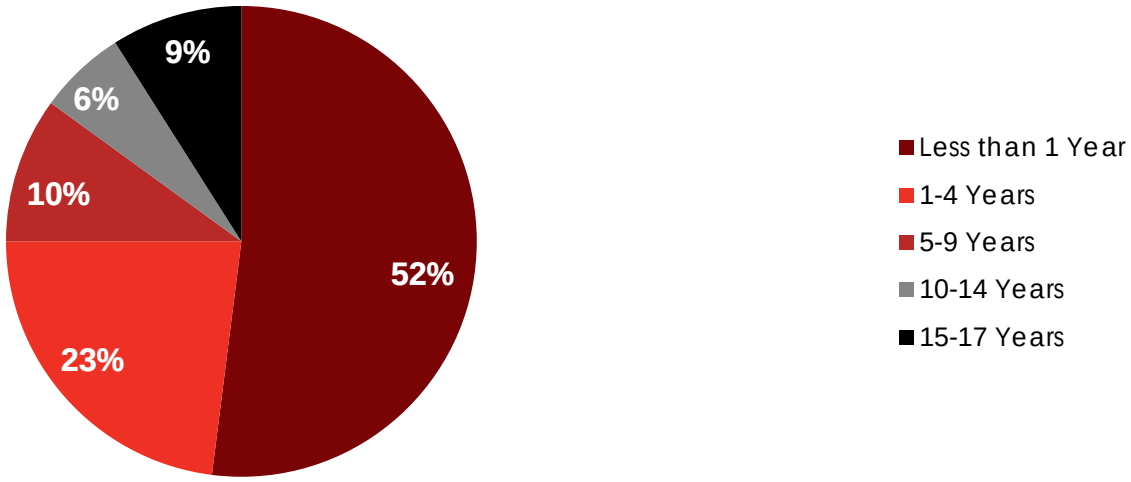
Figure 40. Percentage of Abuse/Neglect Deaths among Children by Abuse and Neglect, Ages 0-17 Years, Arizona, 2021 (n=128)*



*Totals do not equal 100% as abuse and neglect may have both been involved.

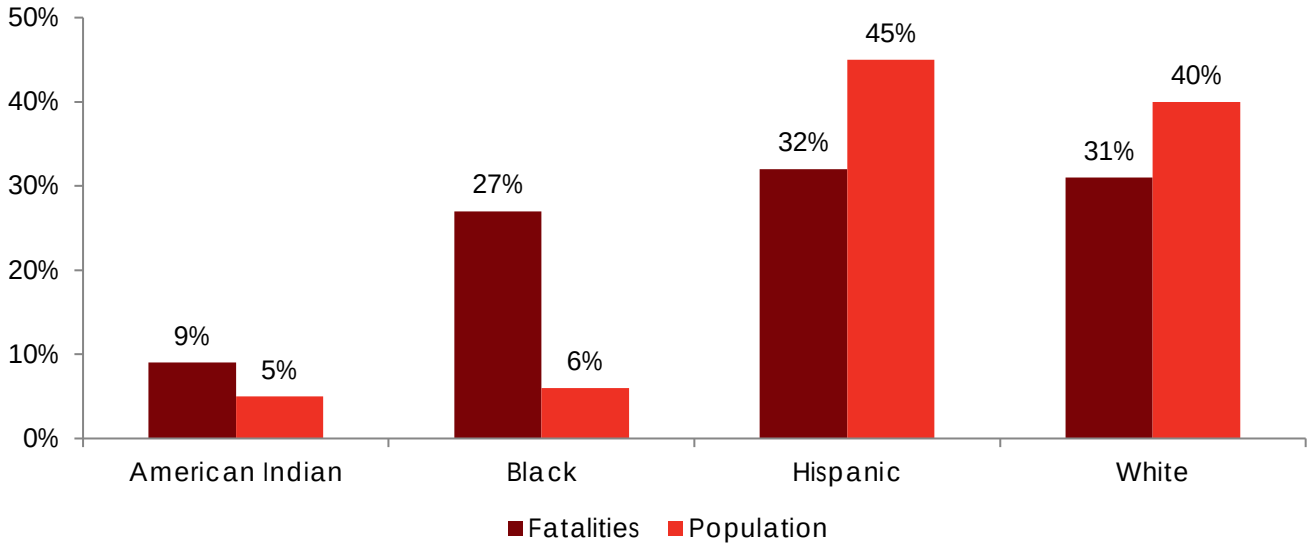
The majority of abuse/neglect deaths occurred among infants less than 1 year of age (52%), followed by children ages 1-4 years (23%) (Figure 41).

Figure 41. Percentage of Abuse/Neglect Deaths among Children by Age Group, Ages 0-17 Years, Arizona, 2021 (n=128)



Black and American Indian children made up 27% and 9% of abuse/neglect deaths, respectively, but only comprised 6% and 5% of the total child population (Figure 42).

Figure 42. Percentage of Abuse/Neglect Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to the Population, Arizona, 2021 (n=128)*[2]



*Data for Asian children suppressed due to counts less than 6.

The child's mother was a perpetrator in 75% of abuse/neglect deaths, and the child's father was a perpetrator in 27% of the abuse/neglect deaths among children aged 0-17 years (Table 15).

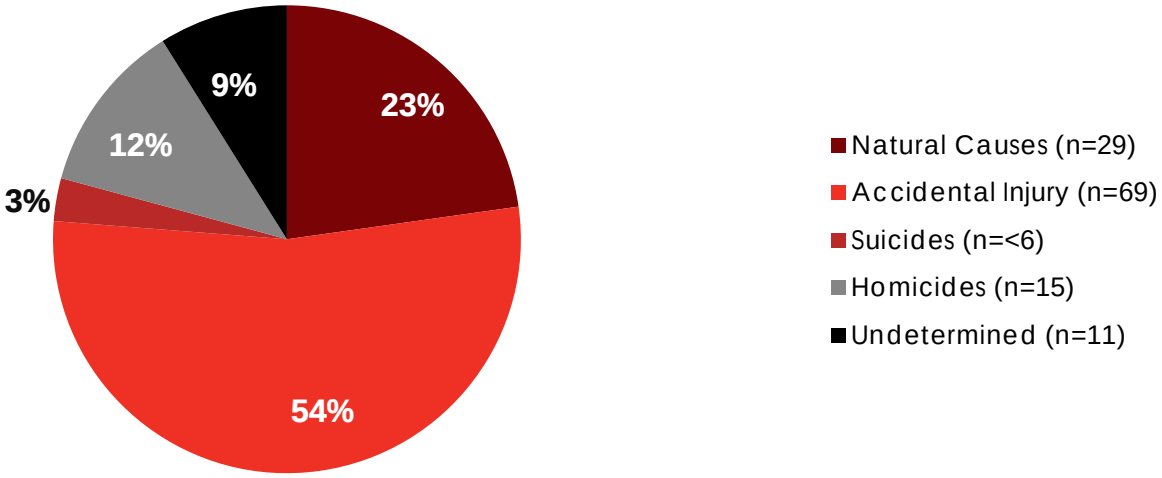
Table 15. Perpetrators Involved Child Abuse/Neglect Deaths, Ages 0-17 Years, Arizona, 2021

Perpetrator*	Number	Percent
Mother	96	75%
Father	35	27%
Other Relative	8	6%
Step-parent	6	5%
Other	**	**

***There may be more than one perpetrator in each death.**
****Number/Percentage suppressed due to count less than 6.**

The majority of abuse/neglect deaths were due to accidental injuries (54%), followed by natural causes (23%) (Figure 43).

Figure 43. Percentage of Abuse/Neglect Deaths among Children by Manner, Ages 0-17 Years, Arizona, 2021 (n=128)



Among abuse/neglect deaths, suffocation was the leading cause of death for children ages 0-17 years (18%) (Table 16).

Table 16. Cause of Child Abuse/Neglect Deaths, Ages 0-17 Years, Arizona, 2021

Cause of Death	Number	Percent
Suffocation	23	18%
Motor Vehicle Crash	22	17%
Prematurity	22	17%
Poisoning	15	12%
Drowning	12	9%
Firearm Injury	9	7%
Undetermined	8	6%
Other Medical (i.e. perinatal condition, pneumonia, diabetes, etc.)	7	5%
Blunt Force Injury	6	5%
Stabbing/Strangulation	*	*
*Number/ Percentage suppressed due to count less than 6.		

While there are numerous preventable risk factors that contribute to abuse/neglect deaths among children ages 0-17 years, substance use (59%) was the most commonly identified risk factor. Forty-six percent of child abuse/neglect deaths had a prior involvement with Child Protective Service (CPS) agency; a majority of these were unrelated to the decedent child. Ten percent of child/abuse neglect deaths had an open CPS case at the time of death (Table 17).

Table 17. Leading Risk Factors of Child Abuse/Neglect Deaths, Ages 0-17 Years, Arizona, 2021

Risk Factors*	Number	Percent
Substance Use	76	59%
Poverty	69	54%
CPS History with Family	59	46%
Lack of Supervision	38	30%
Child's History of Trauma	29	23%
Parental History of Intimate Partner Violence	25	20%
Housing Insecurity	18	14%
Family Dysfunction/Recent Divorce	13	10%
Open CPS Case at the Time of Death	13	10%
Child's Chronic Disability/Illness	10	8%
Access to Firearm	9	7%
*More than one risk factor may have been identified in each death.		

Of the 59% of abuse/neglect deaths that involved substance use, marijuana was the most identified substance contributing to 31% of child abuse/neglect deaths followed by opiates in 23% of child abuse/neglect deaths (Table 18).

Table 18. Substance Type Identified in Child Abuse/Neglect Deaths, Ages 0-17 Years, Arizona, 2021

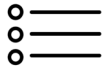
Substance Type*	Number	Percent
Marijuana	40	31%
Opiates	29	23%
Alcohol	20	16%
Methamphetamine	19	15%
Other	13	10%
*More than one substance may have contributed to the death.		

COVID-19 Related Deaths (Direct and Indirect)

COVID-19 is a disease caused by SARS-CoV-2. The CFRP and the Chair of the State CFR Team additionally reviewed all child deaths to determine COVID-19 relatedness and completed the module in the NFR-CRS. The COVID-19 Related Deaths module includes five questions intended to capture systems changes, interruptions, and barriers that families may have experienced in the 12 months before the child's death. Additional information on the COVID-19 related death module in the reporting system can be found here.

There were 31 direct COVID-19 deaths in 2021, 4% of all child deaths.
There were 27 indirect COVID-19 deaths in 2021, 3% of all child deaths.

35% of direct COVID-19 direct deaths were preventable.
85% of indirect COVID-19 deaths were preventable.



#1 cause*: Suffocation (n= 8)
#2 cause*: Other Injury (n=8)
#3 cause*: Poisoning (n= 6)
*Indirect COVID-19 deaths

61% of direct COVID-19 deaths occurred in children ages 0-11 years.
56% of indirect COVID-19 deaths occurred in children ages 0-11 years.

The majority of direct COVID-19 deaths were among Hispanic (45%) and White (22%) children.

3% of direct COVID-19 deaths involved substance use.
48% of indirect COVID-19 deaths involved substance use.

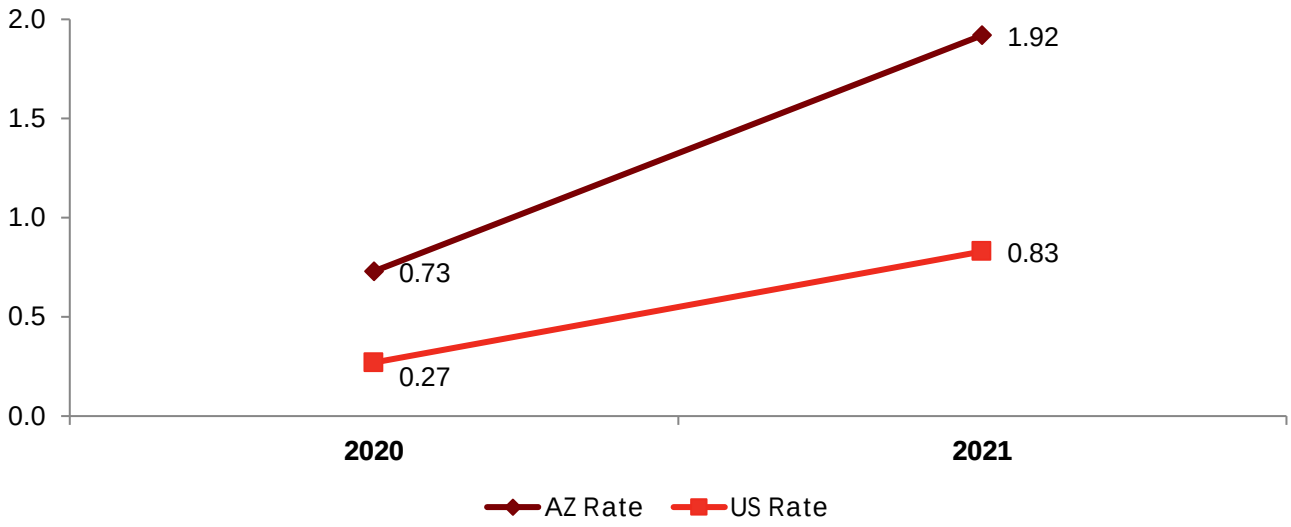
Direct COVID-19 Related Deaths

A direct COVID-19 death is a death where COVID-19 infection was the immediate or underlying cause of death of the child, COVID-19 was diagnosed at autopsy or the child was suspected to have COVID-19, or the birthing parent contracted COVID-19 during pregnancy. See the glossary for further explanation.

The CFRP identified 31 child deaths that were directly related to COVID-19.

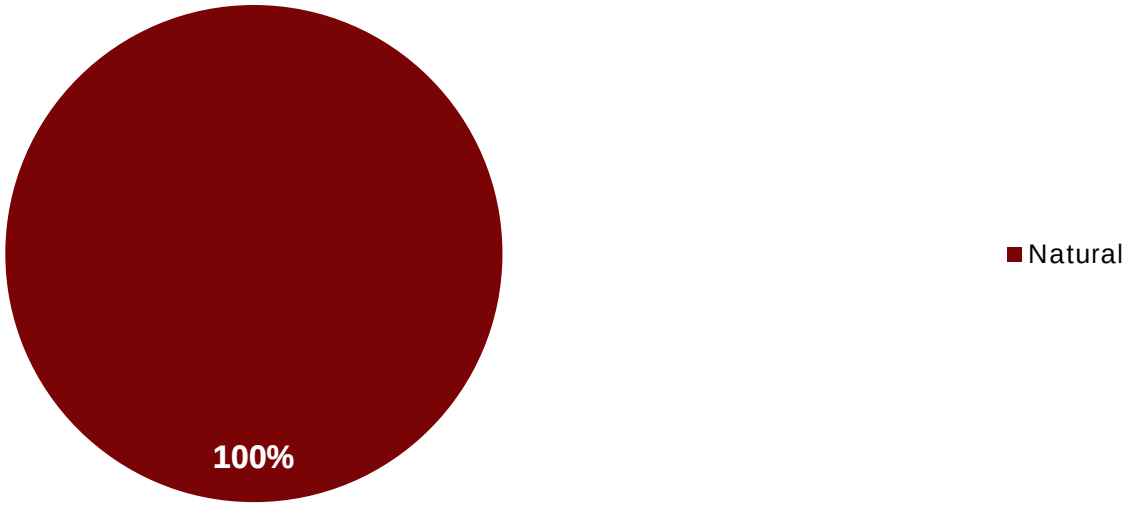
The Arizona direct COVID-19 mortality rate was 1.92 deaths per 100,000 children (0-17 years) while the U.S. direct COVID-19 mortality rate was 0.83 deaths per 100,000 children (0-17 years). Arizona's direct COVID-19 mortality rate increased 163% from 0.73 deaths per 100,000 children in 2020 to 1.92 deaths per 100,000 children in 2021(Figure 44).

Figure 44. Direct COVID-19 Mortality Rate per 100,000 Children, Arizona Rate compared to the U.S. Rate, Ages 0-17 Years, Arizona, 2020-2021[45]



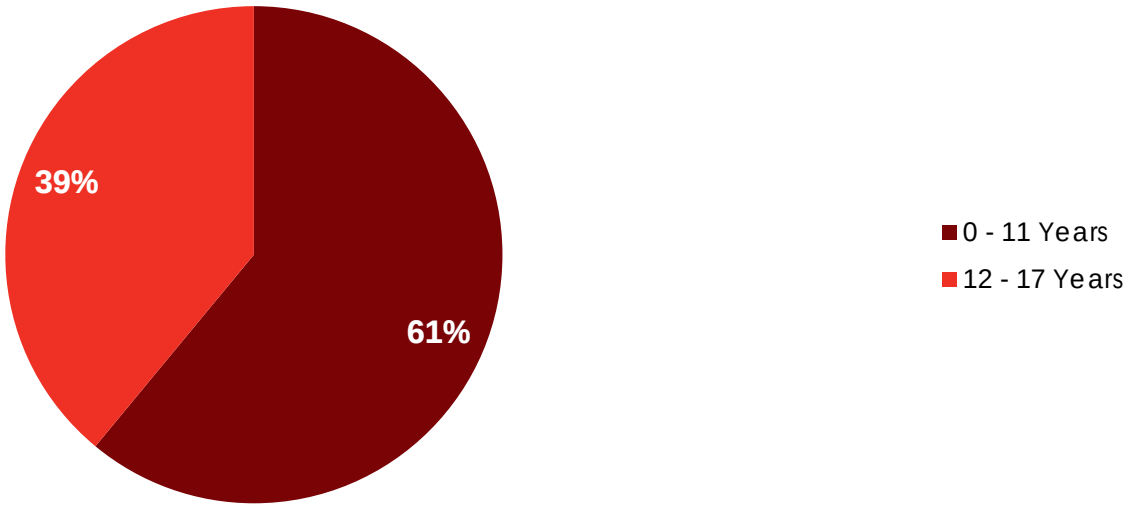
In 2021, there were 31 COVID-19 direct deaths of children. In 100% of the deaths, the manner of death was natural (Figure 45).

Figure 45. Percentage of Direct COVID-19 Deaths among Children by Manner, Ages 0-17 Years, Arizona, 2021 (n=31)



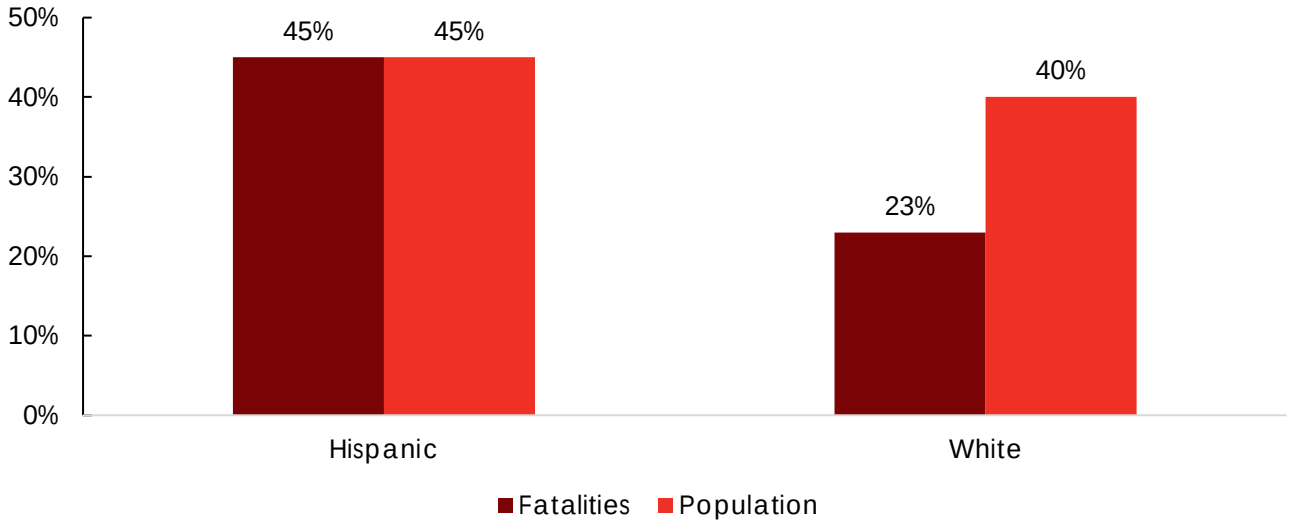
The majority (61%) of direct COVID-19 deaths occurred among children ages birth through 11 years (Figure 46).

Figure 46. Percentage of Direct COVID-19 Deaths among Children by Age Group, Ages 0-17 Years, Arizona, 2021 (n=31)



The majority of direct COVID-19 deaths were among Hispanic (45%) and White (22%) children (Figure 47).

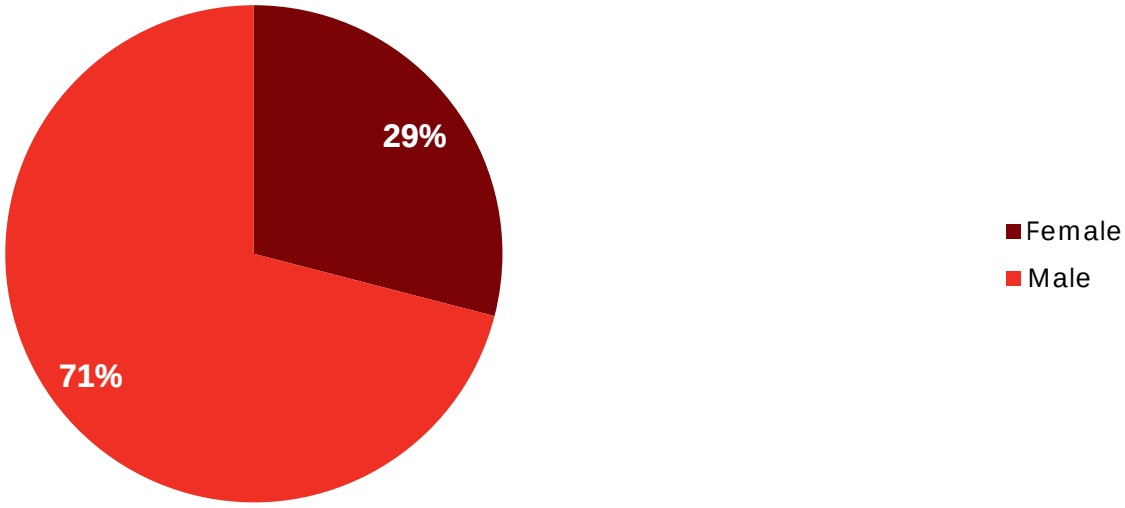
Figure 47. Percentage of Direct COVID-19 Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2021 (n=31)*[2]



*Data for American Indian, Asian, and Black children were suppressed due to counts less than 6.

Of the direct COVID-19 deaths, 71% of deaths were among males (Figure 48).

Figure 48. Percentage of Direct COVID-19 Deaths among Children by Sex, Ages 0-17 Years, Arizona, 2021 (n=31)



While there are numerous preventable risk factors that contribute to direct COVID-19 deaths, poverty (61%) was the most commonly identified risk factor. Eleven direct COVID-19 child deaths were associated with multisystem inflammatory syndrome (MIS-C) (Table 19).

Table 19. Leading Risk Factors for Direct COVID-19 Deaths among Children, Ages 0-17 Years, Arizona, 2021

Risk Factor*	Number	Percent
Poverty	19	61%
Known COVID-19 Exposure	16	52%
Chronic Medical Condition	16	52%
Multisystem Inflammatory Syndrome in Children (MIS-C)	11	35%
CPS History with the Family	10	32%

***More than one risk factor may have been identified for each death.**

Indirect COVID-19 Deaths

An indirect COVID-19 death is a death where the child or caregiver experienced changes or disruptions in how they lived, worked, or accessed services due to COVID-19. See the glossary for further explanation.

The CFRP recognizes that COVID-19 likely is indirectly related to other increases in child deaths in particular suicide, suffocation and poisoning deaths included in this report.

The analysis provides insights into the different causes of death where COVID-19 may have indirectly contributed to the child's death, but this has several limitations. These limitations include but are not limited to the availability of limited information to provide context to each child's death, time constraints, and the overall use of subjective analysis to draw a conclusion. Limited data availability based on the information and records used in the reviews likely resulted in an under-reporting of COVID-19 indirectly related deaths.

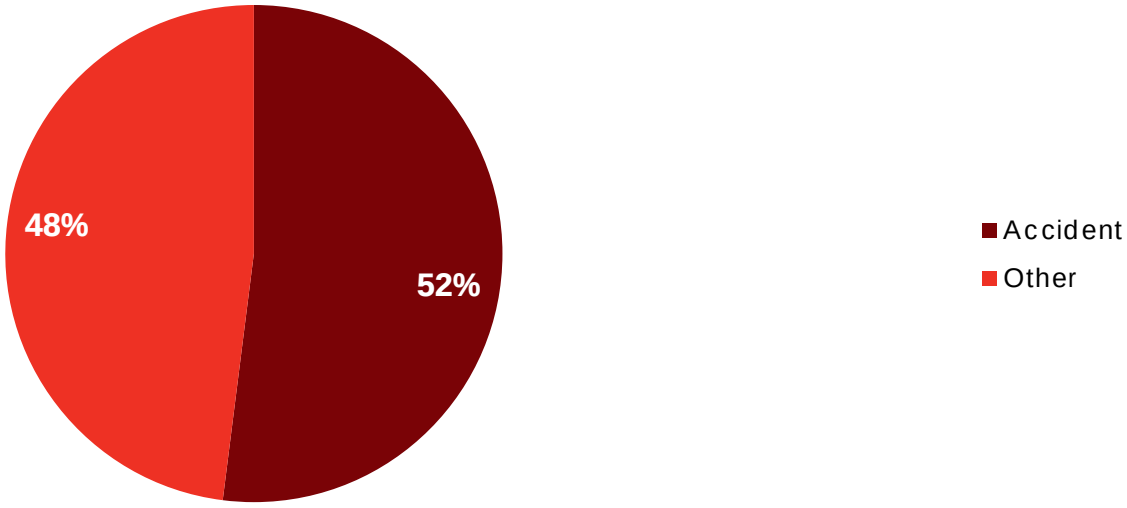
The CFRP conducted secondary reviews of every child's death in 2021 to determine if COVID-19 may have indirectly contributed to the death of the child. This provided strong evidence suggesting that COVID-19 indirectly contributed to 27 child deaths in 2021.

Indirect COVID-19 deaths may include (but are not limited to): looking at deaths that occurred during school closures when the child may not have died if they were physically in school, deaths where COVID-19 impacted availability and fear of seeking medical care, social (isolation, lack of supervision, etc.), emotional (mental health, fear of contracting COVID-19, etc.), or economic changes (finance disruptions, lack of childcare, etc.) induced by COVID-19 which may have impacted the child's or parent's decision-making and overall wellbeing leading to the child's death.

Prevention recommendations for indirect COVID-19 deaths are located in the other specific causes of death. For example, if the child died from a poisoning overdose during a school closure where the child would have been in school during the incident, the prevention recommendation will be found in the substance use section.

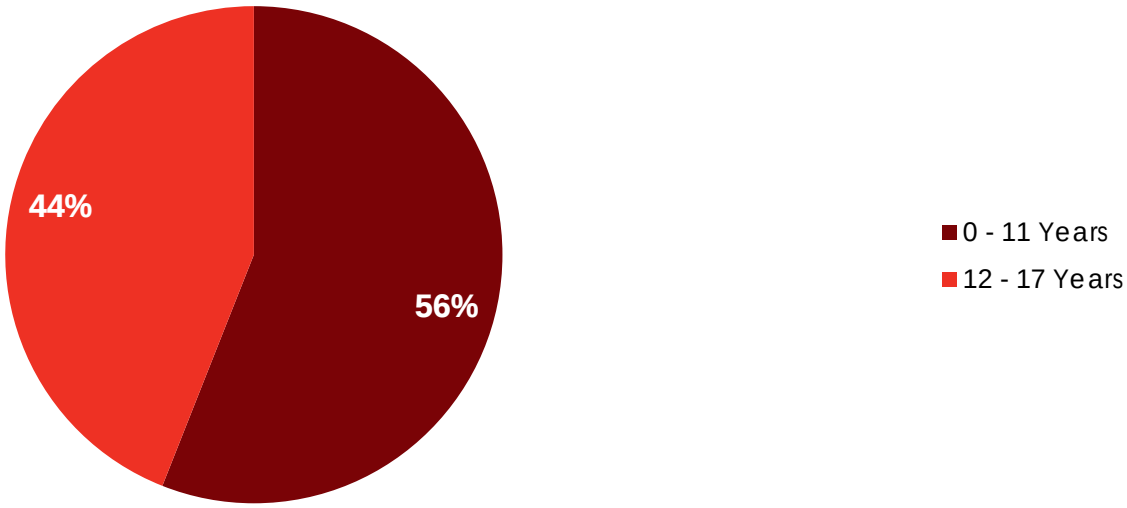
In 52% of indirect COVID-19 deaths, the manner of death was classified as an accident. Other manners of death include homicide, natural, suicide, and undetermined (Figure 49).

Figure 49. Percentage of Indirect COVID-19 Deaths among Children by Manner, Ages 0-17 Years, Arizona, 2021 (n=27)



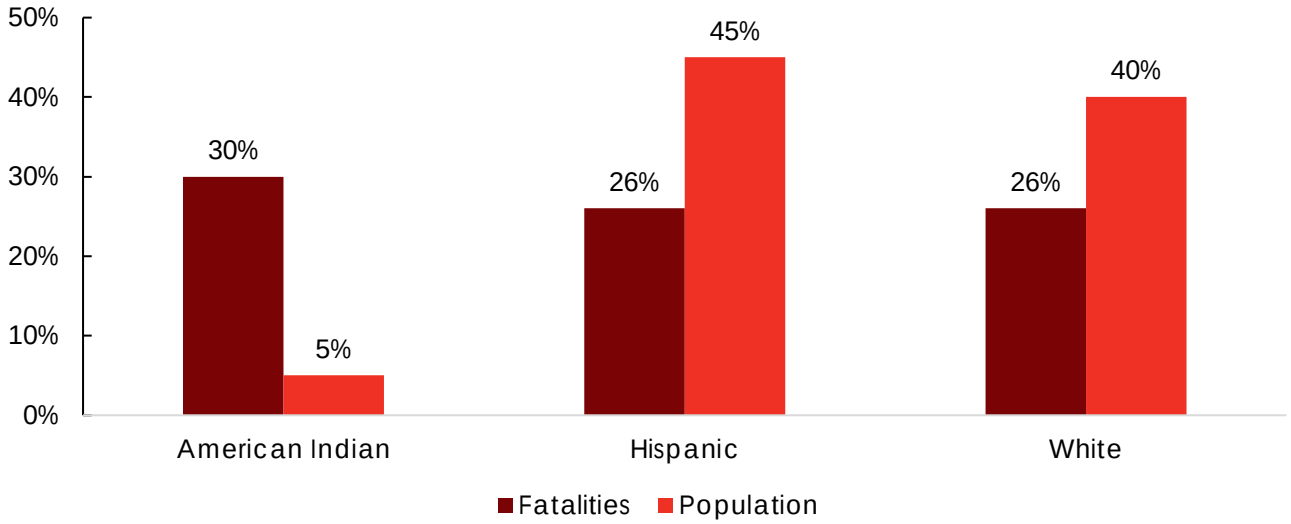
Of the indirect COVID-19 deaths, 56% of deaths were among children ages birth – 11 years (Figure 50).

Figure 50. Percentage of Indirect COVID-19 Deaths among Children by Age Group, Ages 0-17 Years, Arizona, 2021 (n=27)



American Indian children made up 30% of indirect COVID-19 deaths but only 5% of the total child population (Figure 51).

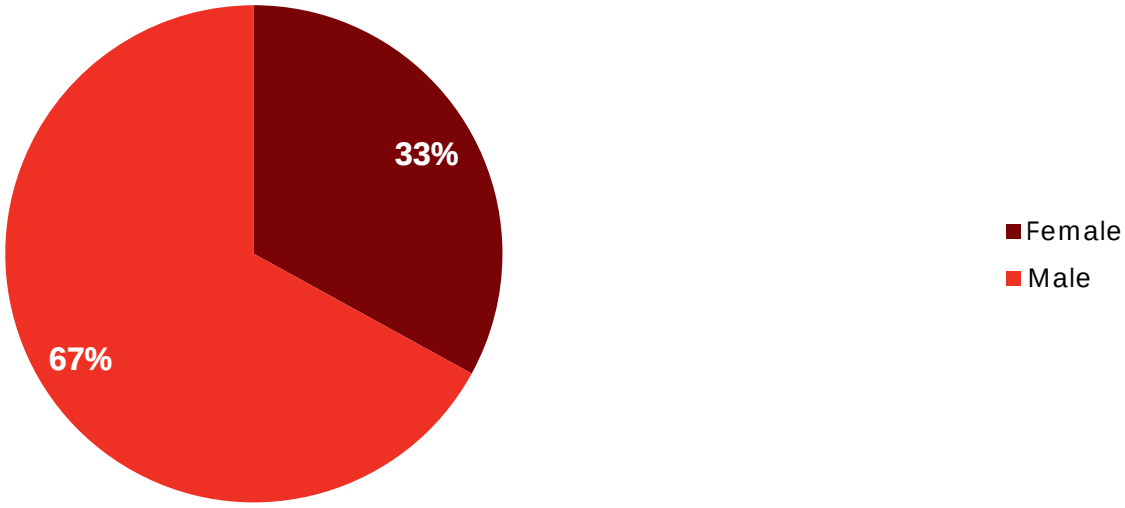
Figure 51. Percentage of Indirect COVID-19 Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2021 (n=27)*[2]



*Data for Asian and Black children suppressed due to counts less than 6.

Of the indirect COVID-19 deaths, 67% of deaths were among males (Figure 52).

Figure 52. Percentage of Indirect COVID-19 Deaths among Children by Sex, Ages 0-17 Years, Arizona, 2021 (n=27)



Among indirect COVID-19 deaths, suffocation (30%) and other injury (30%) were the leading cause of death for children 0-17 years (Table 20).

Table 20. Cause of Indirect COVID-19 Deaths among Children, Ages 0-17 Years, Arizona, 2021

Cause of Death	Number	Percent
Suffocation	8	30%
Other Injury (i.e. Firearm, Choking, etc.)	8	30%
Poisoning	6	22%
Other Medical	*	*
Undetermined	*	*
*Number/ Percentage suppressed due to count less than 6.		

While there are numerous preventable risk factors that contribute to indirect COVID-19 deaths, poverty (48%) and substance use (48%) were the most commonly identified risk factor (Table 21).

Table 21. Leading Risk Factors for Indirect COVID-19 Deaths among Children, Ages 0-17 Years, Arizona, 2021

Risk Factor*	Number	Percent
Poverty	13	48%
Substance Use	13	48%
Child Relationship Issues	10	37%
Lack of Supervision	9	33%
CPS History with Family	8	30%
School Issues	7	26%
*More than one risk factor may have been identified for each death.		

Drowning Deaths

Death from an accidental or intentional submersion in a body of water. See the glossary for further explanation.

There were 44 drowning deaths in 2021, 5% of all child deaths.

There was a 108% increase in the drowning death rate from 2020 to 2021.

100% of drowning deaths were preventable.

Of the children who drowned, 57% were male and 43% were female.

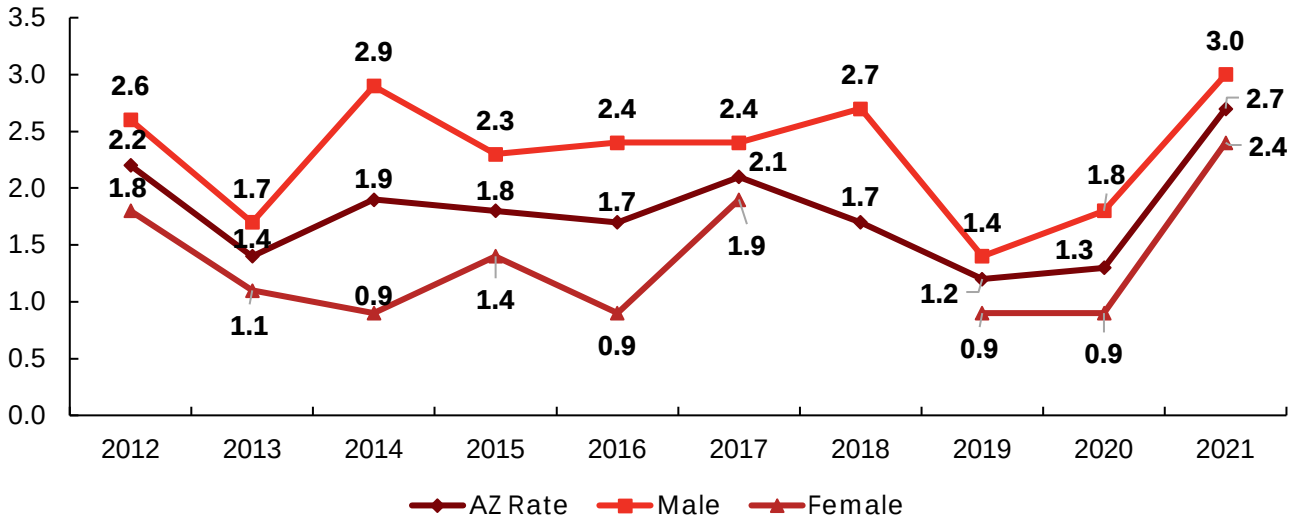
68% of drowning deaths occurred in children ages 1-4 years.

Black children were disproportionately affected. Black children made up 23% of drowning deaths but only 6% of the total population.

11% of drowning deaths involved substance use.

Overall, Arizona's drowning rate has fluctuated since 2012. Arizona's drowning rate increased by 107.7% from 1.3 deaths per 100,000 children in 2020 to 2.7 deaths per 100,000 children in 2021. Males have consistently had a higher drowning rate compared to females. However, females had a higher increase by 166% from 0.9 deaths per 100,000 children in 2020 to 2.4 deaths per 100,000 children in 2021(Figure 53).

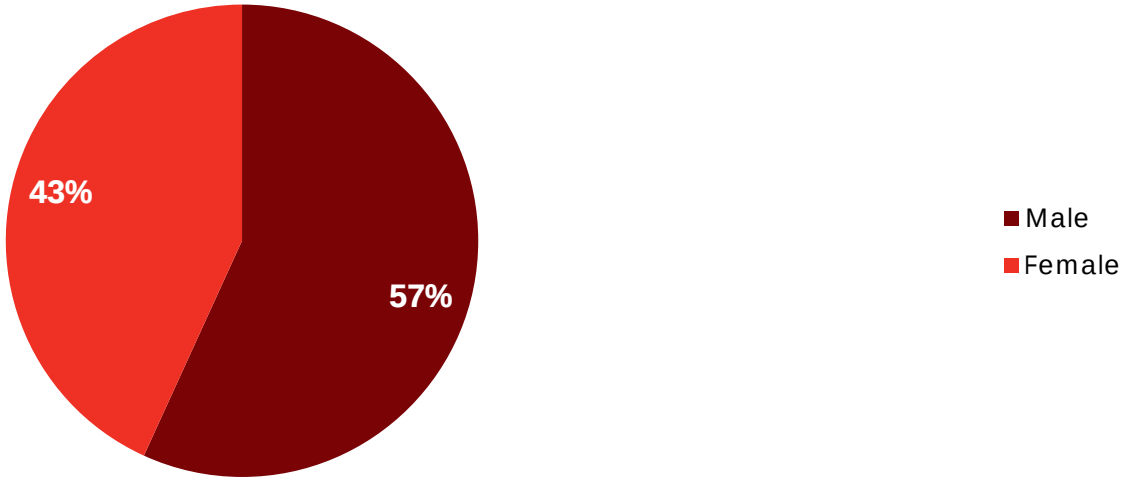
Figure 53. Mortality Rate per 100,000 Children due to Drowning by Sex, Ages 0-17 Years, Arizona, 2012-2021*[2-11]



*2018 data on female children not included due to a small sample size.

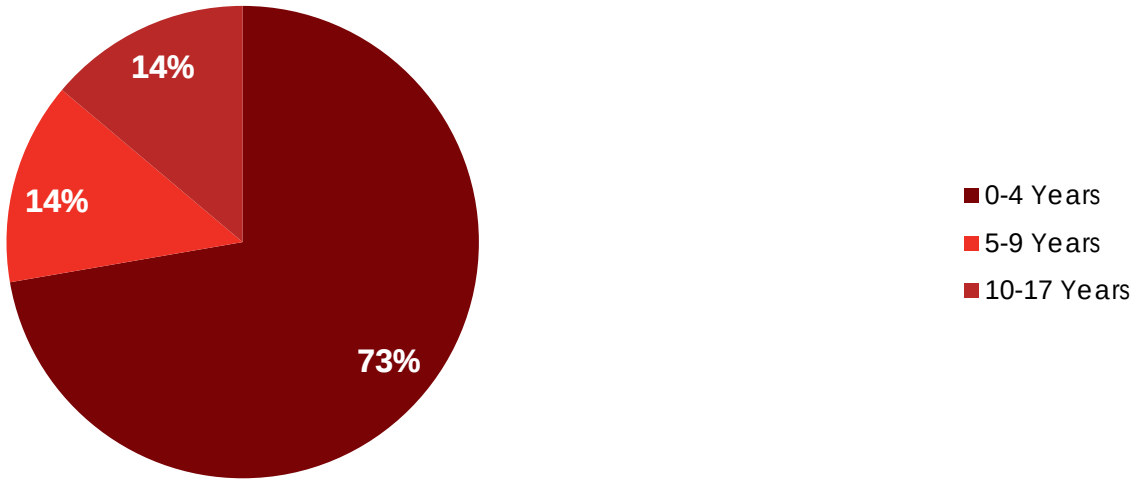
The majority of drowning deaths occurred among males (57%) (Figure 54).

Figure 54. Percentage of Drowning Deaths among Children by Sex, Ages 0-17 Years, Arizona, 2021 (n=44)



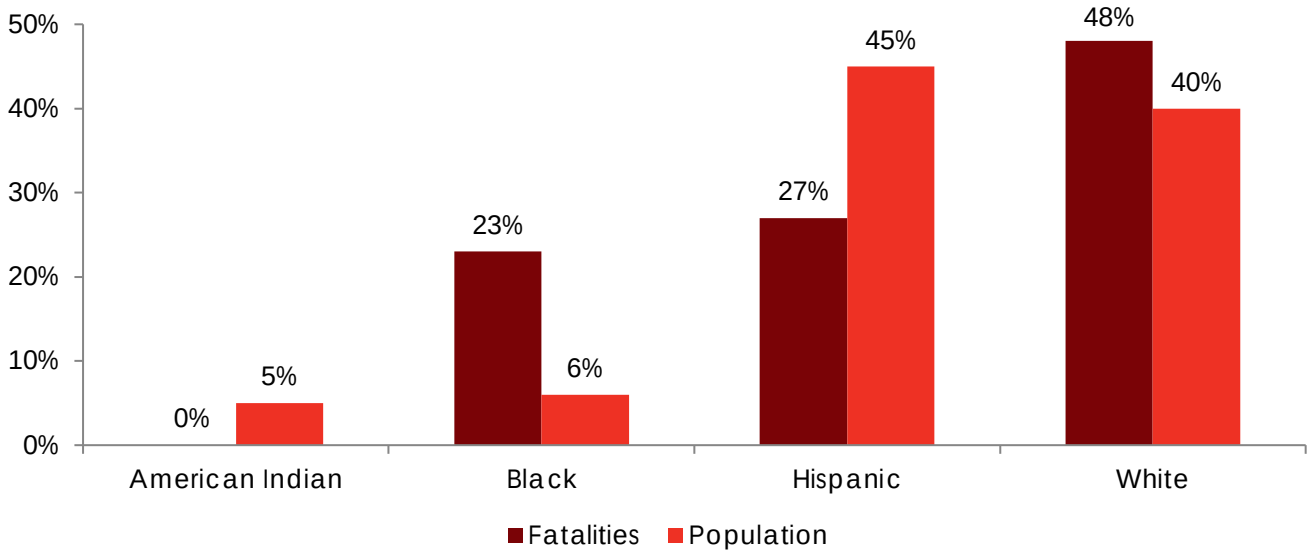
The majority of drowning deaths occurred among children birth to 4 years of age (73%) (Figure 55).

Figure 55. Percentage of Drowning Deaths among Children by Age Group, Ages 0-17 Years, Arizona, 2021 (n=44)



There were no drowning deaths among American Indian children in 2021. Black children accounted for 23% of drowning deaths but only 6% of Arizona's population. White children accounted for the largest incidence of drowning deaths at 48% (Figure 56).

Figure 56. Percentage of Drowning Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2021 (n=44)*[2]



*Data for Asian children suppressed due to counts less than 6.

The majority of drowning deaths occurred in pools/hot tubs (75%) (Table 22).

Table 22. Location of Drowning among Children, Ages 0-17 Years, Arizona, 2021 (n=44)

Locations	Number	Percent
Pool/ Hot tub	33	75%
Open Water/ Pond	*	*
Bathtub	*	*
Flash Flood Area	*	*
***Number/Percentage suppressed due to count less than 6.**		

While there are numerous preventable risk factors that contribute to drowning, lack of supervision (86%) was the most commonly identified risk factor (Table 23).

Table 23. Leading Risk Factors of Drowning among Children, Ages 0-17 Years, Arizona, 2021 (n=44)

Risk Factors*	Number	Percent
Lack of Supervision	38	86%
Unable to Swim	30	68%
Inadequate or No Pool Barrier	24	55%
CPS History with Family	12	27%
Poverty	7	16%
*More than one risk factor may have been identified in each death.		

In 9% of drowning deaths, teams determined that supervision was not needed due to the circumstances surrounding the death. For the remaining drowning deaths (n=40), the child's parent was the individual who was responsible for supervision (73%). The child was not in sight of the supervisor in 96% of these drownings (Table 24).

Table 24. Responsible Supervisor during Drowning Incidents Requiring Supervision among Children, Ages 0-17 Years, Arizona, 2021 (n=40)

Responsible Supervisor	Number	Percent
Parent	29	73%
Other Relative	9	23%
Other	*	*
*Number/Percentage suppressed due to count less than 6.		

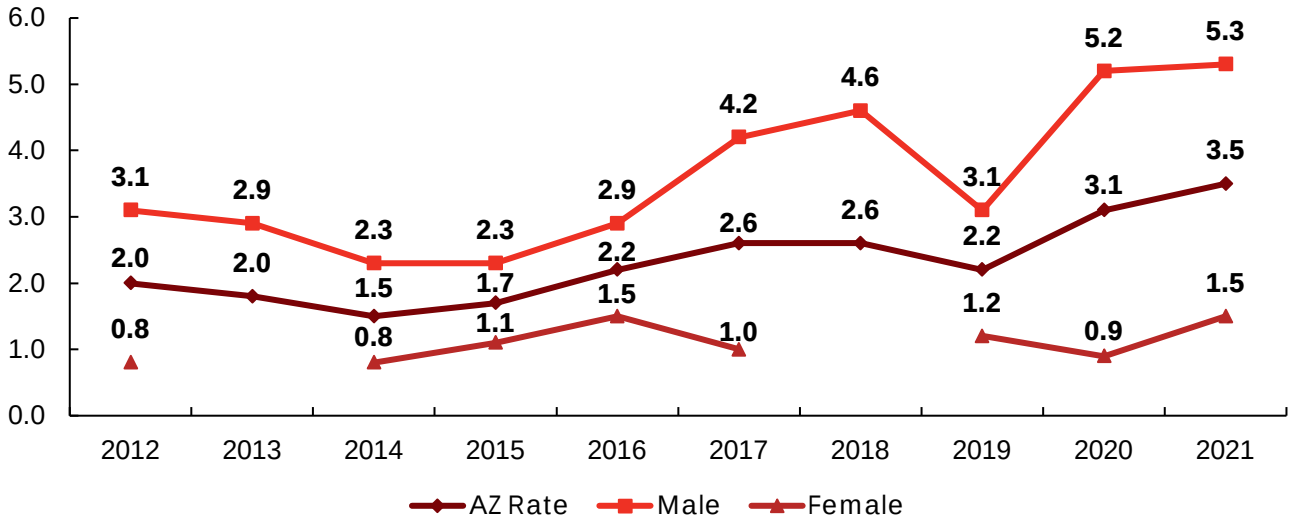
Firearm Injury Deaths

Death caused by an injury resulting from the penetrating force of a bullet or other projectile shot from a powder-charged gun. See the glossary for further explanation.

	There were 56 firearm injury deaths in 2021, 7% of all child deaths.
	There was a 13% increase in the firearm injury death rate from 2020 to 2021.
	100% of firearm injury deaths were preventable.
	Of the firearm injury deaths, 79% were male and 21% were female.
	75% of firearm injury deaths occurred in children ages 15-17 years.
	Black children were disproportionately affected. Black children made up 13% of firearm injury deaths but only 6% of the total population.
	55% of firearm injury deaths involved substance use.

Overall, Arizona's firearm injury mortality rate has increased since 2014. Males have consistently had a higher firearm injury mortality rate compared to females. Arizona's firearm injury mortality rate increased by 12.9% from 3.1deaths per 100,000 children in 2020 to 3.5 deaths per 100,000 children in 2021(Figure 57).

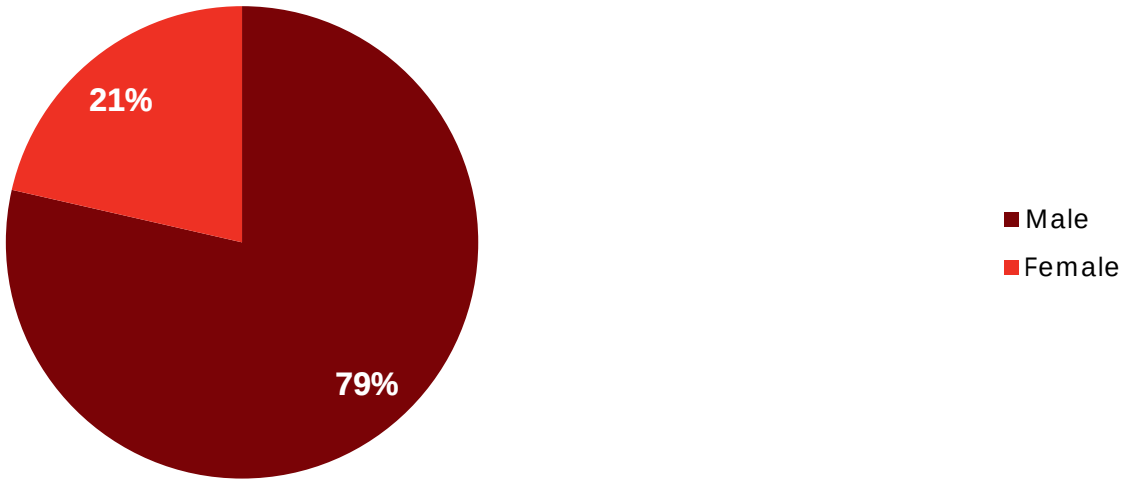
Figure 57. Mortality Rate per 100,000 Children due to Firearms by Sex, Ages 0-17 Years, Arizona, 2012-2021*[2-11]



*2013 and 2018 data on female children not included due to small sample sizes.

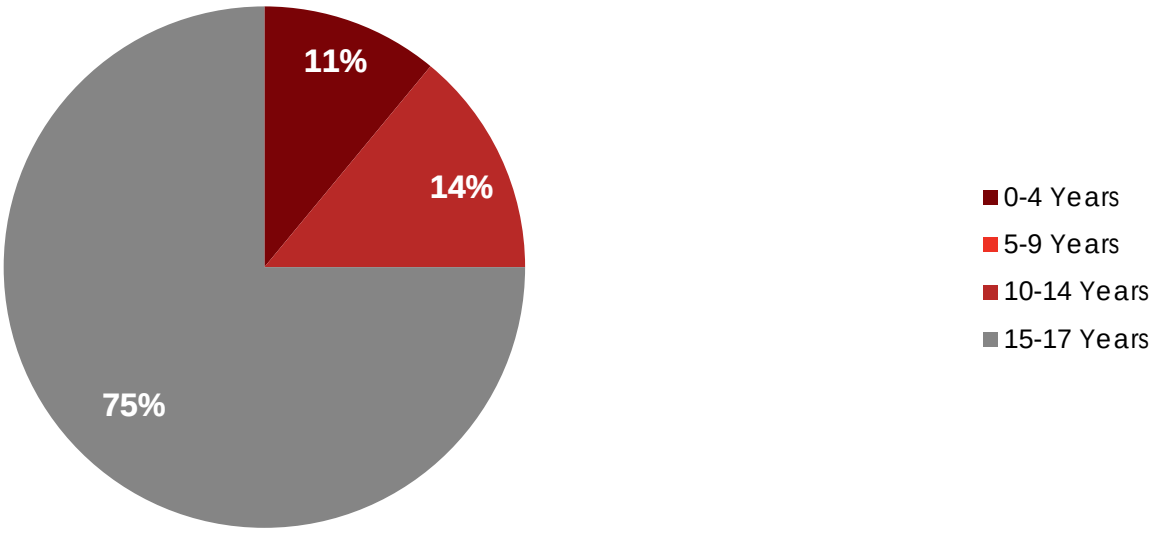
The majority of firearm injury deaths occurred among males (79%) (Figure 58).

Figure 58. Percentage of Firearm Injury Deaths among Children by Sex, Ages 0-17 Years, Arizona, 2021 (n=56)



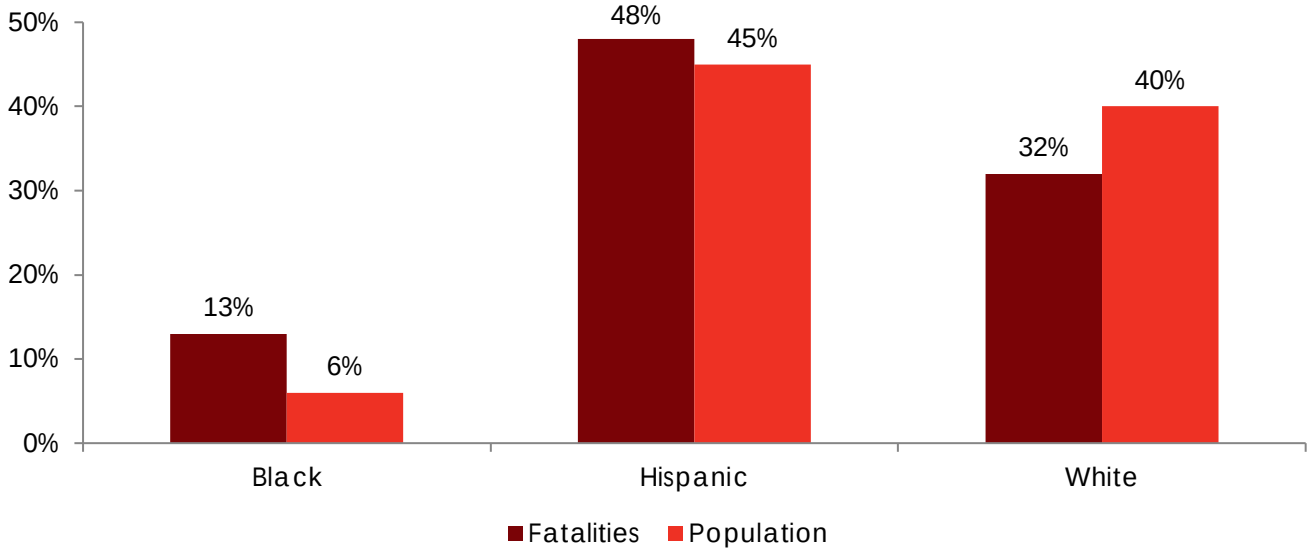
The majority of firearm injury deaths occurred among children ages 15-17 years (75%), followed by children ages 10-14 years (14%) (Figure 59).

Figure 59. Percentage of Firearm Injury Deaths among Children by Age Group, Ages 0-17, Arizona, 2021 (n=56)



Black children made up 13% of firearm injury deaths, but only comprised 6% of the total population. The largest percentage of child deaths were among Hispanic (48%) children (Figure 60).

Figure 60. Number of Firearm Injury Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2021 (n=56)*[2]



*Data for American Indian and Asian children suppressed due to counts less than 6.

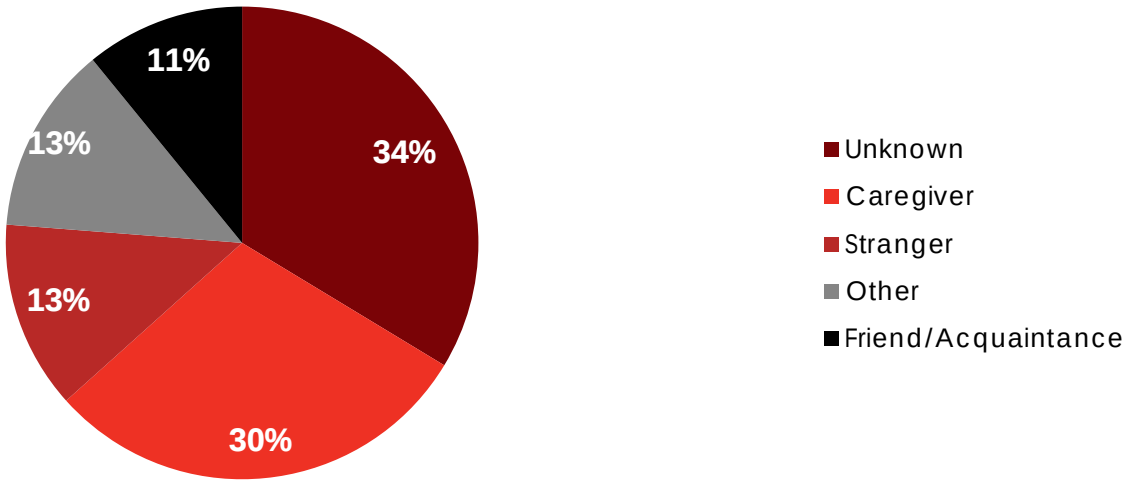
While there are numerous preventable risk factors that contribute to firearm injury deaths, access to firearms (100%) was the most commonly identified risk factor (Table 25).

Table 25. Leading Risk Factors of Firearm Injury Deaths among Children, Ages 0-17 Years, Arizona, 2021

Risk Factors*	Number	Percent
Access to Firearm	56	100%
Firearm not Stored Properly	40	71%
Substance Use	31	55%
CPS History with Family	28	50%
Criminal Activity	26	46%
Child Relationship Issues	24	43%
Child History of Trauma	19	34%
*More than one risk factor may have been identified in each death.		

In 34% of firearm injury deaths, the owner of the firearm could not be identified. The child's caregiver (i.e. parent/stepparent/relative custodian) as the owner accounted for 30% of the firearm injury deaths (Figure 61).

Figure 61. Percentage of Owners Involved in Firearm Injury Deaths among Children by Age Group, Ages 0-17, Arizona, 2021 (n=56)



Of the firearm injury deaths, 89% involved a handgun (Table 26).

Table 26. Types of Firearm Used in Firearm Injury Deaths among Children, Ages 0-17 Years, Arizona, 2021

Types	Number	Percent
Handgun	50	89%
Other (Rifle/ Shotgun/ Unknown)	6	11%

In 30% of the firearm injury deaths, the firearm user was the child themselves (Table 27).

Table 27. Firearm User Involved in Firearm Injury Deaths among Children, Ages 0-17 Years, Arizona, 2021

Firearm User	Number	Percent
Self	17	30%
Friend/ Acquaintance	13	23%
Stranger	11	20%
Relative (Parent/ Grandparent/ Step-Parent/ Siblings)	9	16%
Unknown	*	*
Other	*	*
*Number/Percentage suppressed due to count less than 6.		

In 30% of firearm injury deaths, the firearm was used for self-harm (Table 28).

Table 28. Uses of Firearm Involved in Firearm Injury Deaths among Children, Ages 0-17 Years, Arizona, 2021

Uses	Number	Percent
Self-Harm	17	30%
Argument	12	21%
Child as a Bystander	10	18%
Criminal Activity	7	13%
Drug Deal	7	13%
Playing with Weapon	6	11%
*More than one risk factor may have been identified in each death.		

Motor Vehicle Crash (MVC) Deaths

Death caused by injuries from a motor vehicle incident, including injuries to motor vehicle occupant(s), pedestrian(s), pedal cyclist(s) or another person. See the glossary for further explanation.

There were 72 MVC deaths in 2021, 8% of all child deaths.

There was a 21% decrease in the MVC death rate from 2020 to 2021.

100% of MVC deaths were preventable.

47% of MVC deaths occurred in children ages 15-17 years.

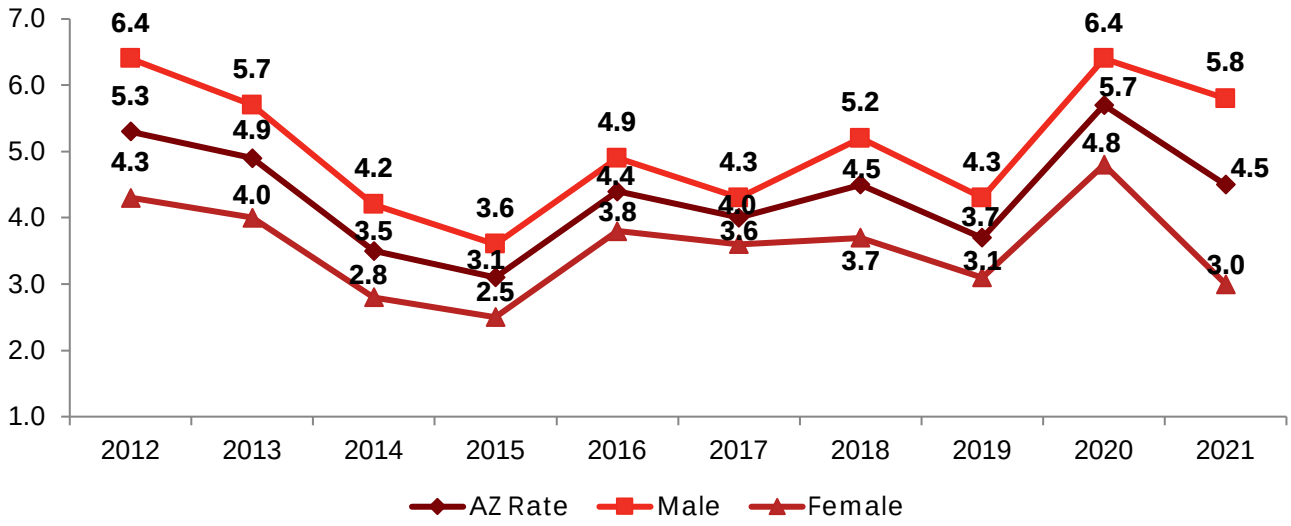
Of the MVC deaths, 58% were male and 42% were female.

American Indian children and Black children were disproportionately affected. American Indian made up 23% of MVC deaths but only 5% of the total population. Black children made up 20% of MVC deaths but only 6% of the total population.

40% of MVC deaths involved substance use.

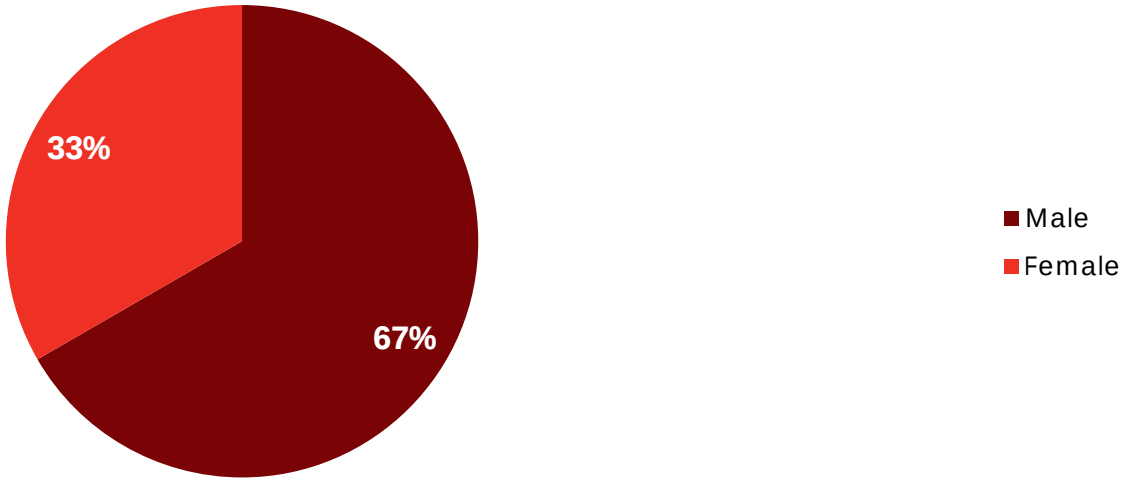
The MVC mortality rate has fluctuated since 2012. Males have consistently had a higher MVC mortality rate compared to females. Arizona's MVC mortality rate decreased by 21.1% from 5.7 per 100,000 children in 2020 to 4.5 per 100,000 children in 2021(Figure 62).

Figure 62. Mortality Rate per 100,000 Children due to Motor Vehicle Crashes by Sex, Ages 0-17 Years, Arizona, 2012-2021[2-11]



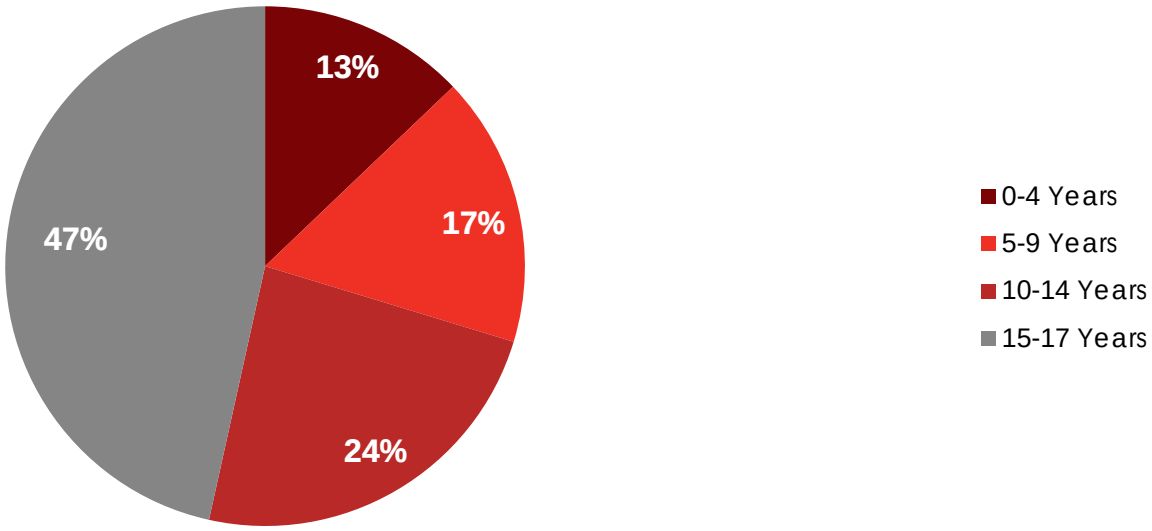
The majority of MVC deaths occurred among males (67%) (Figure 63).

Figure 63. Percentage of Motor Vehicle Crash Deaths among Children by Sex, Ages 0-17 Years, Arizona, 2021 (n=72)



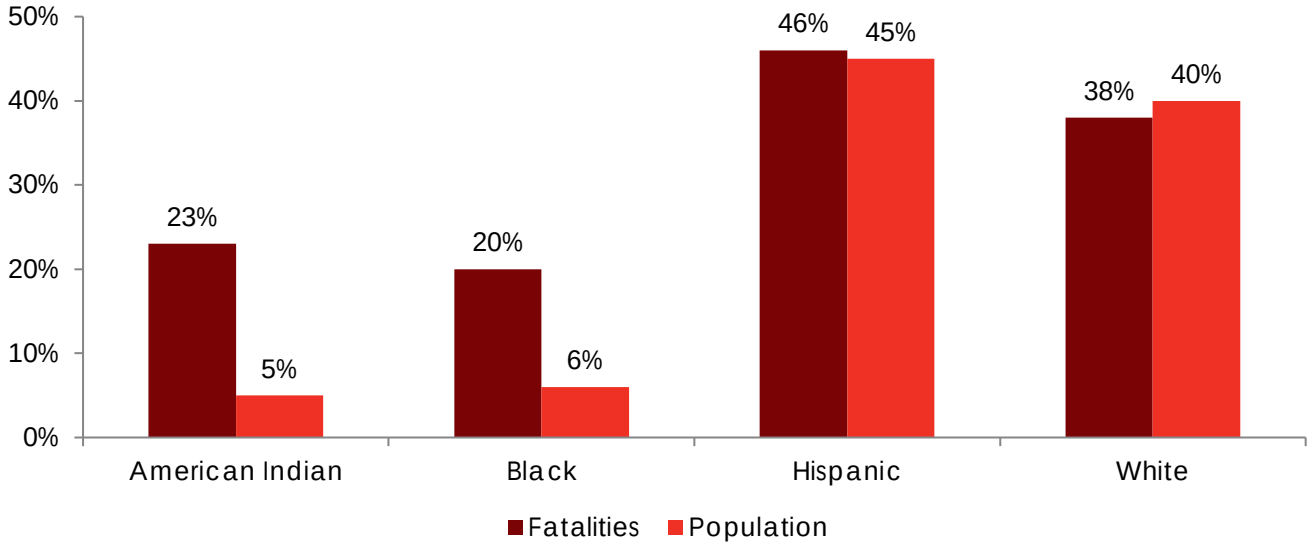
The highest number of MVC deaths occurred among children ages 15-17 years (47%), followed by children ages 10-14 years (24%) (Figure 64).

Figure 64. Percentage of Motor Vehicle Crash Deaths among Children by Age Group, Ages 0-17 Years, Arizona, 2021 (n=72)



American Indian children and Black children made up 23% and 20% of MVC deaths, respectively, but only comprised 5% and 6% of the total population. The majority of MVC deaths were Hispanic (46%) and White (38%) children (Figure 65).

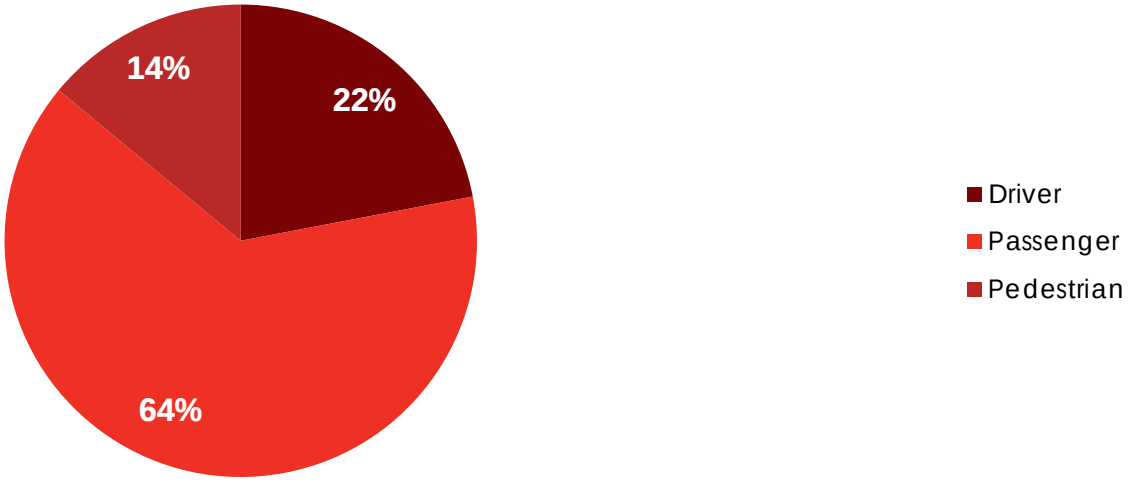
Figure 65. Percentage of Motor Vehicle Crash Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2021 (n=72)*[2]



*Data for Asian children suppressed due to counts less than 6.

In the majority of MVC deaths, the child was the passenger (64%) (Figure 66).

Figure 66. Percentage of Motor Vehicle Crash Deaths among Children by Occupant, Ages 0-17 Years, Arizona, 2021 (n=72)



While there are numerous risk factors that can contribute to MVC deaths, the most commonly identified risk factors were lack of seat restraint (56%), reckless driving (43%), and substance use (40%) (Table 29).

Table 29. Leading Risk Factors for Motor Vehicle Crash Deaths among Children, Ages 0-17 Years, Arizona, 2021

Risk Factor*	Number	Percent
Lack of Seat Restraint	40	56%
Reckless Driving	31	43%
Substance Use	29	40%
Excessive Speed	23	32%
Criminal Activity	21	29%
CPS History with Family	18	25%
Inexperienced Driver	10	14%

*More than one factor may have been identified for each death.

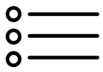
Prematurity Deaths

Death of an infant born before 37 weeks gestation and the cause of death was related to the premature birth. See the glossary for further explanation.

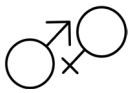
There were 206 prematurity deaths in 2021, 29% of all child deaths.

There was a 5% increase in the prematurity death rate from 2020 to 2021.

13% of prematurity deaths were preventable.



#1 cause: Prematurity (n= 177)
#2 cause: Other Perinatal Condition (n= 29)



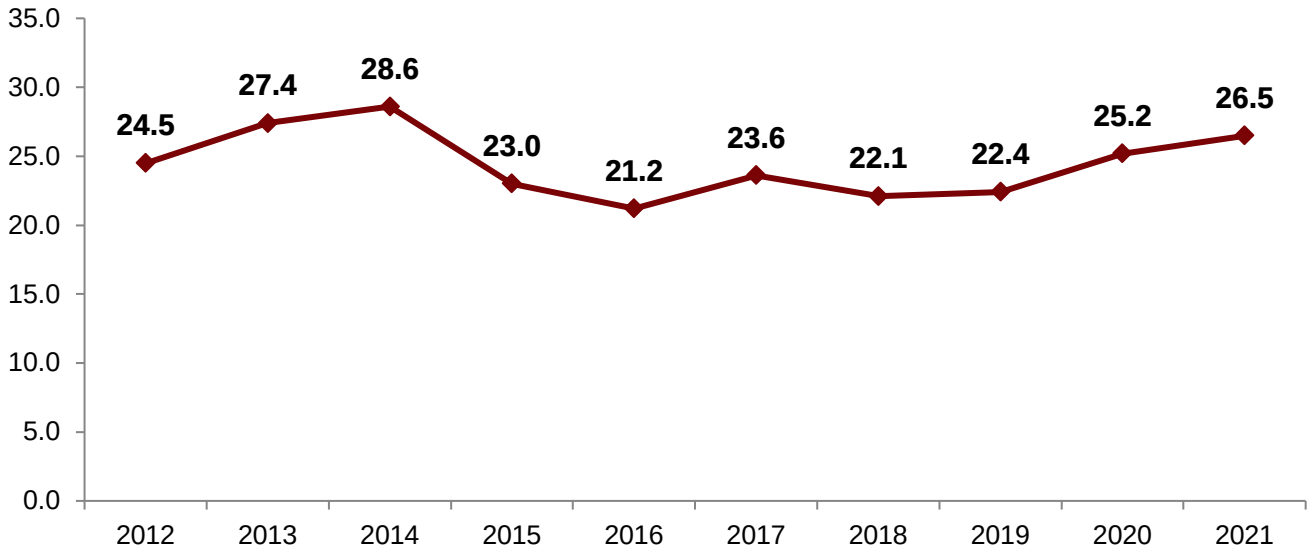
Of the prematurity deaths, 57% were male and 43% were female.

Black and Hispanic infants made up 19% and 47% of prematurity deaths, respectively, but only comprised 6% and 40% of premature births.

11% of prematurity deaths involved substance use.

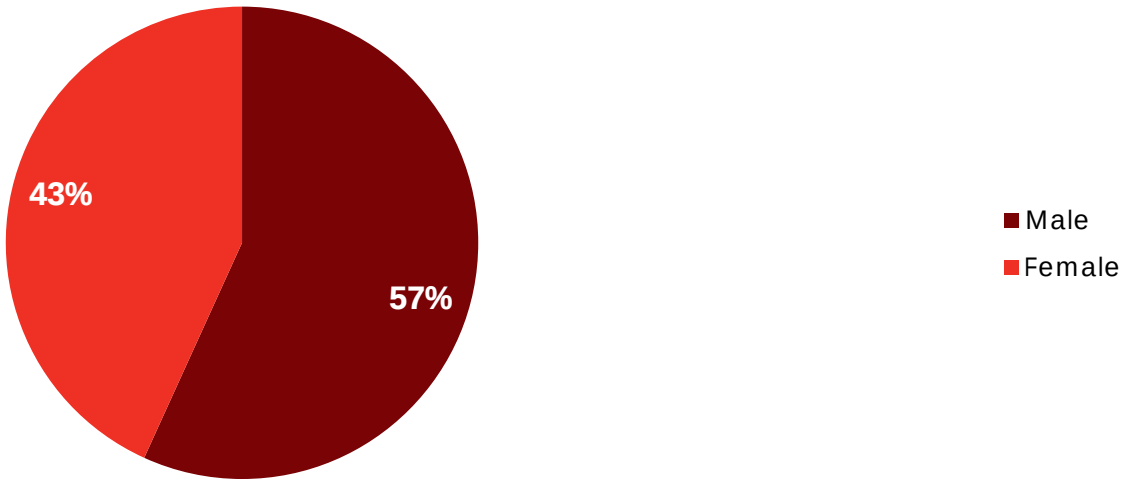
The prematurity mortality rate includes those who were identified as dying of prematurity (<37 weeks gestation) but also includes children who died of other perinatal conditions which lead to premature birth. Arizona's prematurity mortality rate increased by 5.2% from 25.2 per 1,000 live premature births in 2020 to 26.5 per 1,000 live premature births in 2021 (Figure 67).

Figure 67. Mortality Rate per 1,000 Live Births due to Prematurity, Less than 1 Year of Age, Arizona, 2012-2021[35-44]



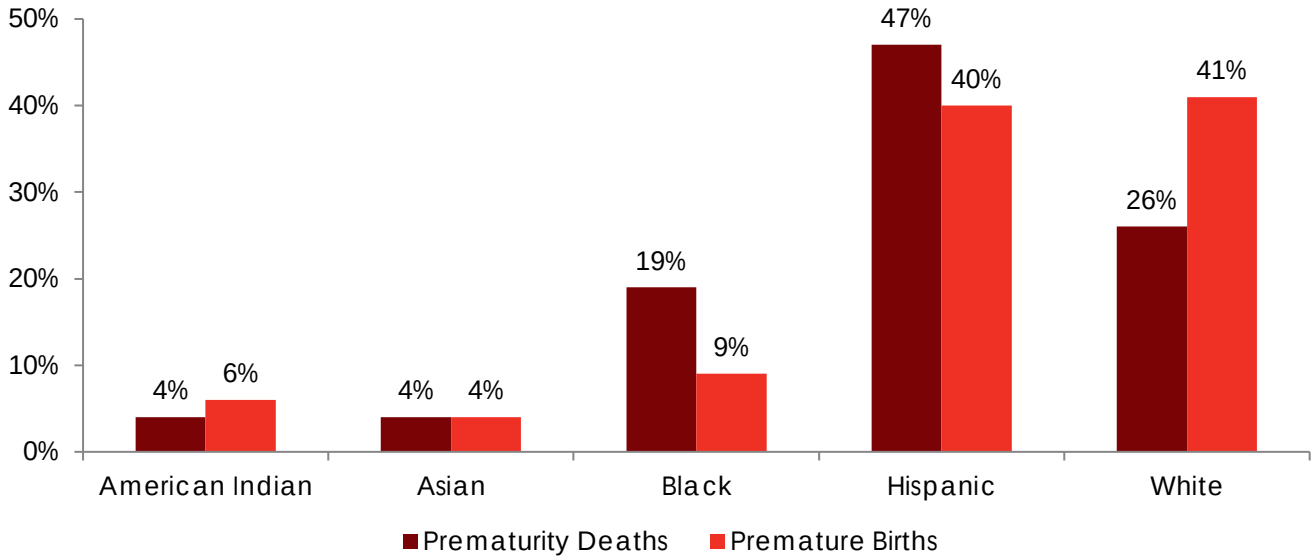
The majority of prematurity deaths occurred among males (57%) (Figure 68).

Figure 68. Percentage of Prematurity Deaths among Children by Sex, Less than 1 Year of Age, Arizona, 2021 (n=206)



Black and Hispanic infants made up 19% and 47% of prematurity deaths, respectively, but only comprised 6% and 40% of premature births. The majority of child deaths were among Hispanic (47%) and White (26%) children (Figure 69).

Figure 69. Percentage of Prematurity Deaths among Infants by Race/Ethnicity, Less than 1 Year of Age, Compared to Percentage of Premature Births, Arizona, 2021 (n=206)[44]



While there are numerous risk factors that can contribute to prematurity deaths, the most commonly identified risk factors were poverty (50%) and premature rupture of membranes (PROM) (40%) (Table 30).

Table 30. Leading Risk Factors for Prematurity Deaths among Infants, Less than 1 Year of Age, Arizona, 2021

Risk Factor*	Number	Percent
Poverty	103	50%
Premature Rupture of Membrane (PROM)	83	40%
Had Previous Live Birth(s)	36	17%
No Prenatal Care	34	17%
Preterm Labor	31	15%
Advanced Maternal Age (>34 years)	31	15%
Chorioamnionitis	27	13%
Substance Use	22	11%
Hypertension	20	10%
***There may be more than one factor identified in each death.**		

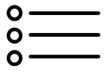
Substance Use Related Deaths

Substance use related deaths are where the child or any individual involved in the death of the child used or abused substances, such as alcohol, illegal drugs, and/or prescription drugs and this substance use was a direct or contributing factor in the child's death. See the glossary for further explanation.

There were 176 substance use related deaths in 2021, 20% of all child deaths.

There was a 12% increase in the substance use related death rate from 2020 to 2021.

100% of substance use related deaths were preventable.



#1 cause: Poisoning (n= 49)
#2 cause: Firearm Injury (n= 31)
#3 cause: Motor Vehicle Crash (n= 29)

Of the substance use related deaths, 64% were male and 36% were female.

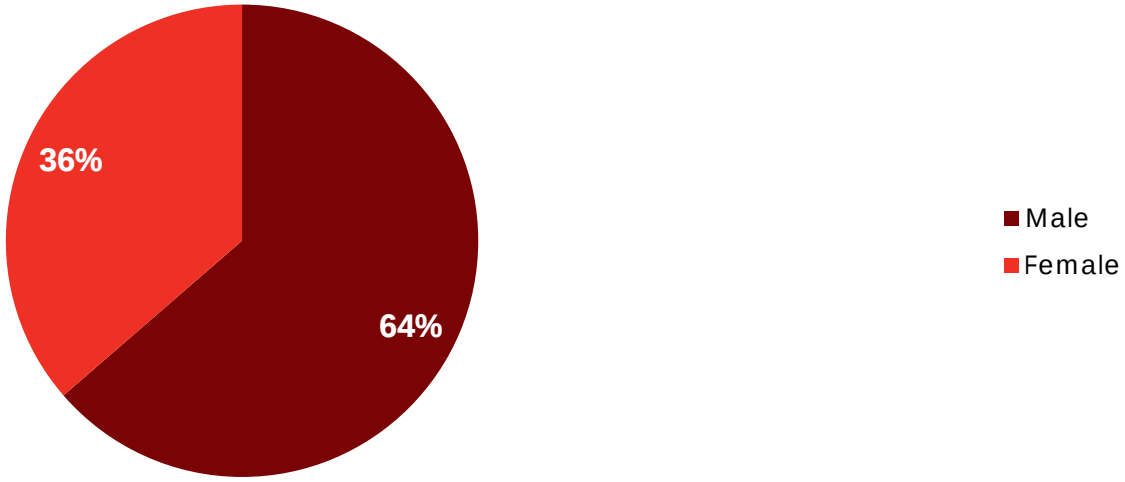
48% of substance use related deaths occurred in children ages 15-17 years.

Black and American Indian children were disproportionately affected. Black children made up 18% of substance use related deaths but only 6% of the population. American Indian made up 15% of substance use related deaths but only 5% of the population.

Of the 49 poisoning deaths, 46 were opiate overdoses and fentanyl was responsible for 44 of opiate poisonings.

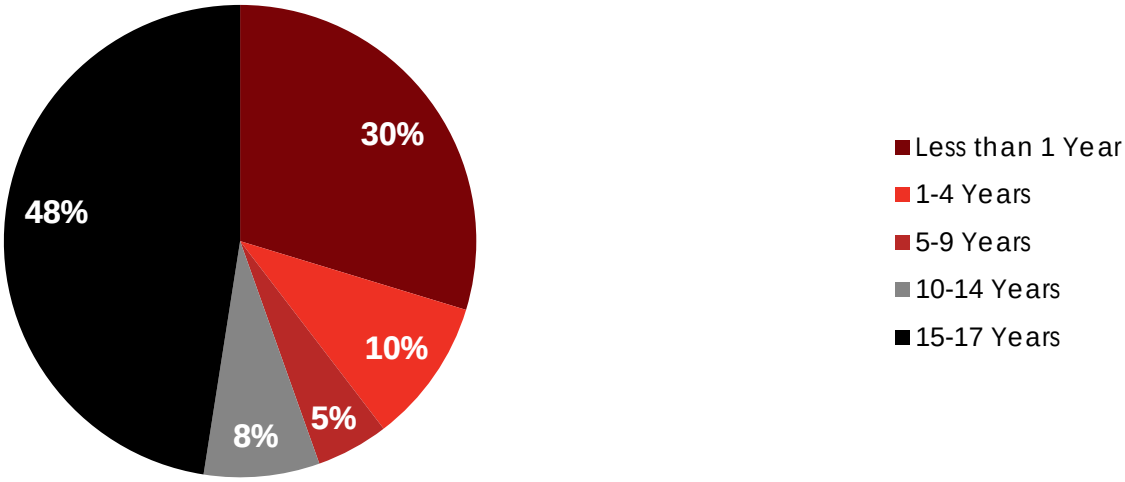
The majority of substance use related deaths occurred among males (64%) (Figure 70).

Figure 70. Percentage of Substance Use Related Deaths among Children by Sex, Ages 0-17 Years, Arizona, 2021 (n=176)



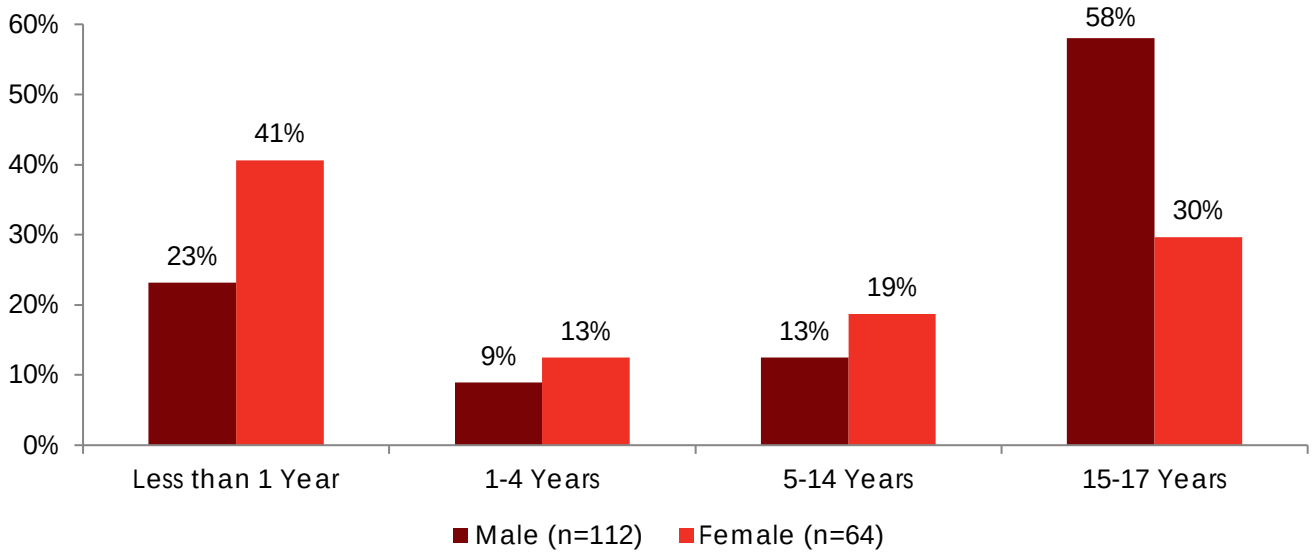
The majority of substance use deaths occurred among children ages 15-17 years (48%), followed by infants less than 1 year or age (30%) (Figure 71).

Figure 71. Percentage of Substance Use Related Deaths among Children by Age Group, Ages 0-17 Years, Arizona, 2021 (n=176)



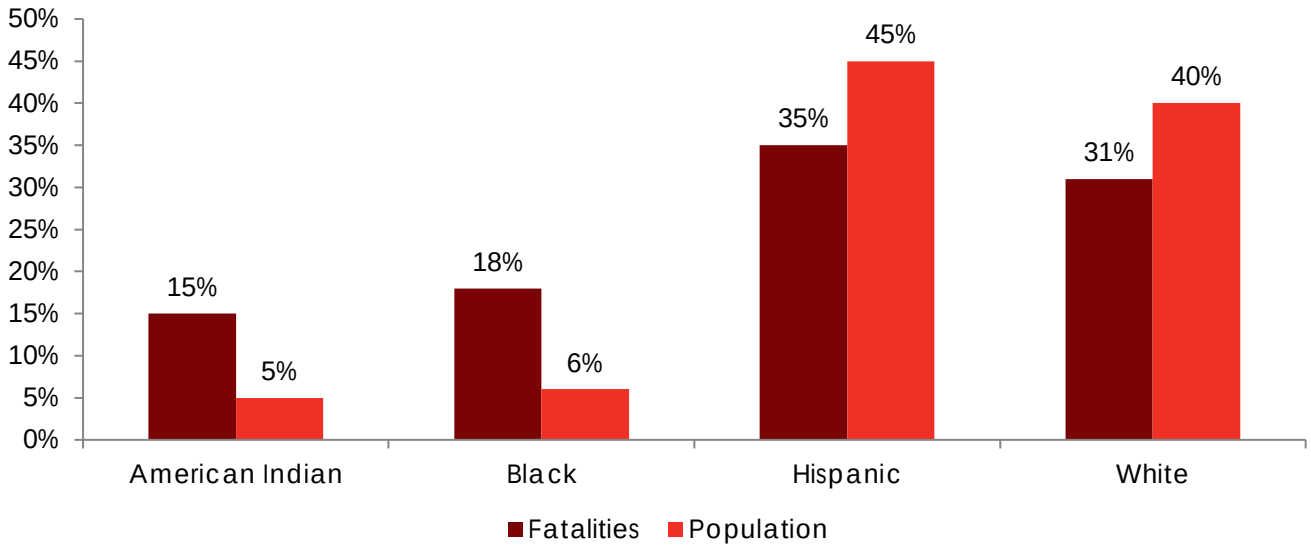
The majority of substance use related deaths occurred in children ages 15-17 years (48%) followed by children ages less than 1 year (30%) (not shown). The majority of substance use deaths occurred among male children ages 15-17 years (58%), followed by infants less than 1 year or age (64%) (Figure 72).

Figure 72. Percentage of Substance Use Related Deaths among Children by Age Group and Sex, Ages 0-17 Years, Arizona, 2021 (n=176)



Black and American Indian children made up 18% and 15% of substance use related deaths, respectively, but only comprised 6% and 5% of the total child population. The majority of substance use related deaths were Hispanic (35%) and White (31%) children (Figure 73).

Figure 73. Percentage of Substance Use Related Deaths among Children by Race/Ethnicity, Ages 0-17 Years, Compared to Population, Arizona, 2021 (n=176)*[2]



*Data for Asian children suppressed due to counts less than 6.

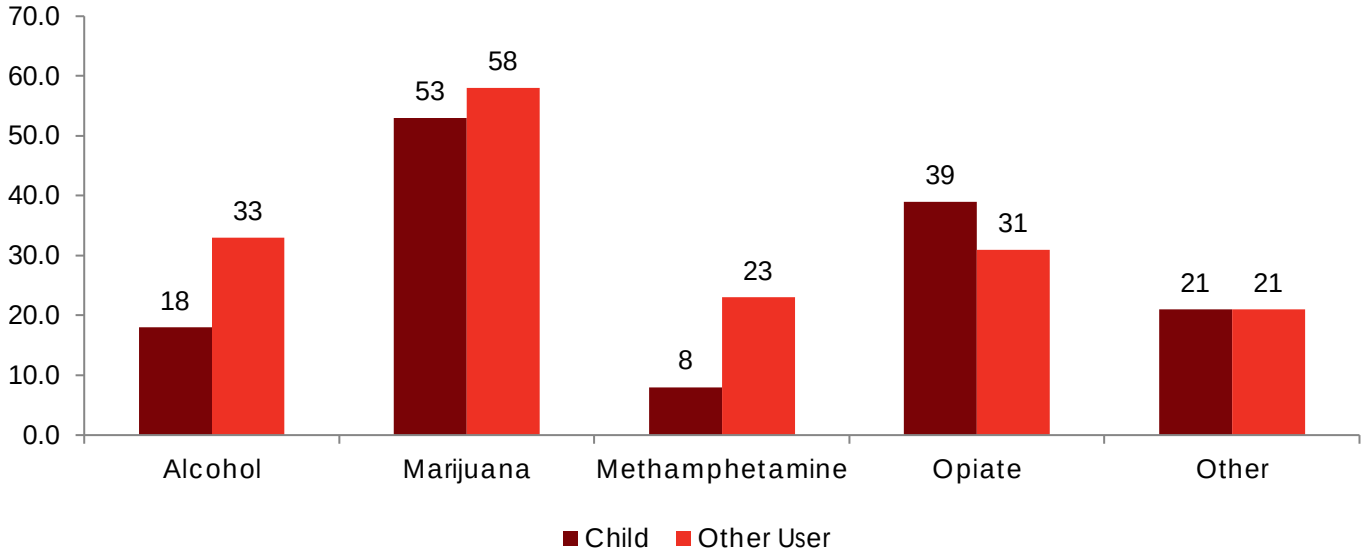
Among substance use related deaths, poisoning (28%) was the leading factor that caused or contributed to the death for children ages 0-17 years. Of the 49 poisoning deaths, 46 were opiate overdoses and fentanyl was responsible for 44 poisonings. Thirty-six of opioid overdoses were due to intentional use while the remaining 10 were accidental exposures (Table 31).

Table 31. Cause of Death where Substance Use was a Direct or Contributing Factor among Children, Ages 0-17 Years, Arizona, 2021

Cause of Death	Number	Percent
Poisoning	49	28%
Firearm Injury	31	18%
Motor Vehicle Crash	29	17%
Prematurity	22	13%
Suffocation	17	10%
Other Injury	10	6%
Other Medical	8	5%
Strangulation	6	3%
Undetermined	*	*
*Number/Percentage suppressed due to count less than 6.		

Local review teams identified the type of substances used by the child and by other individuals, contributing to the death. In 48% of substance use related deaths, the child was using alcohol or drugs. Marijuana was the most common substance used by the child and by other individuals, followed by opiates and alcohol. There may be more than one substance and more than one individual using a substance in a death (Figure 74).

Figure 74. Number of Substances Identified as Causing or Contributing to Child Deaths, by the Child or Other User, Ages 0-17 Years, Arizona, 2021 (n=176)



While there are numerous risk factors that can contribute to substance use related deaths, the most commonly identified risk factors were biological parent substance use history (61%), CPS history with the family (55%), and poverty (34%) (Table 32).

Table 32. Leading Risk Factors for Substance Use Deaths among Children, 0-17 Years, Arizona, 2021

Risk Factor*	Number	Percent
Biological Parent Substance Use History	107	61%
CPS History with the Family	97	55%
Poverty	60	34%
Lack of Supervision	59	34%
Child History of Trauma	53	30%
Child Relationship Issues	50	28%
Criminal Activity	48	27%
*There may be more than one factor identified in each death.		

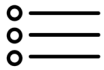
Sudden Unexpected Infant Death (SUID)

A sudden unexpected death of an infant (less than 1 year of age) is where the cause of death was not apparent prior to a death investigation. Most of the SUIDs are due to suffocation and unsafe sleep environments, but not all SUIDs are unsafe sleep related. See glossary for further explanation.

There were 65 SUIDs in 2021, 8% of all child deaths.

There was a 23% increase in the SUID rate from 2020 to 2021.

99% of SUIDs were preventable.



#1 cause: Suffocation (n= 53)
#2 cause: Undetermined (n= 12)

Of the SUIDs, 42% were male and 58% were female.

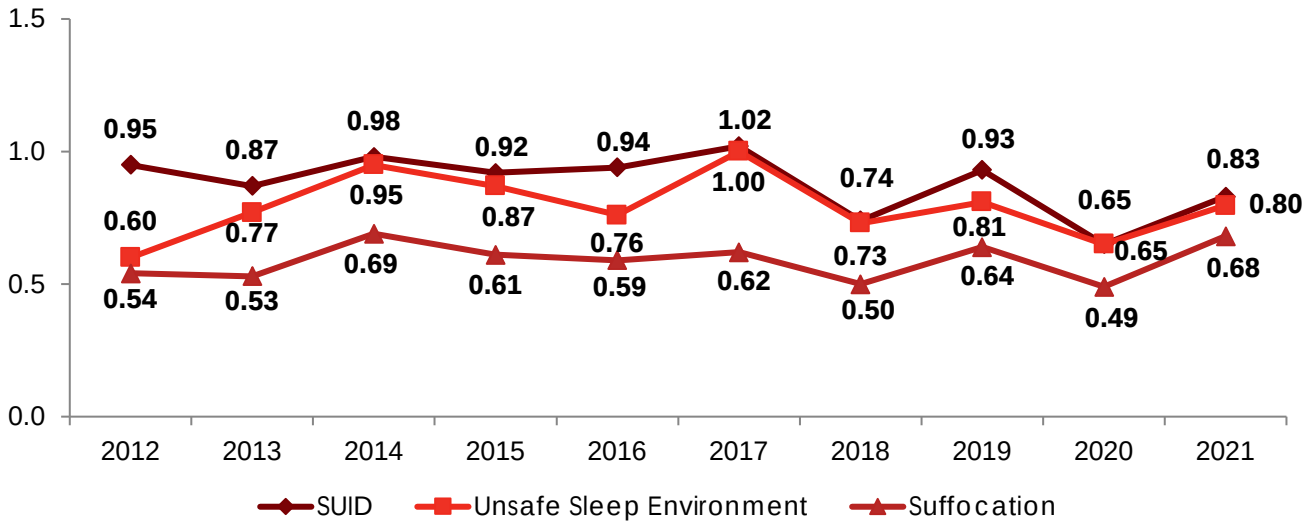
11% of SUIDs occurred in neonates (infants less than 28 days).
89% of SUIDs occurred in post-neonates (infants 28 days and older but less than 1 year of age).

Black infants were disproportionately affected. Black infants made up 15% of SUIDs but only make up 6% of the total population.

29% of SUIDs involved substance use.

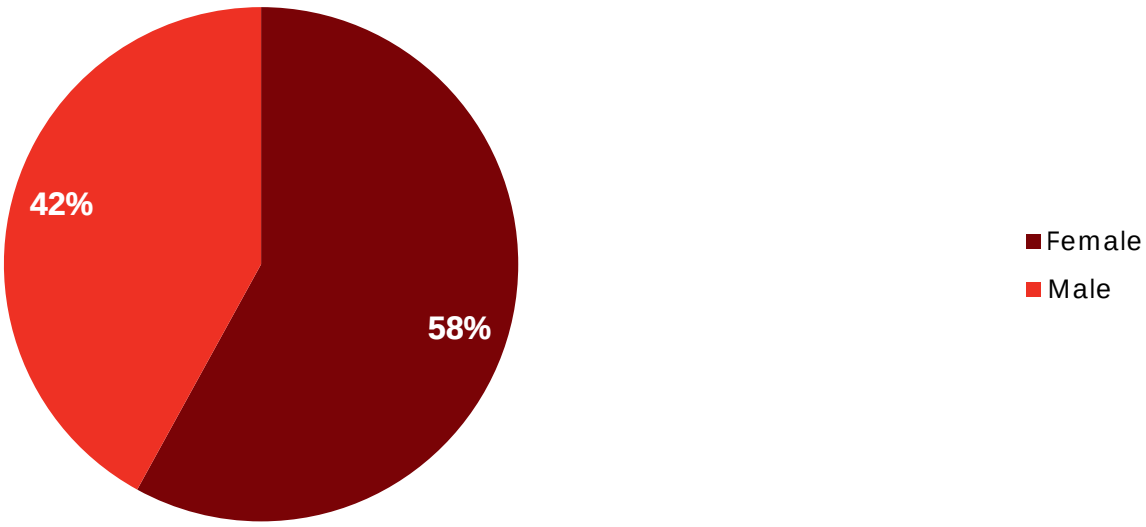
Arizona's SUID rate increased 23.1% from 0.65 deaths per 1,000 live births in 2020 to 0.80 deaths per 1,000 live births in 2021. Additionally, Arizona's unsafe sleep environment mortality rate and suffocation mortality rate have increased since 2012 (Figure 75).

Figure 75. Mortality Rate per 1,000 Live Births due to Sudden Unexpected Infant Death, Unsafe Sleep Environments, and Suffocation, Less than 1 Year of Age, Arizona, 2012-2021[30-31]



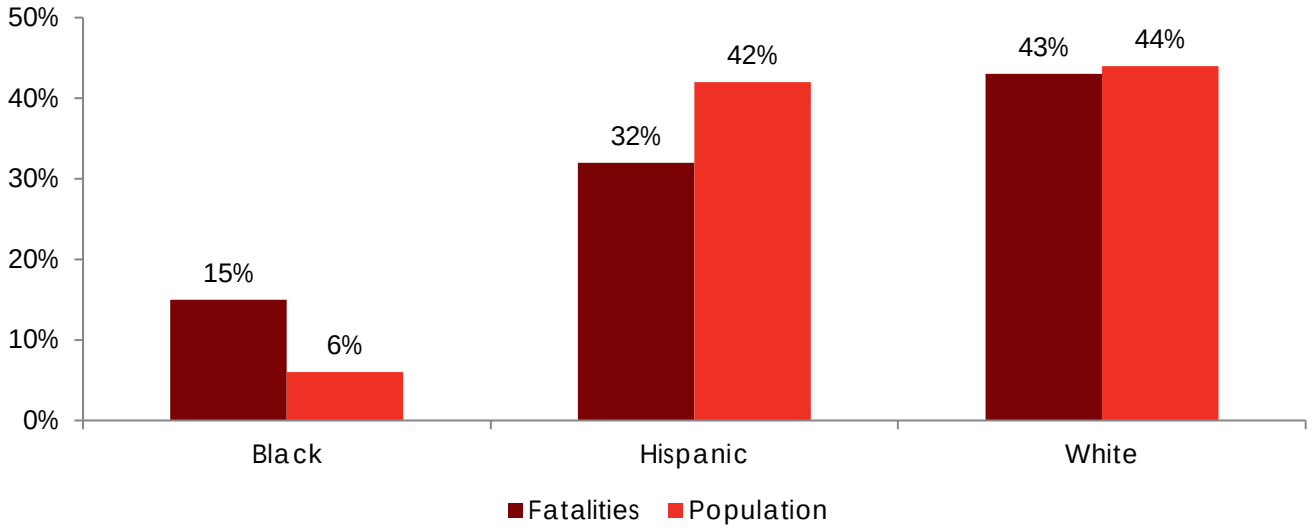
The majority of SUIDs were among males (58%) (Figure 76).

Figure 76. Percentage of Sudden Unexpected Infant Death among Infants by Sex, Less than 1 Year of Age, Arizona, 2021 (n=65)



Black children made up 15% of SUIDs but only comprised 6% of the total live births. The majority of SUIDs were among White (43%) and Hispanic (32%) infants (Figure 77).

Figure 77. Percentage of Sudden Unexpected Infant Death among Infants by Race/Ethnicity, Less than 1 Year of Age, Compared to Population, Arizona, 2021 (n=65)*[30]



*Data for American Indian and Asian children suppressed due to counts less than 6.

Of the 65 SUIDs in 2021, 82% were due to suffocation (Table 33).

Table 33. Cause of Death for Sudden Unexpected Infant Death among Infants, Less than 1 Year of Age, Arizona, 2021

Cause of Death	Number	Percent
Suffocation	53	82%
Undetermined	12	18%

While there are numerous risk factors that can contribute to SUID, the leading risk factor was an unsafe sleep environment (95%) (Table 34).

Table 34. Leading Risk Factors for Sudden Unexpected Infant Death among Infants, Less than 1 Year of Age, Arizona, 2021

Risk Factor*	Number	Percent
Unsafe Sleep Environment	62	95%
Objects in the Sleep Environment	56	86%
Poverty	53	82%
Unsafe Sleep Location (Not in Crib/Bassinet)	45	69%
Bedsharing	38	58%
CPS History with the Family	31	48%
Unsafe Sleep Position (Not on Back)	24	37%
*More than one factor may have been identified for each death.		

Prevention Recommendations

Prevention Recommendations by Cause and Manner of Death

Abuse/ Neglect	• Arizona should invest in the financial wellbeing of families, including increasing access to concrete supports like food, housing, and childcare, which research shows reduce both poverty-related neglect and the need for foster care. • Disseminate online factsheets on healthy parenting published by Child Welfare Information Gateway to parents and other caregivers. The website is run by the U.S. Department of Health & Human Services and provides knowledge on healthy parenting.[46] • Disseminate to community members online factsheets on recognizing the signs of potential child maltreatment.[46] • Establish Community-Based Child Abuse Prevention (CBCAP) programs. These programs strengthen families while promoting a safe and healthy environment for raising children.[47] • The Workforce Resilience program at DCS should be expanded to help provide support for employees that may be suffering from secondary trauma or burnout. By supporting employees, DCS can provide a way for them to process trauma and remain effective in reducing child maltreatment.[48,49] • Home visiting programs throughout the state should be increased as home visits are associated with a decrease in substantiated reports of child abuse and neglect.[50] • Increase awareness and support for the All Babies Cry program.[51] • Increase public education on how and when to report suspected child abuse and neglect so that any individual who knows about a child who is being abused or neglected can act by calling 911 in an emergency or the Arizona Child Abuse Hotline (1-888-SOS-CHILD).[52] • Increase utilization of mental health professionals to respond to emergency calls where mental health issues may be a factor. • Increase the availability of affordable and accessible substance use treatment healthcare and telehealth care for families and children. • Engage federal partners to secure funding for the implementation of a national child abuse and neglect database to better track out-of-state DCS involvement with the child and/or family. • Increase public awareness of the risks associated with substance use, including marijuana, during pregnancy including premature birth, and other complications. • Increase the ability of family courts to provide resources for counseling/therapy to families going through custody proceedings.

COVID-19	• Follow the current American Academy of Pediatrics and Centers for Disease Control and Preventions COVID-19 guidance. • Parents should obtain COVID-19 vaccinations for all eligible infants, children, and adolescents. This includes primary series and/or booster doses as recommended by the American Academy of Pediatrics and the CDC.[53] • Pediatricians should promote vaccination and vaccine confidence through ongoing, proactive messaging (i.e., reminder recall, vaccine appointment/clinics) and use existing patient visits as an opportunity to promote and provide COVID-19 vaccines.[53] • Children and adolescents who have symptoms consistent with COVID-19 should be tested immediately.[54] • The American Academy of Pediatrics COVID-19 guidance for Safe Schools and Promotion of In-Person Learning should be implemented by all Arizona schools.[55] • Regardless of vaccination status, community members should isolate from others when they have COVID-19.[56]
Drowning	• Increase public awareness of the dangers of drowning for children.[57,58] • Caregivers should never leave children unattended near pools or pool areas. There should be a focused adult supervisor that is responsible for watching children that are in or around open water, pools, and spas. Adult supervision is key in preventing children from drowning. These points should continue to be reiterated and drowning prevention education should be expanded.[58-61] • Pools need to be enclosed on all four sides by a wall, fence, or barrier to ensure restricted access to young children.[58-61] • Pool enclosures need to be at least 5 feet tall and 20 inches from the water's edge and have a gate at least 54 inches above the floor that swings away from the pool. The gate should have a self-closing/latching mechanism. These specifications can reduce the chance of children having unsupervised time around water.[59,60] • There should be no openings in pool enclosures that are wide enough for a child to get through or under. There should also be no protrusions, like handholds, which can be used to climb the enclosure. This will prevent small children from overcoming the boundary that is in place to protect them.[59,60] • Teaching children to swim after the age of 1 is one of the most effective interventions that can reduce child drowning.[58,60] • Parents should have their children wear properly fitted coast guard approved life jackets when on a boat, dock, or near bodies of water.[60]

	• Inform parents that inflatable swimming aids and personal flotation devices are not a substitute for a life jacket.[60] • Emphasize the importance of constant supervision for children in baths and how rapidly a drowning can occur.[62] • Increase warning resources (e.g., signage) and awareness of the dangers of flash flood areas. • Provide families with evidence-based drowning prevention education and barrier code information. • Encourage health care providers to discuss water safety prevention measures with families who present at the hospital with a near-drowning incident. • Increase awareness and caregiver education about pool safety with a special focus on high-risk groups such as families with young children and children with special needs. • Increase the availability and accessibility of low-cost swim lessons for children including non-English speaking families. • Partner with home and pool rental companies (i.e., Airbnb, Vrbo, Swimply) to encourage enhanced safety features for renters with children. This could include information regarding pool fencing, alarms, and other safety features. Increase education and community awareness on water safety ABCs.
Firearm Injury	• Increase public awareness that the most effective way to prevent firearm-related deaths in children and adolescents is to remove firearms from households. [63-66] • Communities should sponsor firearm safety events in Arizona because of their potential to reach a population with a high prevalence of firearm ownership. These types of events could increase the number of firearm owners that are receiving safe storage practice training and education.[67] • Parents of all adolescents should be counseled to remove or safely lock up all firearms, especially if there is a family history of mental health issues.[63,65] The presence of firearms in a household increase the risk of suicide among adolescents.[64] • Pediatricians should provide firearm safety counseling and distribute free firearm cables, if available, at well-child visits to firearm owners. This counseling can increase safe gun storage practices.[65] • Gun owners should practice safe storage of their firearms which requires keeping the gun unloaded and locked in a safe. Ammunition should be locked up and stored separately from the firearm. This practice significantly reduces the risk of gun injury or death.[63,64] • Mental health materials should be present and available in a pediatrician's office. Screening for substance abuse and

	mental health concerns should be done during well-child visits.[63,64] • Schools should develop interventions to prevent firearm violence among children. They can also connect families to resources like parental training and provide a place for students to participate in conflict resolution curriculum.[68] • Communities should provide parent education on positive parenting strategies (increased supervision for children in distress, risks of isolation for children in distress, alternatives to restricting technology, how to handle behaviors and discipline). • Increase community awareness and parent/caregiver education on utilizing the Asking Saves Kids (ASK) initiative to ask questions and discuss firearm possession/storage before allowing children to stay in other homes. • Increase funding for youth mental health programs and intervention programs.
Motor Vehicle Crash (MVC)	• Educate children, parents, and caregivers on safe pedestrian practices and avoid distracted walking.[69,70] • Increase pedestrian safety education and awareness including proper use of crosswalks. Implement systems that encourage crosswalk use (i.e., relocate bus stops closer to crosswalks). [70] • Parents should follow the American Academy of Pediatrics (AAP) policy statement on 4 evidence-based recommendations for best practices in the choice of a child restraint system to optimize safety in passenger vehicles for children: (1) rear-facing car safety seats as long as possible; (2) forward-facing car safety seats from the time they outgrow rear-facing seats for most children; (3) belt-positioning booster seats from the time they outgrow forward-facing seats; and (4) lap and shoulder seat belts for all who have outgrown booster seats. [70] • All children younger than 13 years should ride in the rear seats of vehicles. [70] • Continue promoting the importance of safety seats for children and provide parents with education and information on the locations of certified seat installers. Provide training in how to install car safety seats to parents and caregivers. [70,72] • DCS should strengthen relationships with stakeholders to increase utilization of the Child Passenger Restraint Fund to supply families in need with car seats for their children. • Encourage drivers to be aware of cyclists, especially at night when visibility is impaired. Cyclists should wear high-visibility clothing during the day and reflectors and lights at night. Cyclists should also ride defensively and avoid distractions like music or texting. These precautions help

	cyclists stay visible and alert which can help prevent a crash. [71,73] • Require training/certification for adolescents operating off-road vehicles. • Red light cameras are associated with a significant reduction in mortality from motor vehicle crashes among children. An increased number of these cameras may be beneficial. [72,74] • Increase the use of protected turn signals in intersections, especially high-traffic intersections, and those with high incidences of failure to yield left-turn accidents. • Require cities to maintain proper visibility at intersections through monitored landscaping and maintenance. • Provide parent/caregiver education about proper vehicle restraint use and the risks associated with driving under the influence. • Increase community awareness and evidence-based education and programming on hot car injury and death risk and prevention tips.
Prematurity	• Pregnant women should avoid smoking, drinking alcohol, and using marijuana and drugs because it increases the risk of preterm birth and other complications.[75] • Increase awareness for women of reproductive age of the benefits of a pre-pregnancy care visit with a healthcare provider. [75] • Improve the management of chronic medical conditions before/during pregnancy. • Encourage home visiting programs to help women take steps toward a healthy pregnancy before they even get pregnant.[75] • Increase the mother's awareness that shorter interpregnancy intervals, especially <6 months, are associated with an increased risk of late-preterm delivery.[75] • Encourage regular prenatal care which can help prevent complications and inform women about important steps they can take to protect their infant and ensure a healthy pregnancy, especially for pregnant women who use substances.[76] • Increase new mothers' awareness of the availability of AHCCCS coverage up to one year postpartum for women.[77] • Increase the availability of affordable health insurance for women of reproductive age. • Increase availability and accessibility of affordable quality mental health and substance use treatment services for women who are pregnant or post-partum.

Substance Use	• Health care providers should adapt services to better address adverse childhood experiences (ACEs) and train more professionals in trauma-informed care.[78-81] • Communities should improve access to personalized substance use disorder treatment plans, especially in rural/remote areas. Form treatment plans based on individuals' strengths because they can keep children engaged in their care and increase the likelihood of successful treatment and better health outcomes.[78,82] • Communities should expand access to services for people with unstable housing and those that are experiencing homelessness because they are at higher risk for substance use.[78,79] • Communities should increase the availability of naloxone training to reduce substance use-related risks among active users.[78] Overdose fatalities in large populations can be prevented by expanding access to naloxone. Outreach and education programs can improve access to naloxone, which can reverse potentially lethal opioid overdoses.[82] • Improve community awareness of prescription drug misuse.[78] Community-based organizations, advocacy groups, and neighborhood associations can provide communication and education on health issues associated with substance use.[80] Forms of communication like blogs, newsletters, and op-ed articles can raise awareness of the dangers of substance use in their community.[80] • Coordinate statewide opioid prevention activities and increase the number of campaigns and websites that have social connection messages. Social connection messages advocate the importance of interpersonal relationships and the negative health impacts of social isolation.[83] • Improve access to medication-assisted treatment of opioid addiction in adolescents.[82] Pediatric health providers should be encouraged to offer these treatments or referrals for treatment to adolescents with severe opioid use disorders.[84] • Implement universal screening for substance use and mental health issues during adolescent well visits.[81,82,85] • To reduce overdose deaths, clinicians should be encouraged to co-prescribe naloxone to patients that are at risk for opioid overdose, this includes patients that are prescribed benzodiazepines.[86,87] • Increase education for parents and adolescents on the risks associated with legal substance use (i.e., marijuana). • Increase adolescents' awareness of the risks of opioid use, especially fentanyl, and how to respond to and identify signs of an overdose.

	• Improve referral services of birthing parents who have been identified as substance users at the time of birth by DCS to the Arizona Family F.I.R.S.T (AFF) program.
Sudden Unexpected Infant Death (SUID)	• Educate parents on safe sleeping environments and that infants should be placed on their back to sleep for every sleep on a firm, flat, non-inclined sleep surface. Alone, on my Back, in a Crib (ABCs) is the safest sleeping practice for an infant until it is 1 year of age. The ideal safe sleeping environment for an infant requires a firm sleeping surface with only a fitted sheet and no additional bedding. The area should also be void of any toys, cushions, handing cords, or any other items that pose a potential risk of suffocation or strangulation.[88,89] • Infants should sleep on a separate surface in their parents' room close to the bed for at least the first 6 months. This practice is associated with a significant reduction in the risk of SUID.[88,89] • Encourage pediatricians and gynecologists to start initial training on safe sleeping practices before a child is born.[88,89] • Increase the availability of WIC services and home visits because they can help families feel less isolated and teach them safe sleeping practices. [88,89] • Develop a mandatory training program and curriculum on safe sleeping practices for providers. It is associated with more parents adhering to the practices when they observe staff perform them. Introduce a statewide hospital policy that requires parents to receive safe sleep information prior to discharge and sign off that they understood the material.[88,89] • New mothers should be encouraged to breastfeed because any amount of breastfeeding is associated with a reduced risk of SUID.[88,90] • Communities should establish programs that help low-income families afford a crib which can reduce the frequency of bed-sharing because bed-sharing is associated with a significantly increased risk of SUID.[88,89] • Increase pregnant women's access to prenatal care early in their pregnancy and their awareness of the importance of prenatal care. Prenatal care is associated with a lower risk of SUID for their children.[91] • Increase home visiting programs for infants following birth for up to one year. • Include "real-life testimonials" in safe sleep education. • Increase the caregiver's awareness of the dangers associated with the use of alternative sleep surfaces. Any alternative sleep surface should adhere to the most current CPSC rule that any infant sleep product must meet existing federal safety standards for cribs, bassinets, play

	yards, and bedside sleepers. This includes inclined sleep products, hammocks, baby boxes, in-bed sleepers, baby nests and pods, compact bassinets without a stand or legs, travel bassinets, and baby tents. Products that do not meet the federal safety standard are likely not safe for infant sleep, and their use is not recommended. In addition, parents and providers should check the CPSC website (www.cpsc.gov) to ensure that their crib or other sleep product has not been recalled. • Increase community awareness that parents should avoid alcohol, marijuana, opioids, and illicit drug use during pregnancy and after birth.
Suicide	• Increase access to effective mental health care for Arizonans by adopting the Zero Suicide model statewide. Implement communication strategies using traditional and new media for school personnel that promotes suicide prevention, emotional well-being, and mental health.[95-97] • Increase community awareness of the 988 hotline which anyone can call or text or chat with online at 988lifeline.org if they are worried about a loved one who may need crisis support.[103] • Schools should have a suicide management protocol and be aware of resources like the suicide prevention toolkits developed by the Substance Abuse and Mental Health Services Administration and the American Foundation for Suicide Prevention.[92-95] • Schools should provide appropriate mental health services for students at risk for suicide. If the school cannot provide the services, then they should identify mental health providers to whom students can be referred to.[92,94,95] • Schools should educate staff members on the effects that suicide contagion can have in a student population. Adolescents are vulnerable to suicide contagion, and it is important for schools to not glamorize, simplify, or romanticize the death of a student.[92-95] • Increase public awareness of risk factors and warning signs for suicide and connect people in crisis to care.[92,93,97,98] • Educate parents that the presence of a firearm in the house significantly increases the risk of suicide for adolescents.[94,99] • Reduce access to lethal means in the household of adolescents that are at risk of suicide or expressing suicidal thoughts. This includes removing firearms from the house and securing medications.[94,97,98] • Parents should be encouraged to meet their children's teachers and school counselors to keep up to date with their kids' lives. This can help prevent bullying and keep parents connected to their children.[100,101] Kids who are bullied are at a higher risk for suicide.[92,94,100,101]

- Increase awareness that cyberbullying can have a significant negative impact on mental health like traditional bullying. There is an increase in suicide attempts for both victims and perpetrators of cyberbullying.[94]
- Schools should be aware that the most effective school-based interventions to prevent suicide use simultaneous complementary strategies.[92,102] Simultaneous interventions involving parents, changing the school environment, and improving students' individual skills have been effective.[102]
- Increase communication between tribal and non-tribal entities/resources to bridge gaps in the availability of mental health services for children.
- Increase access to parent education on the importance of monitoring a child's social media use. Require all social media platforms to have algorithms in place to screen for posts/videos of concern.
- Increase access to medical and mental health care via telemedicine.
- Improve knowledge, reduce stigmatizing attitudes, and increase first aid actions towards people with mental health and substance use challenges.

Glossary

Abuse/Neglect Death – A death in which an act of physical abuse, sexual abuse, emotional abuse or neglect against a child contributed to their death (please see the Glossary and definitions for physical abuse, neglect, and perpetrator).

Accident – An injury that occurred when there was no intent to cause harm or death; an unintentional injury.

ADES – Arizona Department of Economic Security

ADCS – Arizona Department of Child Safety (formerly child protective services under Arizona Department of Economic Security).

ADHS – Arizona Department of Health Services

Cause of death – The illness, disease or injury responsible for the death. Examples of natural causes include heart defects, asthma and cancer. Examples of injury-related causes include blunt force impact, burns and drowning.

CFR Data Form – A standardized form, approved by the State CFR Team, required for collecting data on all child fatality reviews.

CFR State Program – Established in the ADHS, provides administrative and clerical support to the State Team; provides training and technical assistance to Local Teams; and develops and maintains the CFR data program.

Choking- The inability to breathe because the trachea (airway) is blocked, constricted or swollen shut.

Confidentiality Statement – A form, which must be signed by all review process participants, includes statute information regarding the confidentiality of data reviewed by local child fatality teams.

COVID- 19 – A disease caused by SARS-CoV-2. A direct COVID-19 death is when COVID-19 was the immediate or underlying cause of death. An indirect COVID-19 is when COVID-19 indirectly contributed to the death but was not the immediate or underlying cause of death.

Drowning death – Death from an accidental or intentional submersion in a body of water.

Firearm injury death – Death caused by an injury resulting from the penetrating force of a bullet or other projectile shot from a powder-charged gun.

Fire/flame death – Death caused by injury from severe exposure to flames or heat that leads to tissue damage or from smoke inhalation to the upper airway, lower airway or lungs.

Homicide – Death resulting from injuries inflicted by another person with the intent to cause fear, harm or death.

IHS – Indian Health Services

Infant – A child who is less than one year of age.

Intentional injury – An injury that is the result of the intentional use of force or purposeful action against oneself or others. Intentional injuries include interpersonal acts of violence intended to cause harm, criminal negligence, or neglect (e.g., homicide) and self-directed behavior with intent to kill oneself (e.g., suicide).

Local CFR Team - A multi-disciplinary team authorized by the State CFR Team to conduct reviews of child deaths within a specific area, i.e. county, reservation or other geographic area.

Manner of death – The circumstances of the death as determined by CFR teams by postmortem examination, death scene investigation, police reports, medical records, or other reports. Manner of death categories includes: natural, accident (e.g., unintentional injury), homicide (e.g., intentional injury), suicide (e.g., intentional injury), and undetermined.

Motor vehicle crash death – Death caused by injuries from a motor vehicle incident, including injuries to motor vehicle occupant(s), pedestrian(s), pedal cyclist(s) or another person.

Natural Death – Death classified as natural death due to a medical condition.

Neglect - Failure to provide appropriate and safe supervision, food, clothing, shelter, and/or medical care when this causes or contributes to the death of the child.

Perpetrator - Individual identified as a possible perpetrator of physical, sexual or emotional abuse, or neglect. Caregiver may include individual providing supervision of the child including parents, parent's boyfriend/girlfriend, friend, neighbor, childcare provider, or other household member.

Physical abuse - This means the infliction of physical harm, whether or not the inflictor planned to carry out the act or inflicted harm. The abuse may have occurred on or around the time of death, but also includes any abuse that occurred previously if that abuse contributed to the child's death. **NOTE: Firearm injury deaths inflicted by a parent, guardian or caregiver are included in this type of abuse and neglect.**

Prematurity death - A death that was due to premature birth (less than 37-week gestation) of an infant that had no underlying medical conditions that would have resulted in the death. Perinatal conditions are included in this category if the birth was premature.

Preventable death - A child's death is considered preventable if the community or an individual could have done something that would have changed the circumstances leading to the child's death. A death is preventable if reasonable medical, educational, social, legal, or psychological intervention could have prevented the death from occurring. The community, family, and individual's actions (or inactions) are considered when making this determination.

Record Request Forms - A form required to request records for conducting a team review.

Sleep-related death – A unique grouping of infant injury deaths inclusive of select injury causes (accidental suffocation in bed, unspecified threat to breathing, and undetermined causes) in which the infant was last known to be asleep when last seen alive (see Glossary).

Substance use – The CFRP defines substance use-related deaths as deaths in which substance use was found as a direct or contributing factor leading to child deaths. The substances used could include illegal drugs, prescription drugs, and/or alcohol. To identify substance use as a factor, each case was reviewed to determine if **any** individual involved in the death of a child used substances such as illegal drugs, prescription drugs, and/or alcohol. The individual could have been the child's parent or caretaker, an acquaintance, a stranger, or the child and the substance use occurred proximate to the time of the incident leading to the death.

Suffocation- Oxygen deprivation by mechanical obstruction to the passage of air into the lungs, usually at the level of the nose, or mouth.

State CFR Team - Established by A.R.S. 36-3501 et seq., the State CFR Team provides oversight to Local CFR teams, they prepare an annual report of review findings and develop recommendations to reduce preventable child deaths.

Strangulation- Mechanical constriction of neck structures

Sudden Unexpected Infant Death (SUID) – Death of a healthy infant who is not initially found to have any underlying medical condition that could have caused their death. It includes the deaths that might have previously been categorized as "crib deaths" if the death occurred during sleep, however not all of these deaths are sleep-related. Most of the SUIDs are due to suffocation and unsafe sleep environments.[1]

Suicide – A death that is due to a self-directed intentional behavior where the intent is to die because of that behavior.

Undetermined– A death in which the CFR Team is unable to determine if the manner of death was natural, accident, homicide, or suicide. Death may be listed as undetermined because there is insufficient information available for review.

Additional Abuse/Neglect Data 2018-2021

Disclaimer

Department of Child Safety (DCS)/Child Protective Services (CPS):

- Local CFR teams attempt to obtain records from child protective services (CPS) agencies, including the Department of Child Safety (DCS) and CPS agencies in other jurisdictions, such as tribal authorities and agencies in other states.
- Review teams consider a family as having previous involvement with a CPS agency if the agency investigated a report of abuse/neglect for any child in the family before the incident leading to the child's death.
- Unsubstantiated reports of abuse/neglect are also included in this definition; however, calls to DCS that did not meet the criteria to be made into a report, and were taken as "information only", are not included in the CFRP annual report.

Additional Abuse/Neglect Data 2018-2021

Child Fatality Review Program

29th Annual Report

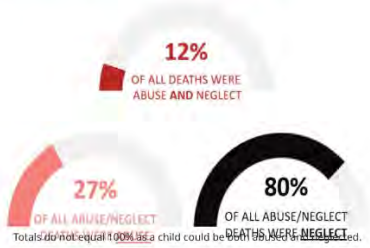
ARIZONA DEPARTMENT OF HEALTH SERVICES

2018-2021 Child Abuse/ Neglect Deaths*

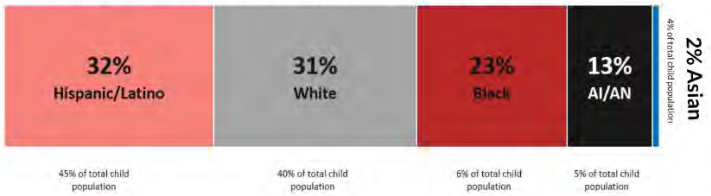
Birth through 17 years of age

398 children died due to abuse and/or neglect

Number of child abuse and neglect deaths by year:



Overall Child Race/Ethnicity: 2020-2021 (n=223)



Overall Child Sex:

Overall Child Age:

Leading Causes of Death by Year:

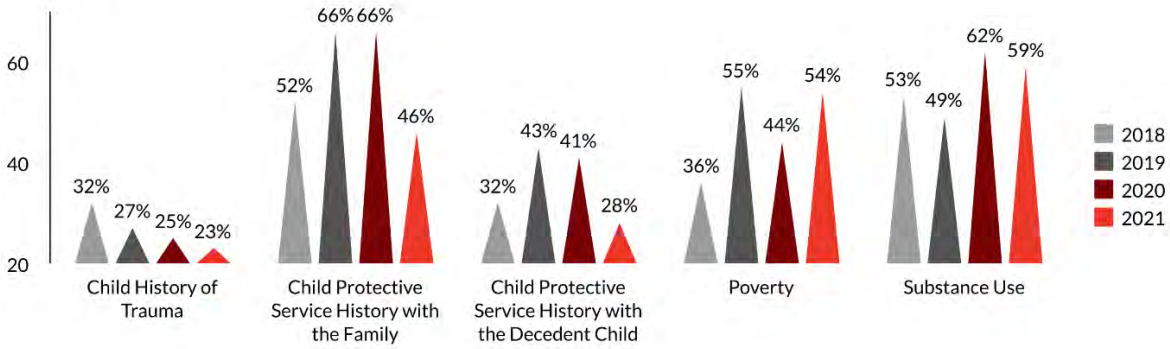
Year	#1	#2	#3	#4	#5
2018 (n=75)	Blunt force trauma 14 (19%)	Prematurity 12 (16%)	Motor vehicle crash 12 (16%)	Drowning 7 (9%)	Firearm injury 7 (9%)
2019 (n=100)	Blunt force trauma 30 (30%)	Suffocation 14 (14%)	Undetermined 10 (10%)	Other medical condition 10 (10%)	Firearm injury 9 (9%)
2020 (n=95)	Prematurity 15 (16%)	Poisoning 14 (15%)	Blunt force trauma 11 (12%)	Suffocation 10 (11%)	Motor vehicle crash 9 (9%)
2021 (n=128)	Suffocation 23 (18%)	Prematurity 22 (17%)	Motor vehicle crash 22 (17%)	Poisoning 15 (12%)	Drowning 12 (9%)

Substance Use was Involved in

56%

of Abuse/Neglect Deaths

Leading Risk Factors by Year:



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Resources

Abuse/Neglect: Report suspected abuse or neglect by parents or caregivers to the Department of Child Safety at 1-888-SOS-CHILD (1-888-767-2445) and to law enforcement agencies.

Child Care: If in need of safe child care, parents and caregivers can contact these agencies: Arizona Childcare Resource & Referral (1-800-308-9000) or the Association for Supportive Child Care (1-800-535-4599) for assistance. These agencies will match parents seeking childcare with appropriate community resources.

Child Care: Child Care Resource and Referral (CCR&R) meets a need that no one else does - providing the bridge between parents, providers, community leaders, and policymakers about anything related to child care in Arizona. Funding provided by the Arizona Department of Economic Security's Child Care Administration through federal Child Care Development Block Grant funds. Visit arizonachildcare.org for more information.

COVID-19: The Arizona Department of Health Services (https://www.azdhs.gov/covid19/index.php or 1-602-542-1025) provides up-to-date information regarding the COVID-19 Pandemic and offers additional services regarding testing, vaccines, among other community resources.

Drowning: To prevent drowning, parents and other caregivers should designate at least one responsible adult to monitor the pool area when children are present. They should also not rely solely on flotation devices to protect the child from drowning. Continue to use "touch supervision," where the adult can always reach out and touch the child. Have children wear life jackets in and around natural bodies of water, such as lakes or the ocean, even if they know how to swim. Life jackets can be used in and around pools for young swimmers too.

Parent Helpline: If feeling stressed or overwhelmed, parents and caregivers can seek assistance through the National Parent Helpline at 1-855-427-2736, the Birth to Five Helpline at 1-877-705- KIDS (Available Monday-Friday 8:00 am to 8:00 pm), the Fussy Baby Helpline at 1-877- 705-KIDS ext. 5437 (Available Monday-Friday 8:00 am to 8:00 pm or Childhelp National Child Abuse Hotline at 1-800-4-A-CHILD (24 hours, 7 days per week). These resources offer crisis intervention, information, literature, and referrals to thousands of emergency, social service and support resources. All calls are confidential.

Poisoning: Save the Poison Help line in your phone: 1-800-222-1222. Put the toll-free number for the Poison Control Center into your home and cell phones. The Arizona Department of Health Services provides Arizona's Opioid Prescribing Guidelines https://www.azdhs.gov/documents/audiences/clinicians/clinical-guidelines-recommendations/prescribing-guidelines/az-opioid-prescribing-guidelines.pdf

Teen Counseling Hotline: Teen Lifeline provides a Peer Counseling Hotline for teens in crisis: 602-248-8336 (TEEN) for Maricopa county or statewide 800-248-8336 (TEEN).

Appendix: State and Local CFR Teams

Arizona Department of Health Services, State CFR Team

Chairperson:
Mary Ellen Rimsza, MD, FAAP ★
American Academy of Pediatrics

Members:

David K. Byers
Deidre Calcoate (Proxy)
Administrative Office of the Courts

Amber-Rose Begay
Navajo Maternal and Child Health Projects
at Diné College

Laura Luna Bellucci, MBA
Chief, Bureau of Women's and Children's Health, Arizona Department of Health Services
Arizona MCH & CSHCN Director

Maria Christina-Fuentes
Gaelyn Davis (Proxy)
Governor's Office of
Children, Youth and Families

Anthony Dekker, DO
Vicki Copeland, MD (Proxy)
Division of Developmental Disabilities,
Arizona Department of
Economic Security

Molly Dunn, JD
Director of Child Welfare & Juvenile Justice Policy
Children's Action Alliance

Matt Giordano
Law Enforcement Council
AZPOST

Diana Gomez, MPH ★
Ryan Butcher, B.S. (Proxy)
Yuma County Public Health Services District

Dyanne Greer
Maricopa County
Attorney's Office

Leandra Jones
InterTribal Council of Arizona

Amy Lebbon
State CASA Program
Manager

Rachael Salley, MPH
Maternal Child Health EPSDT Manager
AHCCCS Division of
Health Care Management

Susan Newberry, MEd ★
Karen Kline (Proxy) ★
Maricopa County CFR Team

Coleen O'Donnell-Smith
Assistant Attorney
General Office

Susan Robinson, MPH
Dianna Contreras (Proxy)
Arizona Department of
Health Services

Douglas Sargent
Cody Conklin, MD, FAAP (Proxy)
Aida Music, MD (Proxy)
Arizona Department of
Juvenile Corrections

Christi Shelton ★
Assistant Director, Office of Accountability
Arizona Department of Child Safety
Nicola Winkel, MPA
Arizona Coalition for Military Families

David Winston, MD, PhD ★
Forensic Pathologist
Pima County Forensic
Science Center

Arizona Department of Health Services, State Subcommittee Abuse/Neglect CFR Team

Chairperson:
Mary Ellen Rimsza, MD, FAAP ★
Arizona Chapter of the American Academy of Pediatrics

Members:

Jessica Perfette, MPH
Arizona Department of Health Services

Leah Reach, MSW ★
Arizona Department of Child Safety OLR

Susan Newberry, MEd ★
Arizona Department of Health Services, CFRP Contractor

Michelle Cervantes
Phoenix Police Homicide Detective

Jeff Johnston, MD
Maricopa County Office of the Medical Examiner

Kiran Lalani, MPH
Arizona Department of Health Services

Yomaira Castillo, CPSTI
Arizona Department of Health Services

Alex Schutte
Arizona Department of Child Safety

Julia Leight
Arizona Department of Child Safety

Megan Carey
Arizona Department of Child Safety

Katie Goggans, MSW
Arizona Department of Child Safety

Stephanie Zimmerman, MD ★
Attending Physician, Emergency Department
Phoenix Children's Hospital

Karin Kline, MSW ★
Family Involvement Center

Tiffany Isaacson, BS ★
Senior Injury Prevention Specialist
Phoenix Children's Hospital

Anndrea Kawamura
Protective Services Section
Child & Family Protection Division
Office of the Attorney General

Morgan Anderson, MPH
Arizona Chapter of the American Academy of Pediatrics

Arizona Department of Health Services, State Subcommittee SUID CFR Team

Chairperson:
Stephanie Zimmerman, MD ★
Attending Physician, Emergency Department
Phoenix Children's Hospital

Members:

Ilce Alexander
Phoenix Children's Hospital

Karin Kline, MSW ★
Family Involvement Center

Anndrea Kawamura
Protective Services Section
Child & Family Protection Division
Office of the Attorney General

Fred Santesteban ★
Retired Program Manager Juvenile Justice Services Division, Arizona Supreme Court

Morgan Anderson
Arizona Chapter of the American Academy of Pediatrics

Jessica Perfette, MPH
Arizona Department of Health Services

Leah Reach, MSW ★
Arizona Department of Child Safety OLR

Susan Newberry, MEd ★
Arizona Department of Health Services, CFRP Contractor

Michelle Cervantes
Phoenix Police Homicide Detective

Jeff Johnston, MD
Maricopa County Office of the Medical Examiner

Kiran Lalani, MPH
Arizona Department of Health Services

Yomaira Castillo, CPSTI
Arizona Department of Health Services

Nicole Schuren, MSW, LMSW ★
Mayo Clinic

Keith Moffitt
OCWI Chief
Arizona Department of Child Safety

Alex Schutte
Arizona Department of Child Safety

Katie Goggans, MSW
Arizona Department of Child Safety

Julia Leight
Arizona Department of Child Safety

Coconino County, CFR Team

Chairperson:
Heather Williams ★
Injury Prevention & Oral Health Program Manager
Coconino County Health & Human Services

Co-Chair:
Larry Czarnecki, MD ★
Coconino County Medical Examiner

Members:

Glen Austin, MD ★
Pediatrician, Flagstaff Pediatric Care

Shawn Bowker ★
Flagstaff Medical Center

Corey Cooper
Health Educator Coconino County Public Health Services District

Kristen Curtis
Administrative Specialist Coconino County Public Health Services District

Jim Driscoll
Sheriff, Coconino County Sheriff's Office

Deborah Fresquez
Coconino County Victim/Witness Services

Brian Fuller
Federal Bureau of Investigations

Diana Hu, MD
Tuba City Regional Health Care Corporation

Shannon Johnson
Tuba City Regional Medical Center Trauma

Jane Nicoletti-Jones
Coconino County Attorney

John Philpot, Major
Arizona Department of Public Safety

Casey Rucker
Detective Flagstaff Police Department

Cindy Sanders, BSN, RN ★
Flagstaff Medical Center NICU

Gila County, CFR Team

Chairperson:
Elena Warner
Director of Operations, Time Out Shelter

Coordinator:
Kathleen Kelly, RN ★

Members:

Renee S Salazar
In Home Team Lead
Catholic Community Service-Sierra Vista

Emily Nader
CASA COORDINATOR
Gila County
Globe Office

Sgt. Michael McAnerny
Payson Police Department

Phyllis Haddon
Administration
Executive Assistant CEO
Cobra Valley Regional Medical Center

Mary Schlosser Jarvis
Chief
Tonto Apache Police

Gabrielle Bibars, B.A., Psychologist
Payson School District

Susan Campbell Counselor, Payson School District

Kristin Crowley
Gila Community College

Sharon Dalby
Child Safety Family Services
Payson

Tanya Dean
Investigator
Child Protective Services

Pattie Dremler
CASA Coordinators

Donald Engler
Payson Chief of Police

Tom Fife
Battalion Chief
Payson Fire Department

Sherrie Harris
Chief Prosecutor
Von Harris
Child Safety Family Services
Payson

Mellissa Hazelo
Banner Payson

Mara Hover, DO
Pediatric Director
San Carlos Apache Healthcare

Staffanie Jenson, RN
Payson Banner Medical Center ER

Tracey Manigault
Psychologist, Payson School District

Becky Nissila
ER Director
Payson Regional Medical Center

Ashley Oviedo, RN
Payson Banner ER

Mary Schlosser
Sheriff
Tonto Apache Tribe Payson

Shelly Soroka-Spence
Payson Child Help

Jason Stein
Program Manager Northeast Region Department of Child Safety

Linda Timmer
Director
Payson Time Out Shelter

Michele Warburton
Director of Special Services
PUSD

Tila Warner
Child Help

Graham County & Greenlee County, CFR Team

Chairperson/Coordinator:

Brandie Lee ★
Judicial Assistant
Graham County Dependency Coordinator
CASA of Graham County

Members:

Jeanette Aston
Domestic Violence
Specialist
M. Graham Safe House

Scot Bennett
County Attorney
Graham County
Attorney's Office

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Natalie Eggers
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APPENDIX 16

State of Cancer in Arizona, Arizona Cancer Registry, 2016-2022

STATE OF CANCER IN ARIZONA

ARIZONA CANCER REGISTRY

2016-2020

ARIZONA DEPARTMENT
OF HEALTH SERVICES

Annual Report
www.azdhs.gov

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Health and Wellness for all Arizonans

Katie Hobbs, Governor
State of Arizona

Jennie Cunico, Acting Director
Arizona Department of Health Services

MISSION
Health and Wellness for all Arizonans

PREPARED BY:
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ACKNOWLEDGEMENTS:
The Arizona Cancer Registry would like to acknowledge hospitals, clinics, physicians, nurse practitioners, physician assistants, and pathology laboratories. The hospitals account for most of the reportable cases, providing complete identification and registration of each person with a diagnosis of cancer. We would like to acknowledge the Arizona Melanoma Task Force for the work they have done to identify barriers and develop strategies to improve melanoma reporting by physicians in Arizona. We would also like to recognize our partnership with the Arizona Well Woman HealthCheck Program and the Arizona Cancer Control Program.

The Registry would like to recognize the New Mexico Tumor Registry (NMTR) for collecting cancer cases in the Indian Health Services (IHS) facilities. Through our agreement with NMTR and IHS, we are able to include American Indian cases in the state. In our work to capture all cancer cases in Arizona we have signed agreements to receive cases from the Southern Arizona VA Health Care System and the Phoenix VA Health Care System.

We acknowledge the Centers for Disease Control and Prevention (CDC) National Program of Cancer Registries for its support under cooperative agreement 1NU58DP007089-01-00 awarded to the Arizona Cancer Registry. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention.

PUBLISHED:
June 27, 2023

Please note that Arizona Cancer Registry data changes frequently and may not be comparable to earlier reports as cases may have been added, removed or changed.

ARIZONA DEPARTMENT
OF HEALTH SERVICES

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Table of Contents

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Executive Summary

The Arizona Cancer Registry is a population-based surveillance system that collects, manages, and analyzes information on the incidence and survival of Arizona residents diagnosed with cancer. The data is captured from a variety of sources and is used to support research and assists in guiding decisions in early detection, quality treatment, and ultimately the effective prevention of cancer. This report describes the cancer burden among Arizonans. On a monthly basis during the last five years an average of 1,016 Arizonans lost their lives to cancer and 2,856 Arizonans were diagnosed with a new cancer.

WHAT IS IN THE REPORT:

- Cancer incidence (new cases) and mortality (cancer deaths) among Arizona residents
- Cancer mortality data of deaths in Arizona from 2016-2020
- Cancer incidence of Arizonans diagnosed with cancer from 2016-2020
- County specific information on top cancer sites and diagnostic stage
- Arizona maps showing county specific incidence and mortality rates
- Cancer incidence and mortality data is provided in counts and age-adjusted rates. Rate=Age-Adjusted Rate per 100,000 persons (See technical notes)

DATA SUMMARY

MORTALITY, 2016-2020

AN AVERAGE OF 12,194 ARIZONANS DIED FROM CANCER EACH YEAR AT A RATE OF 131.8 DEATHS PER 100,000 PERSONS

THE DEATH RATE OF CANCER HAS DECREASED 7.3% FROM 2016 TO 2020

THE MEDIAN AGE AT DEATH FOR CANCER IS 73 YEARS OLD

MORE MALES (54.4%) THAN FEMALES (45.6%) DIED FROM CANCER EACH YEAR

BLACK PEOPLE HAVE THE HIGHEST MORTALITY RATE FOR CANCER (146.1 DEATHS PER 100,000 PERSONS)

ASIAN/PACIFIC ISLANDERS HAVE THE LOWEST MORTALITY RATE FOR CANCER (86.0 DEATHS PER 100,000 PERSONS)

LUNG & BRONCHUS CANCER IS THE LEADING CAUSE OF CANCER DEATH FOR 2016-2020 (25.2 DEATHS PER 100,000 PERSONS)

INCIDENCE, 2016-2020

AN AVERAGE OF 34,274 INVASIVE CANCER CASES ARE DIAGNOSED EACH YEAR IN ARIZONA AT A RATE OF 382 CASES PER 100,000 PERSONS

THE INCIDENCE RATE OF CANCER HAS DECREASED 11% FROM 2016 TO 2020

EARLY STAGE DIAGNOSIS IS MORE COMMON FOR MELANOMA, FEMALE BREAST CANCER AND PROSTATE CANCER

LATE STAGE DIAGNOSIS IS MORE COMMON FOR LUNG & BRONCHUS AND COLORECTAL CANCER

MORE MALES (51.3%) THAN FEMALES (48.7%) ARE DIAGNOSED WITH CANCER EACH YEAR

MEDIAN AGE OF DIAGNOSIS IS 68 YEARS OLD

WHITE NON-HISPANICS HAVE THE HIGHEST RATE OF CANCER DIAGNOSES (420.3 CASES PER 100,000 PERSONS)

ASIAN/PACIFIC ISLANDERS HAVE THE LOWEST RATE OF CANCER DIAGNOSES (218.1 CASES PER 100,000 PERSONS)

ARIZONA CANCER REGISTRY GOALS

- To collect complete and accurate cancer incidence information and to monitor incidence patterns
- To improve and maintain high standards in the quality of the information collected and reported
- To promote and assist hospital cancer registries
- To identify population subgroups at high risk for cancer
- To assist in the identification of geographic regions of the state for targeted cancer intervention and prevention programs
- To perform cancer studies
- To provide biostatistics and epidemiologic information to the medical community about the cancer burden

ARIZONA CANCER REGISTRY DATA DASHBOARD NOW AVAILABLE

The Arizona Cancer Registry is pleased to announce that the new cancer registry data dashboard is now available. The dashboard contains Arizona cancer data from 1995 through 2020 with the ability to search for counts and age-adjusted rates by diagnosis year, cancer site, age, gender, race/ethnicity and county.

TAKE A LOOK AT THE DASHBOARD

Cancer Mortality 2016-2020

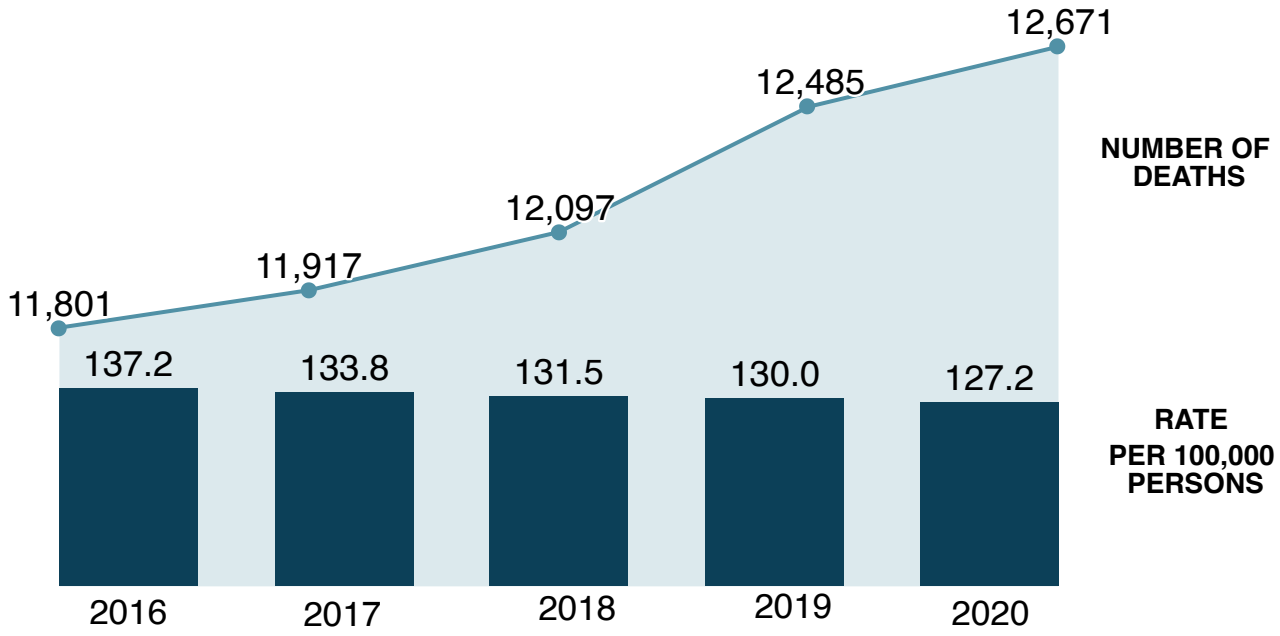
TOP 5 2020 CANCER SITES FOR ARIZONA MORTALITY

CANCER SITE	MEDIAN AGE AT DEATH	AGE-ADJUSTED RATE PER 100,000 PERSONS
All Cancers	74	127.2
Lung & Bronchus Cancer	74	25.2
Colorectal Cancer	72	11.7
Pancreatic Cancer	73	9.8
Female Breast Cancer	71	17.6
Prostate Cancer	79	17.3

Arizona Department of Health Services, Arizona Vital Statistics, 2023. Retrieved May 30, 2023 from Bureau of Public Health Statistics internal data.

Mortality by Year of Death

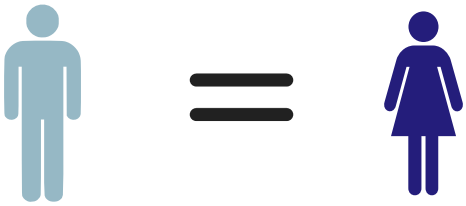
Annual Rate & Number of Deaths: 2016-2020



On average from 2016-2020, 12,194 Arizonans died from cancer each year at an age-adjusted rate of 131.8 deaths per 100,000 persons

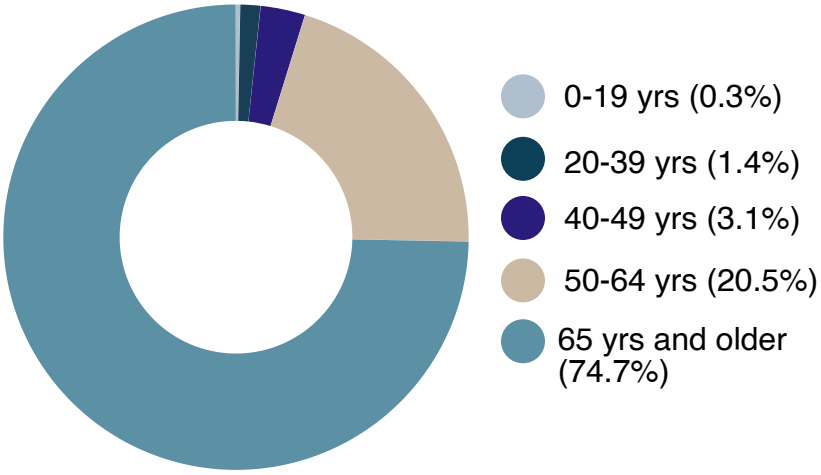
Mortality by Age

Median Age of Cancer Death by Gender: 2016-2020



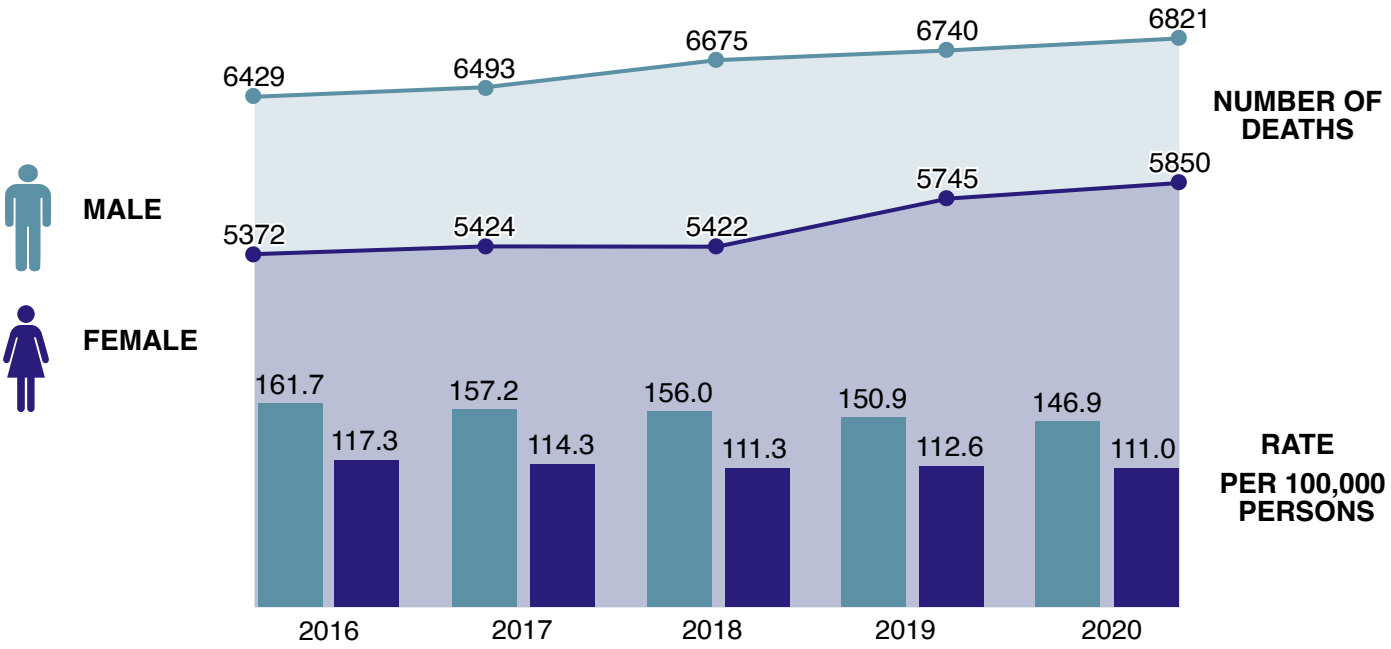
73 = 73

Percentage of Deaths by Age Group: 2016-2020



Mortality by Gender

Number and Rate of Deaths by Year and Gender: 2016-2020

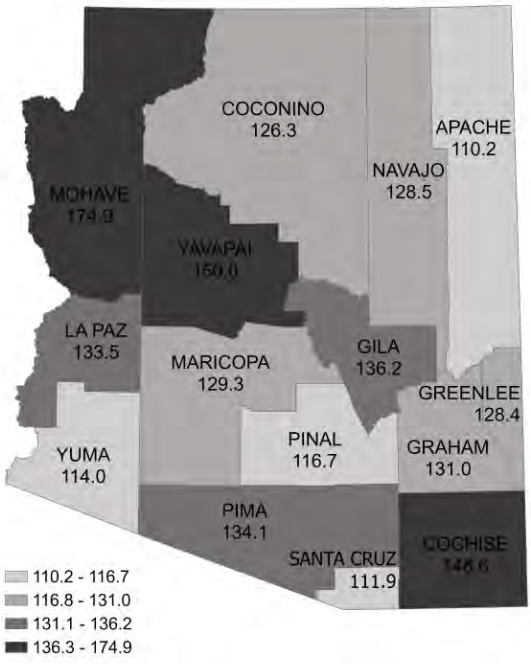


On average in 2016-2020,

- **6,632 male Arizonans (54.4%) and 5,563 female Arizonans (45.6%) died from cancer**
- **Males died at an age-adjusted rate of 154.5 deaths per 100,000 persons**
- **Females died at an age-adjusted rate of 113.3 deaths per 100,000 persons**

Mortality by County

Mortality Rate of Cancer by County: 2016-2020



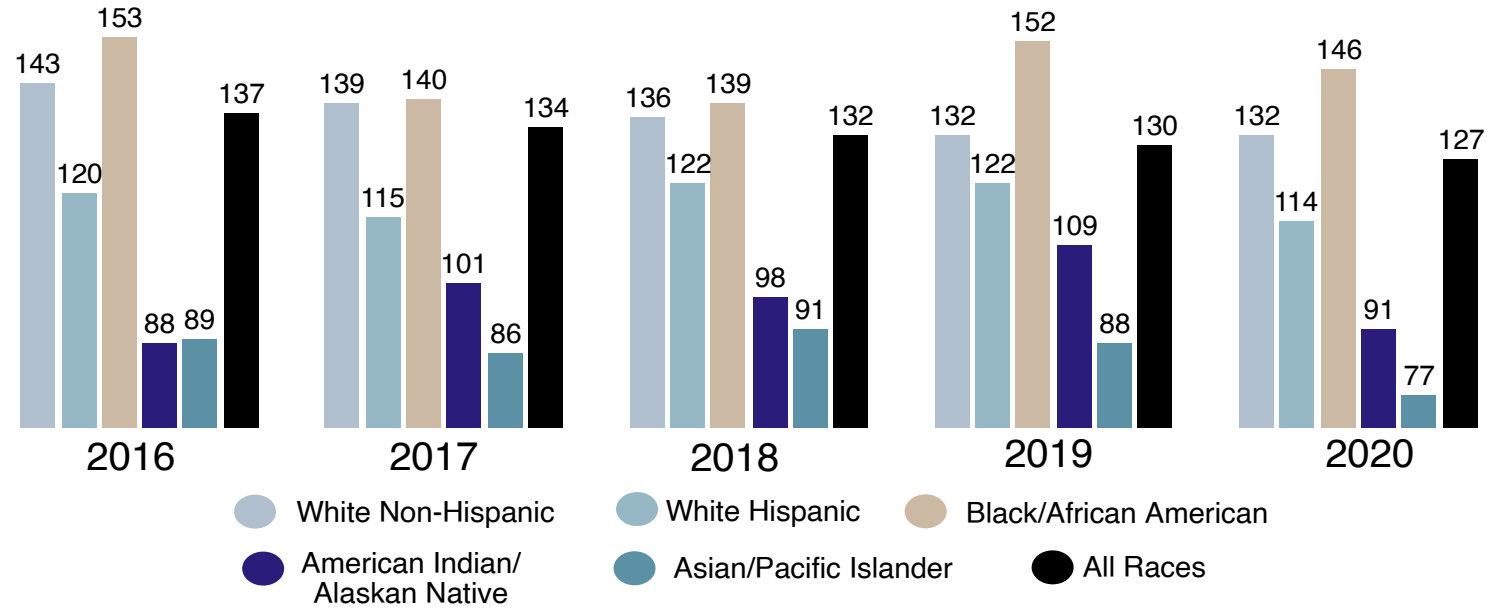
Mohave, Yavapai and Cochise counties reported the highest mortality rates of from cancer.

Apache, Santa Cruz and Yuma counties had the lowest cancer mortality rates from 2016-2020.

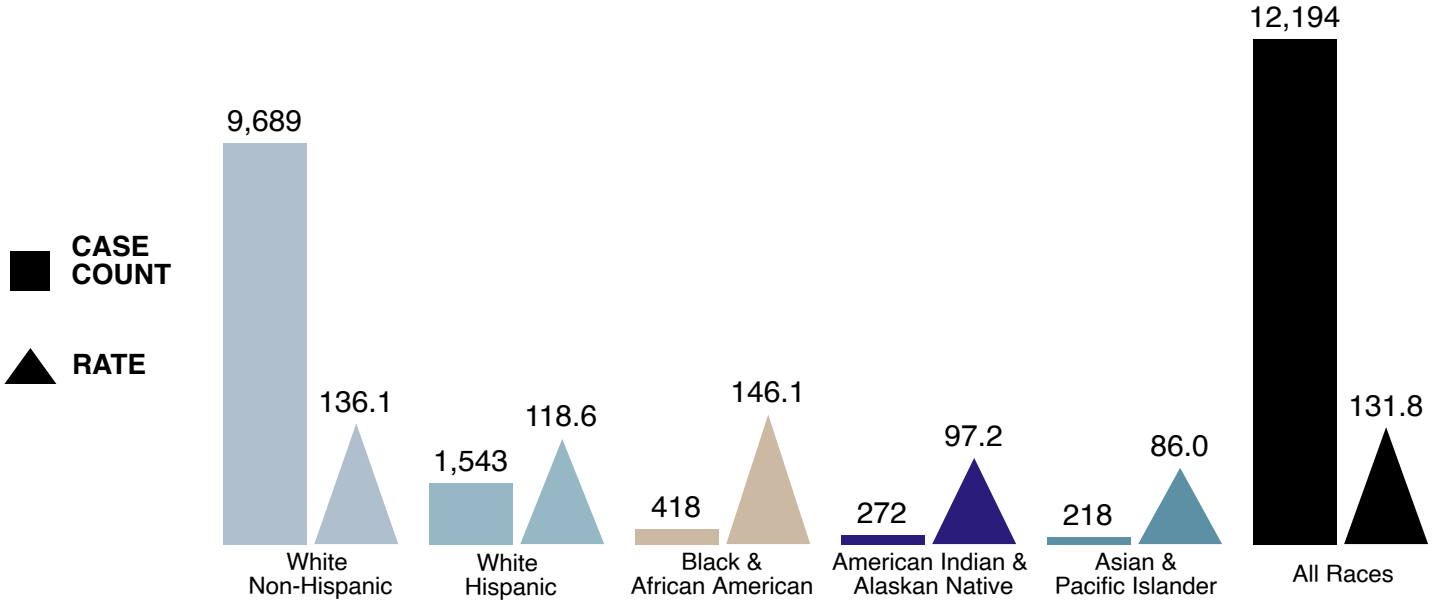
A total of 132 cancer deaths had an unknown county from 2016-2020

Mortality by Race/Ethnicity

Age-Adjusted Rate by Race/Ethnicity & Year of Death: 2016-2020



Average Annual Mortality Counts and Rates by Race/Ethnicity: 2016-2020



On average for 2016-2020,

- **White Non-Hispanics had the highest average count at 9,689 deaths per year**
- **Asian and Pacific Islanders had the lowest average count at 218 deaths**
- **Black and African Americans had the highest average age-adjusted rate at 146.1 deaths per 100,000 persons**
- **Asian and Pacific Islanders had the lowest average age-adjusted rate at 86.0 deaths per 100,000 persons**

Note: Unknown race/ethnicity case count is 269 cases for the mortality years 2017-2020. Year 2016 had no Unknown race/ethnicity cases. The average annual count for Unknown race/ethnicity is 67 and these cases are included in the All Races category.

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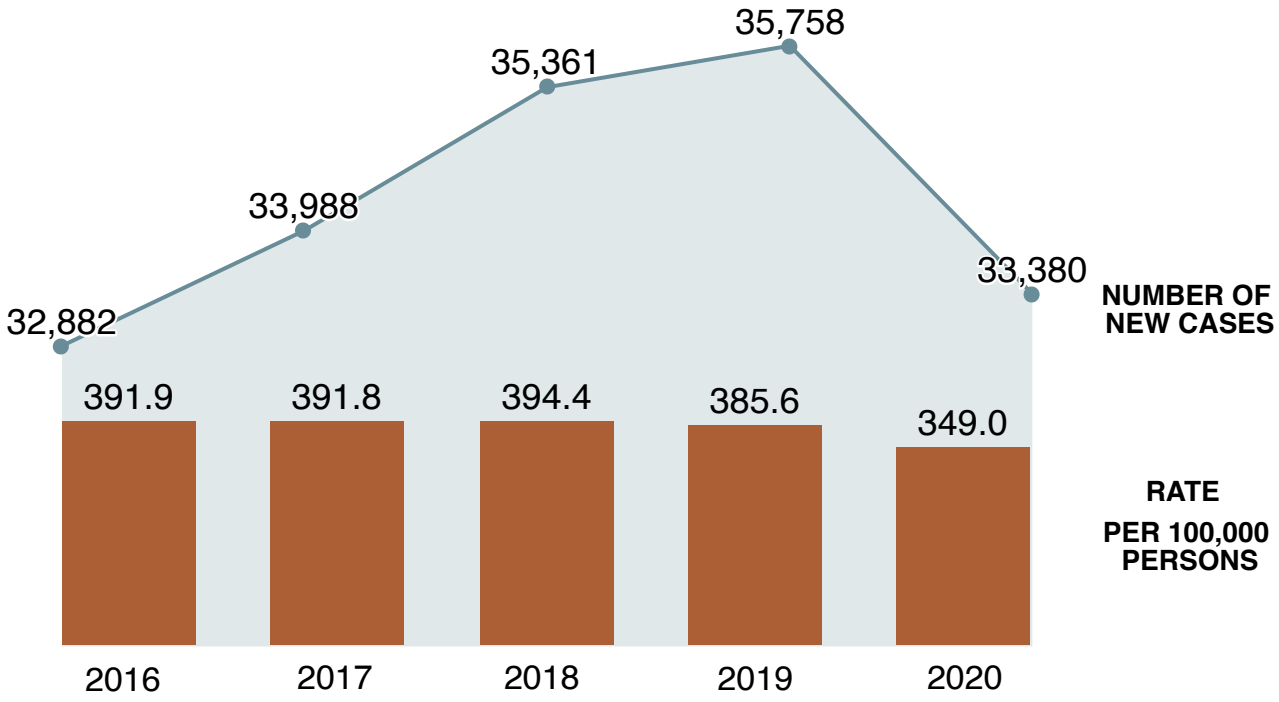
Cancer Incidence 2016-2020

TOP 5 2020 CANCER SITES FOR ARIZONA INCIDENCE

CANCER SITE	MEDIAN AGE AT DIAGNOSIS	AZ CASE COUNT FOR 2020	AGE-ADJUSTED RATE PER 100,000 PERSONS
All Cancers	68	34,274	382.0
Female Breast Cancer	65	5,011	104.8
Lung & Bronchus Cancer	72	3,848	37.3
Prostate Cancer	68	3,333	67.4
Melanoma	69	2,655	28.2
Colorectal Cancer	67	2,637	28.4

Incidence by Diagnosis Year

Annual Rate & Number of New Cases by Diagnosis Year: 2016-2020



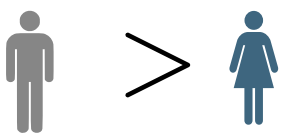
On average from 2016-2020, 34,274 Arizonans were diagnosed with cancer each year at an age-adjusted rate of 382 new cases per 100,000 persons

Incidence by Age

Median Age of Cancer Diagnosis: 2016-2020

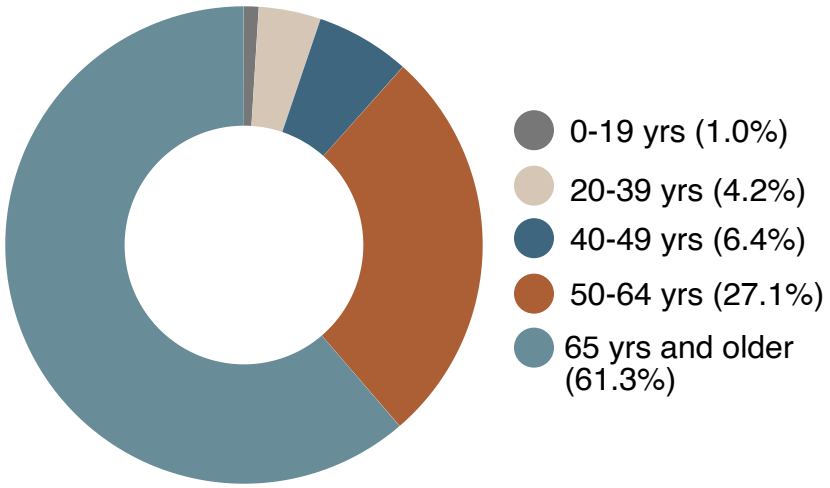
68

Median Age of Cancer Diagnosis by Gender: 2016-2020



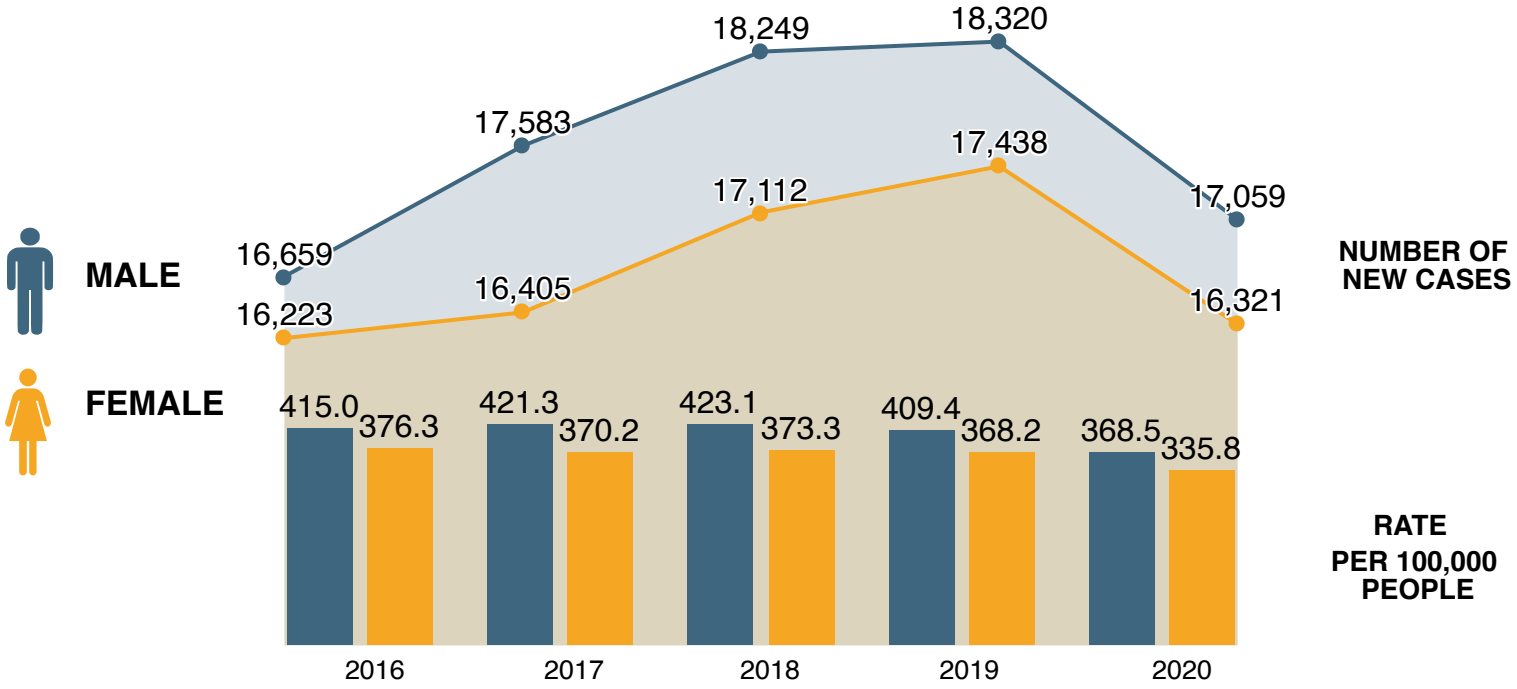
69 > **67**

Percentage of New Cases by Age Group: 2016-2020



Incidence by Gender

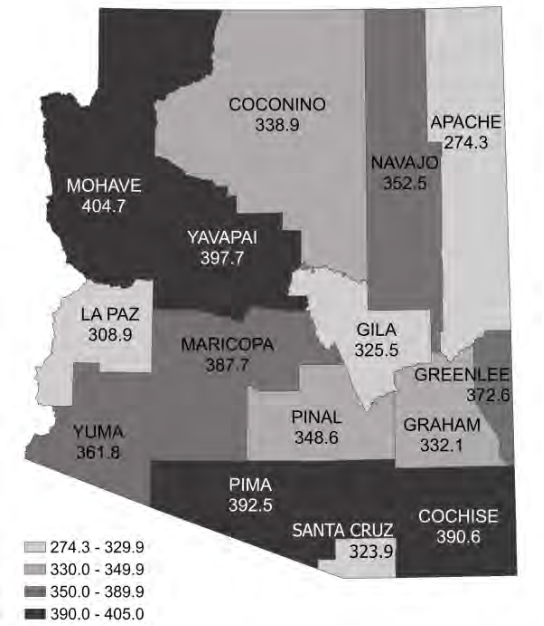
Number and Rate of New Cases by Diagnosis Year and Gender: 2016-2020



On average in 2016-2020,

- **17,574 male Arizonans (51.3%) and 16,700 female Arizonans (48.7%) were diagnosed with invasive cancer**
- **Males were diagnosed at an age-adjusted rate of 406.8 cases per 100,000 persons**
- **Females were diagnosed at an age-adjusted rate of 364.2 cases per 100,000 persons**

Incidence by County



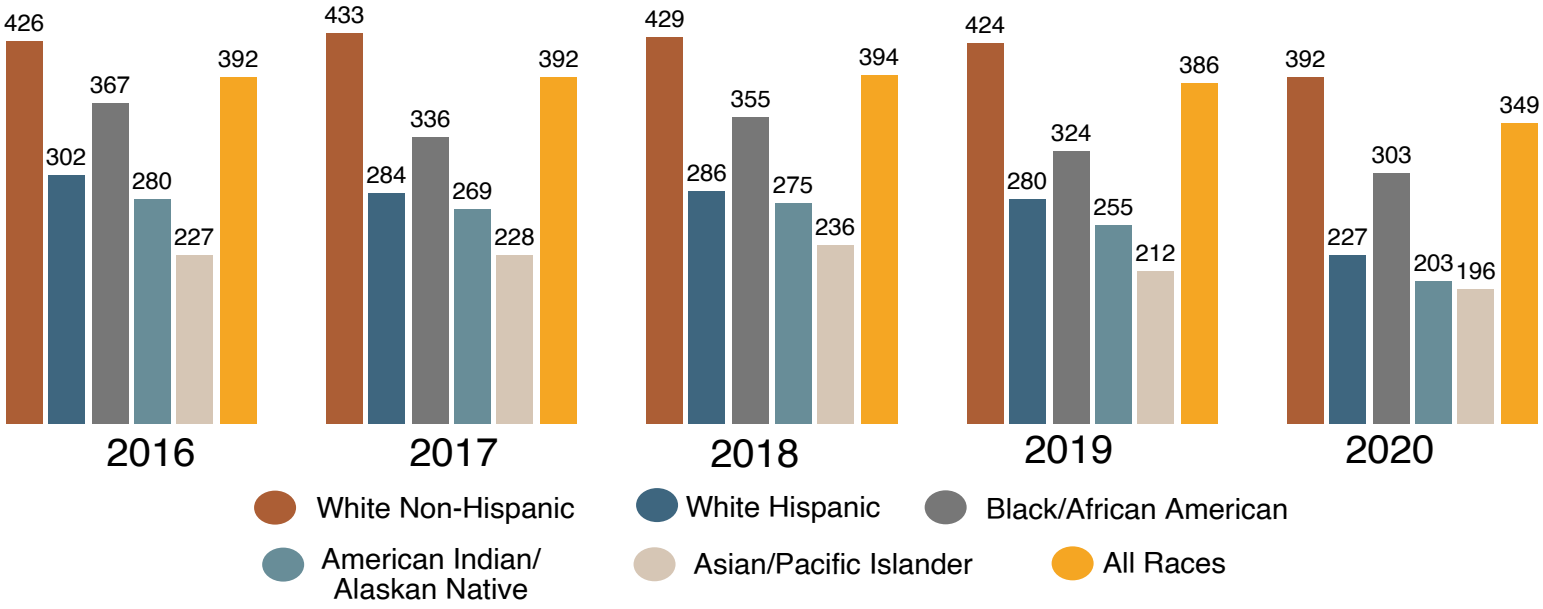
Mohave, Yavapai, Pima and Cochise counties reported the highest cancer incidence rates.

Apache, La Paz, Santa Cruz and Gila counties had the lowest cancer incidence rates from 2016-2020.

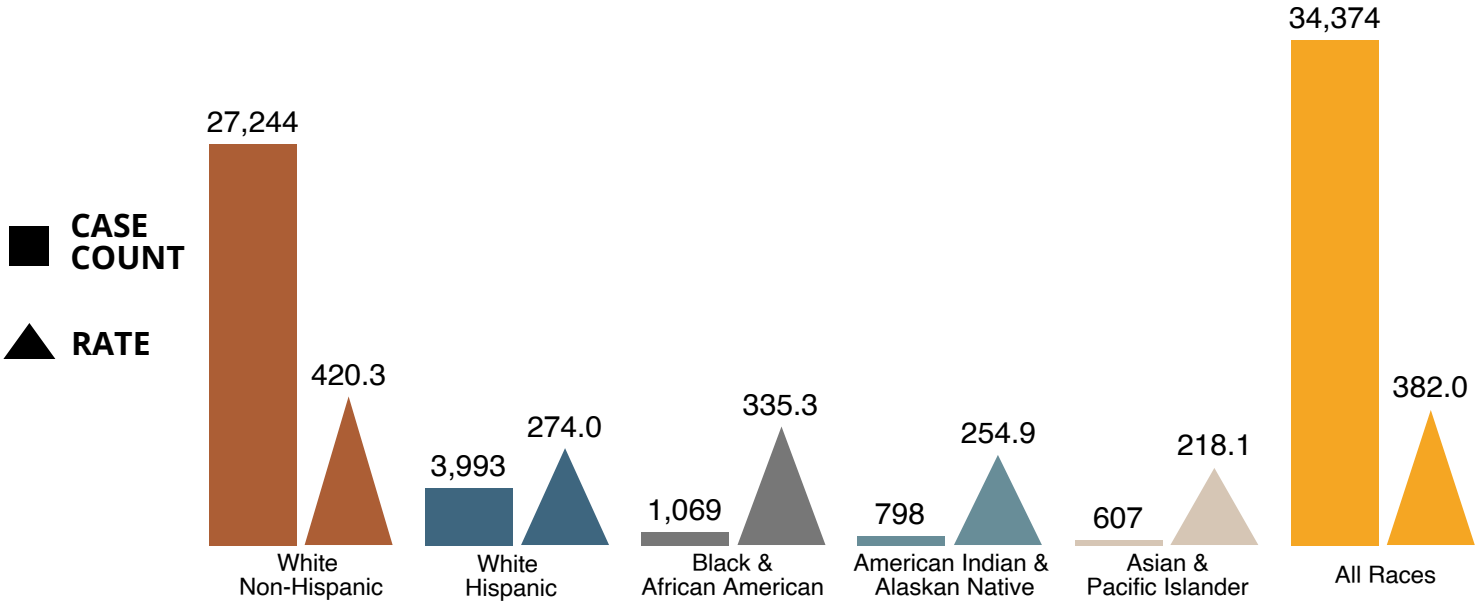
A total of 233 cancer cases had an unknown county from 2016-2020

Incidence by Race/Ethnicity

Age-Adjusted Rate by Race/Ethnicity & Diagnosis Year: 2016-2020



Average Annual Incidence Counts and Rates by Race/Ethnicity: 2016-2020



On average for 2016-2020,

- **White Non-Hispanics had the highest average count at 27,244 new cases per year**
- **Asian and Pacific Islanders had the lowest average count at 607 new cases per year**
- **White Non-Hispanics had the highest average age-adjusted rate at 420.3 new cases per 100,000 persons**
- **Asian and Pacific Islanders had the lowest average age-adjusted rate at 218.1 new cases per 100,000 persons**

Note: Unknown race/ethnicity case count is 2,814 cases for the diagnosis years 2016-2020. The average annual count for Unknown race/ethnicity is 563 and these cases are included in the All Races category.

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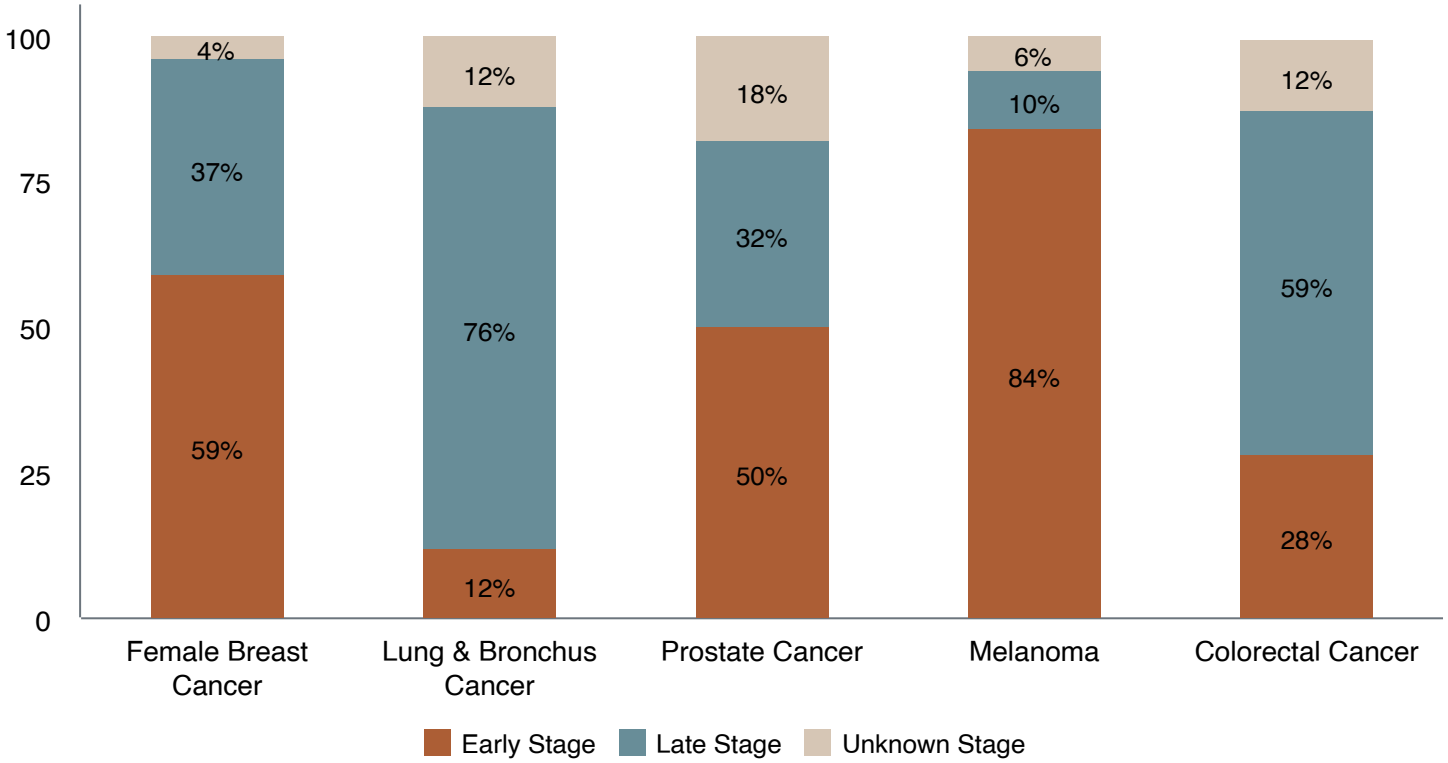
Cancer by Stage at Diagnosis & County 2016-2020

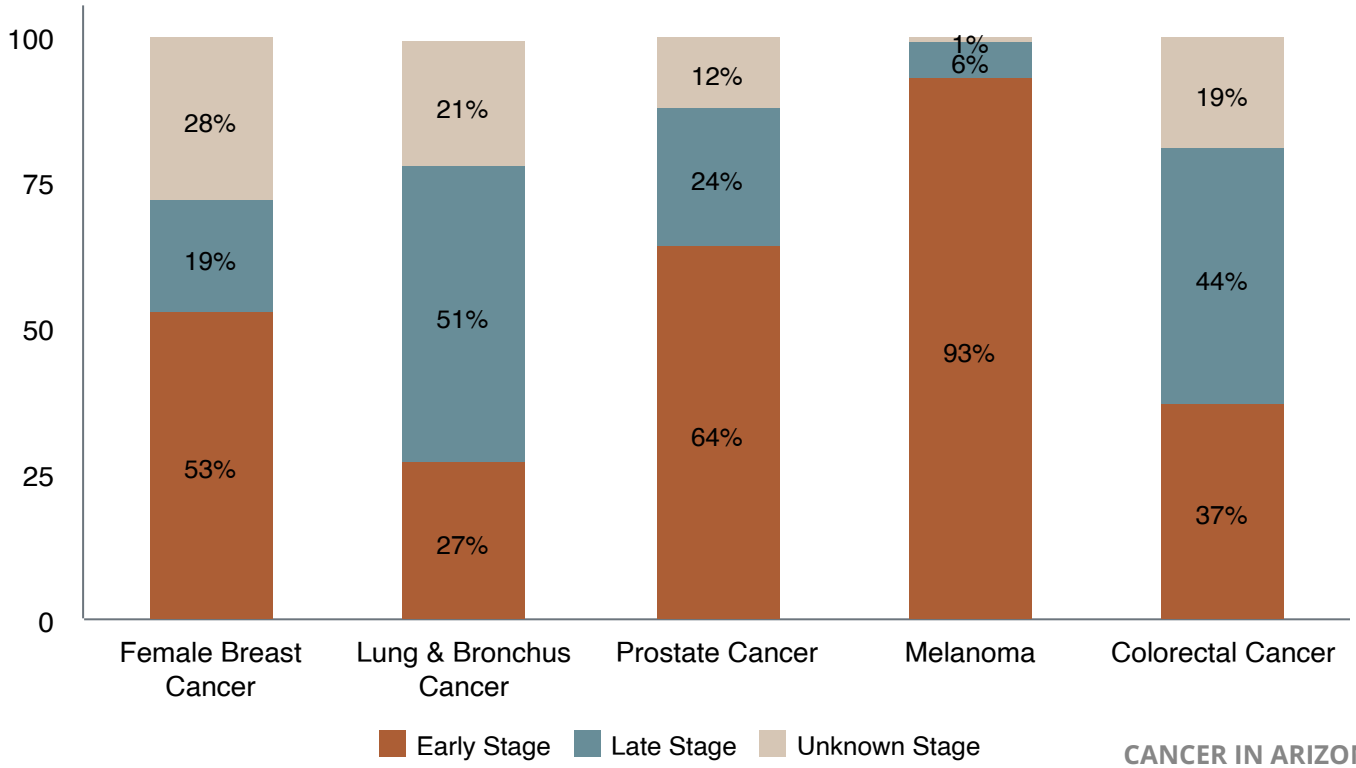
Apache County

Percentage of Cases at Stage of Diagnosis: 2016-2020



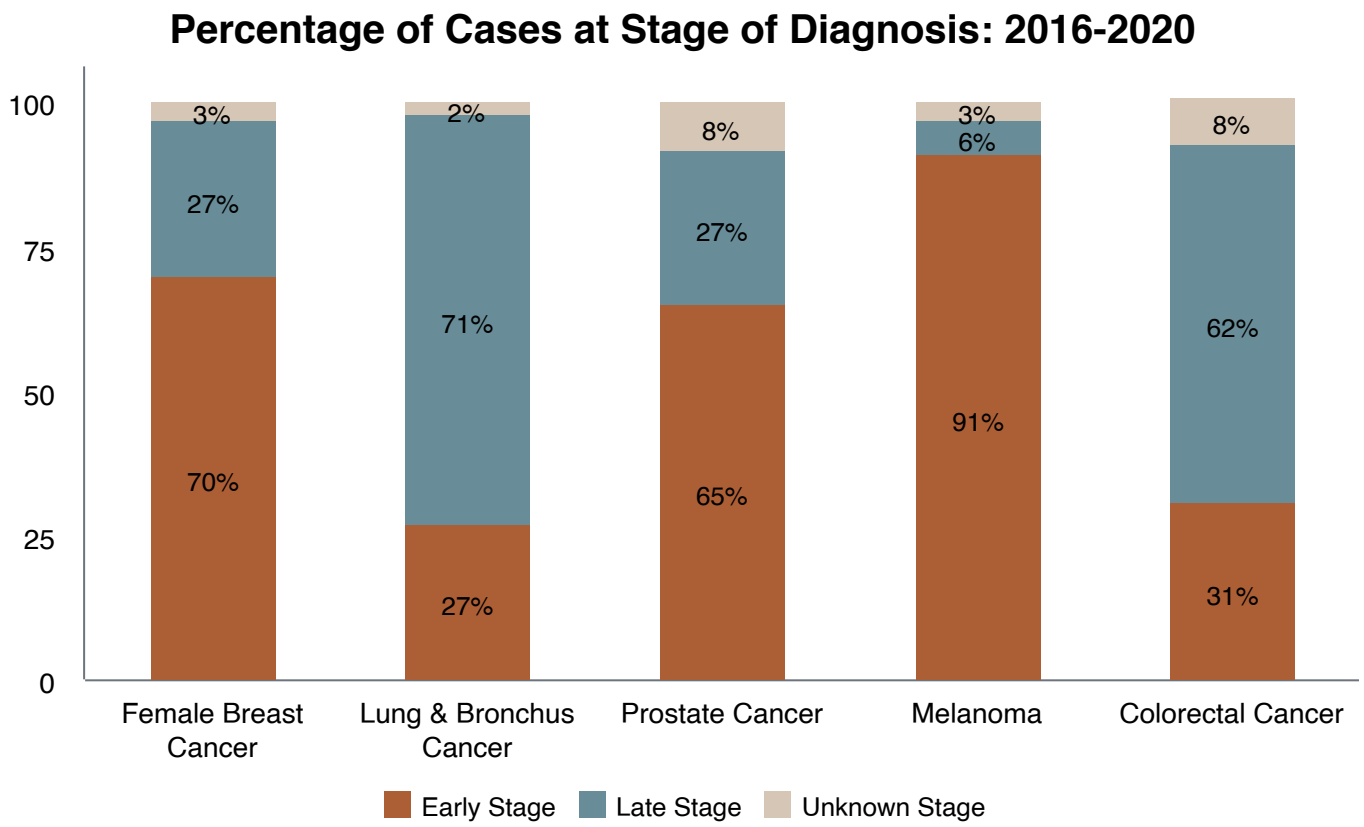
Cochise County

Percentage of Cases at Stage of Diagnosis: 2016-2020

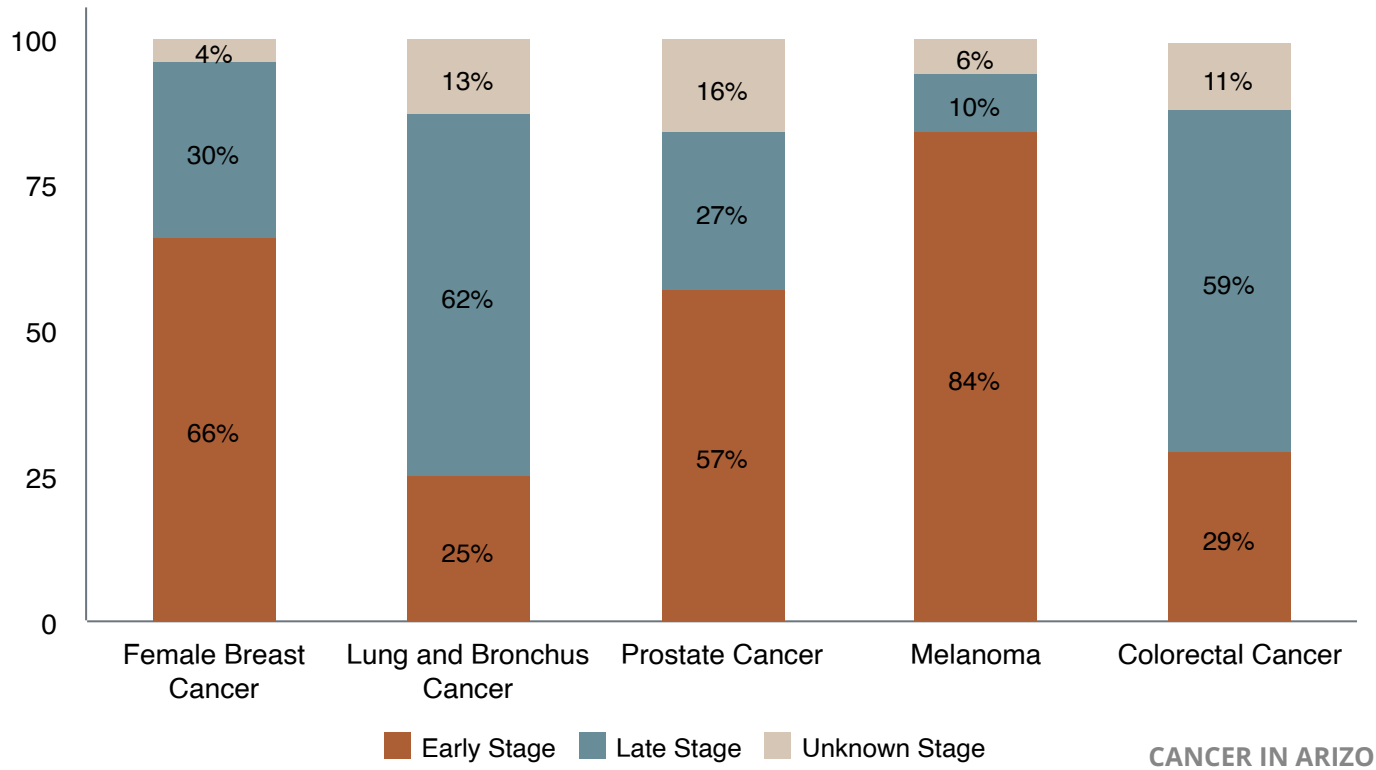


Note: The percent of each stage combined may not equal 100 due to rounding.

Coconino County

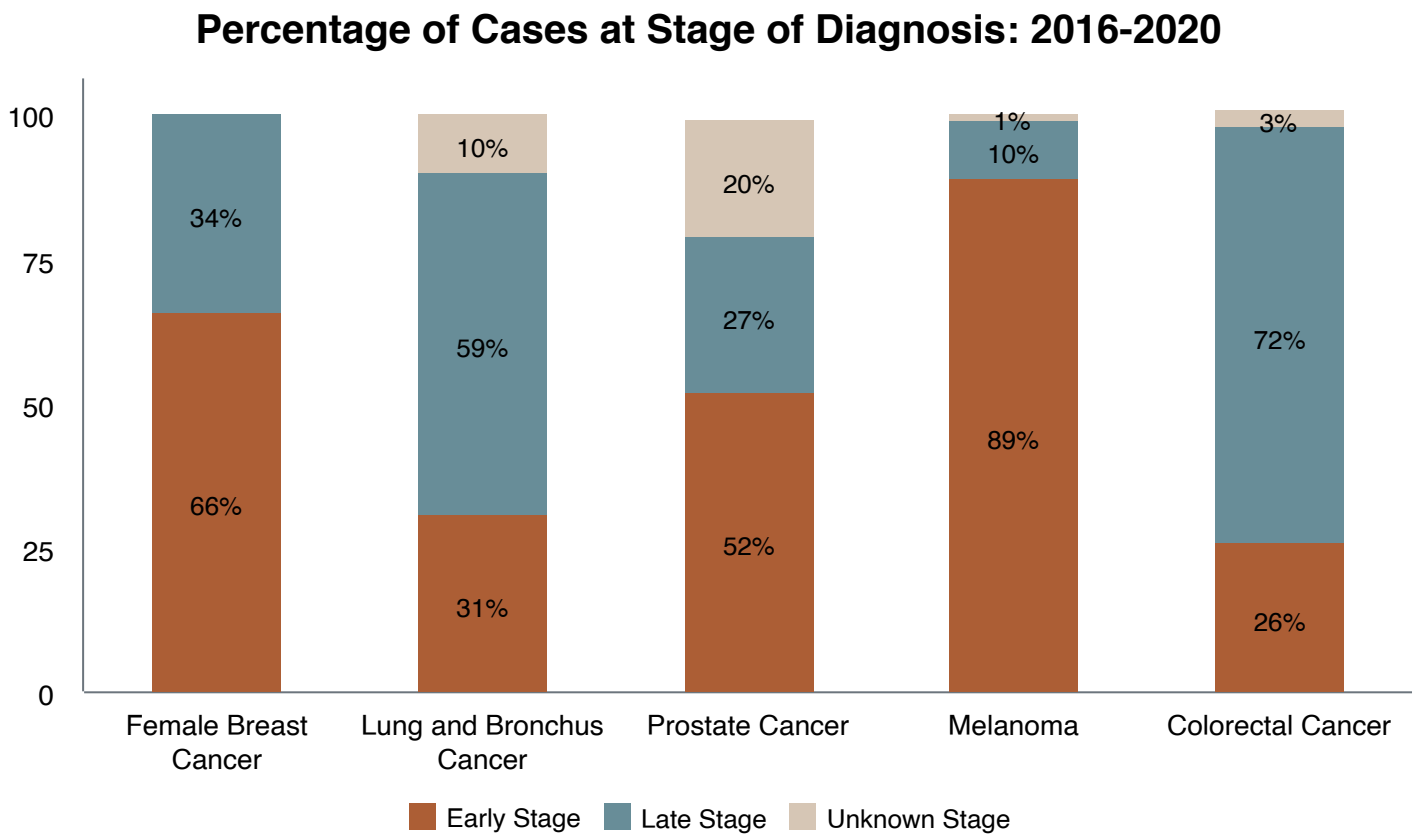


Gila County

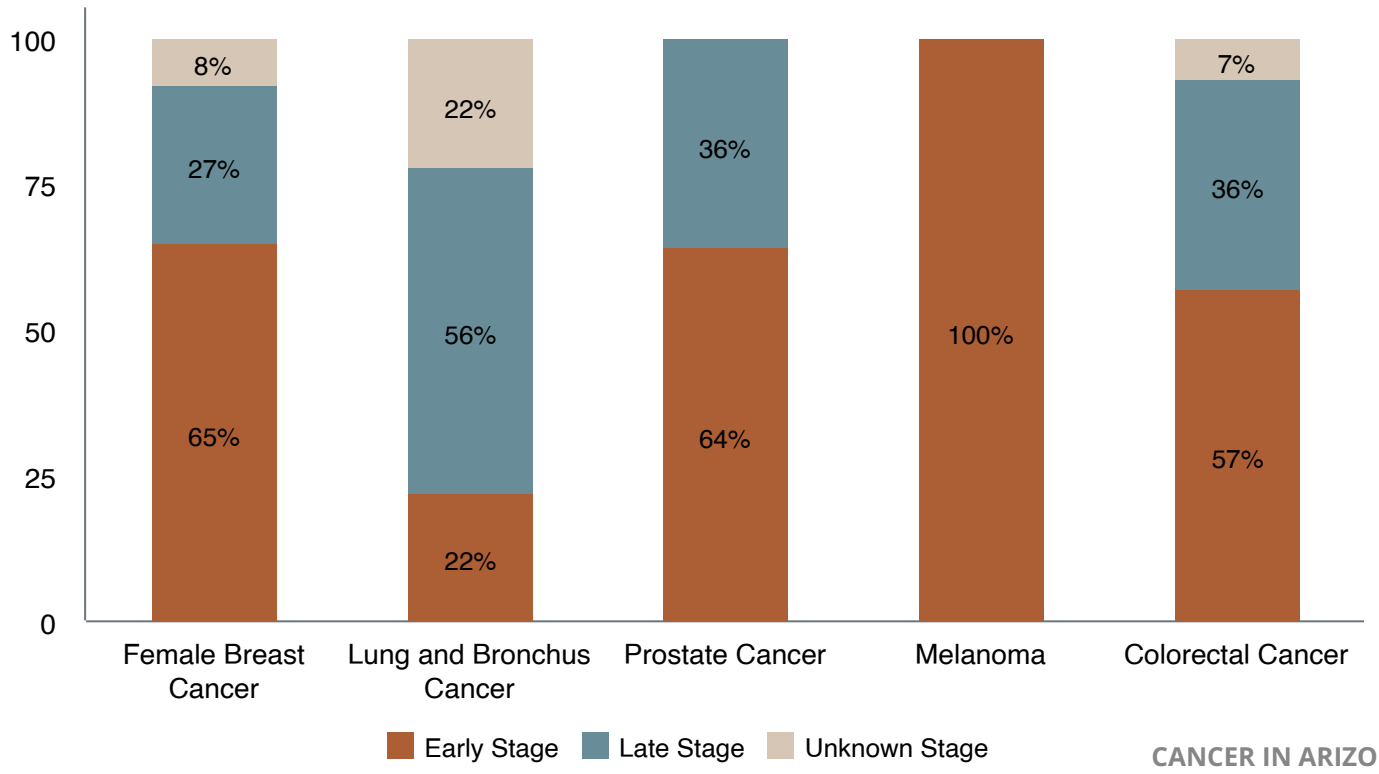


Note: The percent of each stage combined may not equal 100 due to rounding.

Graham County

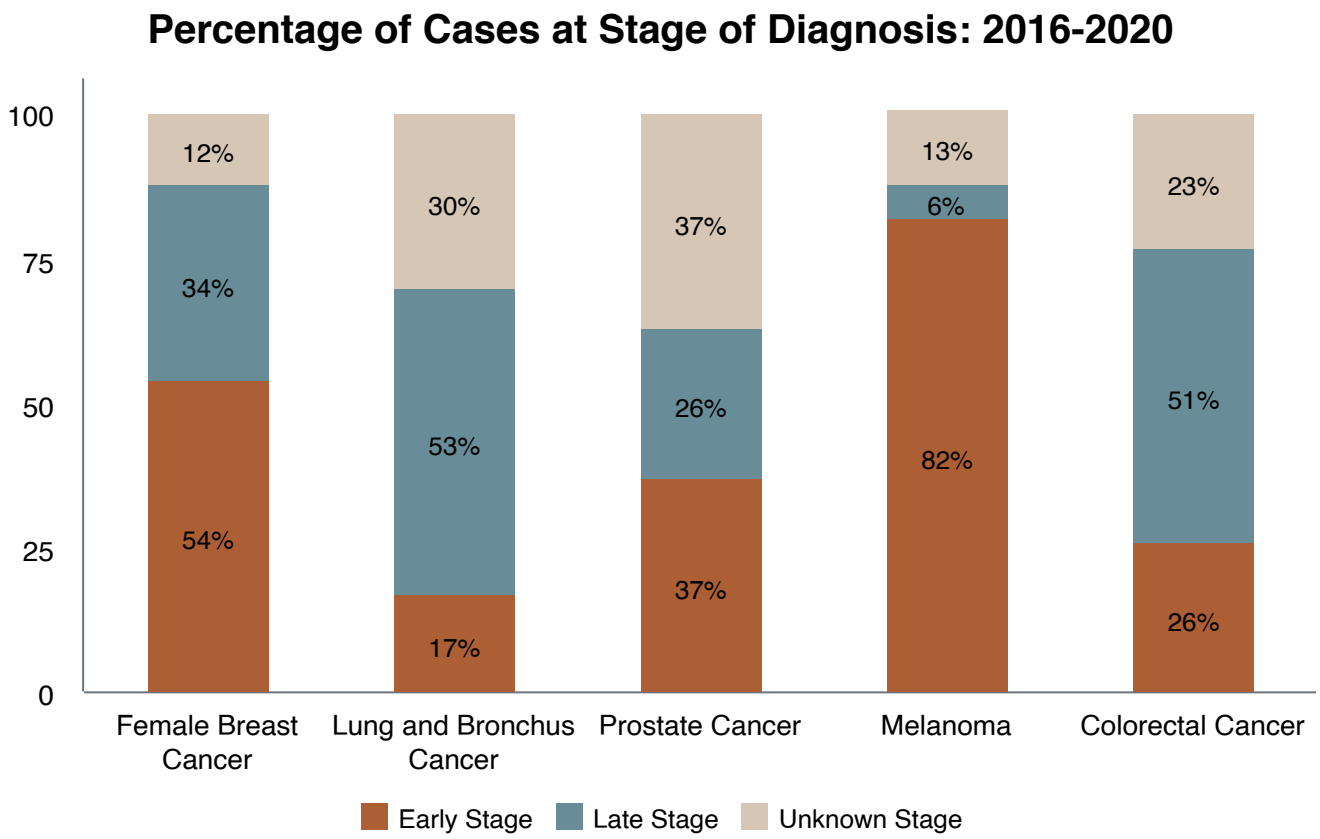


Greenlee County

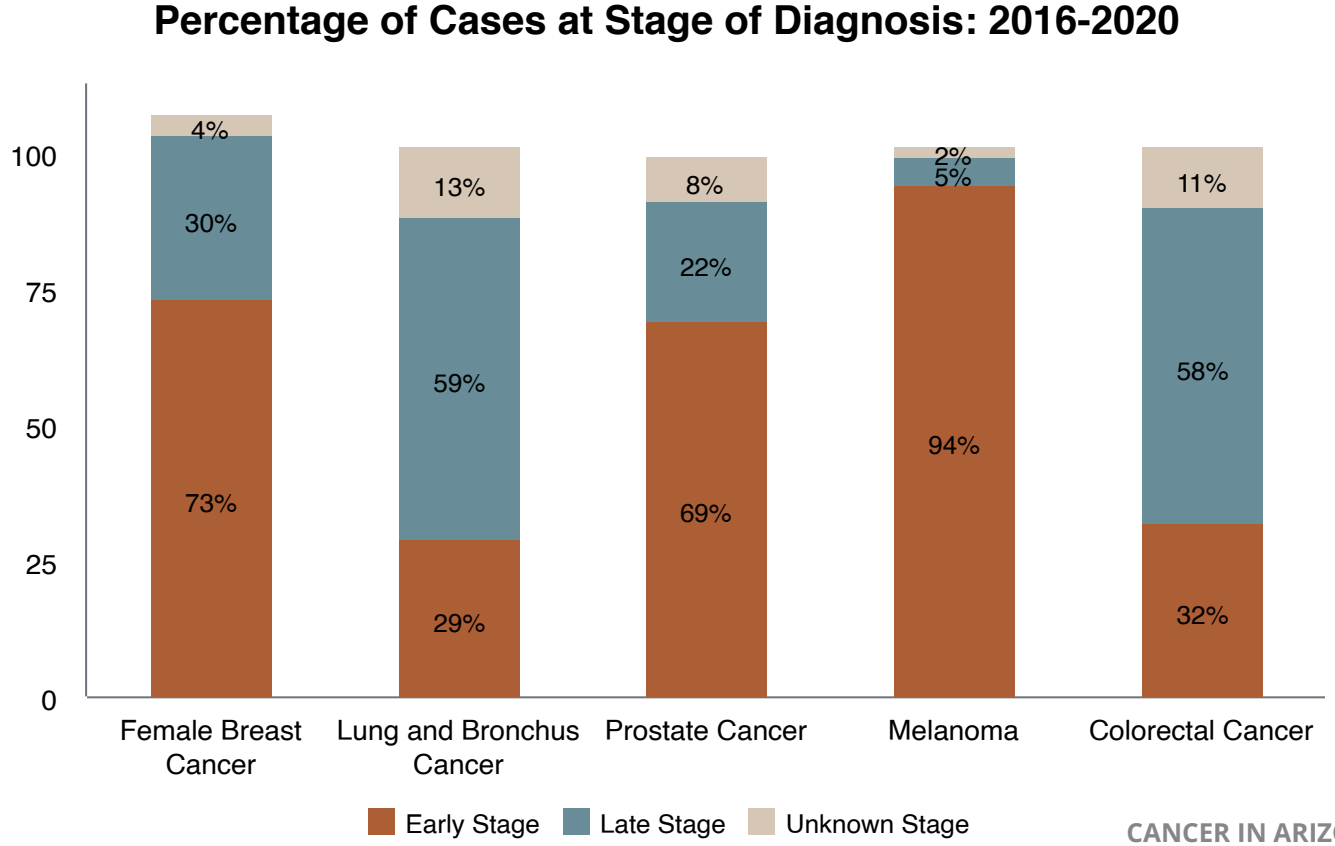


Note: The percent of each stage combined may not equal 100 due to rounding.

La Paz County

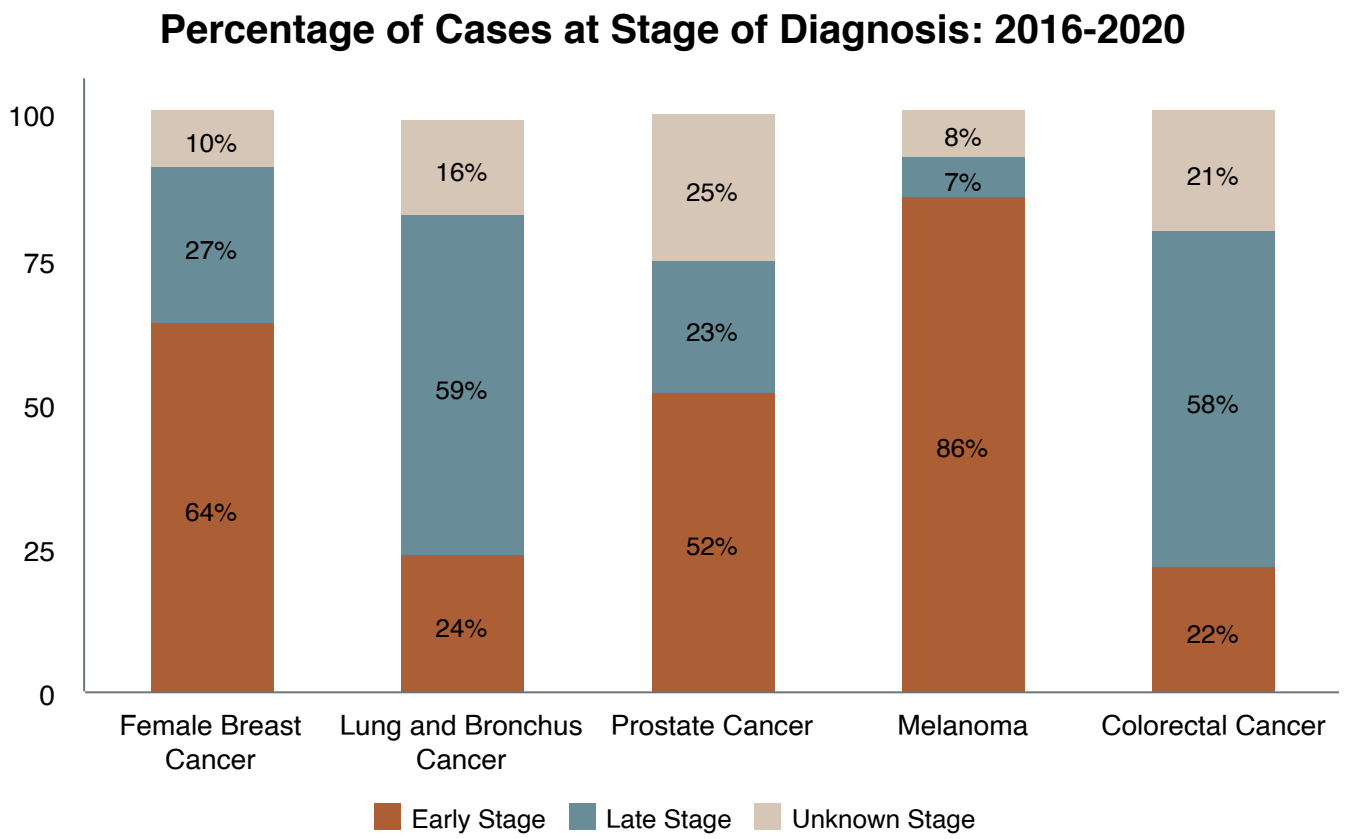


Maricopa County

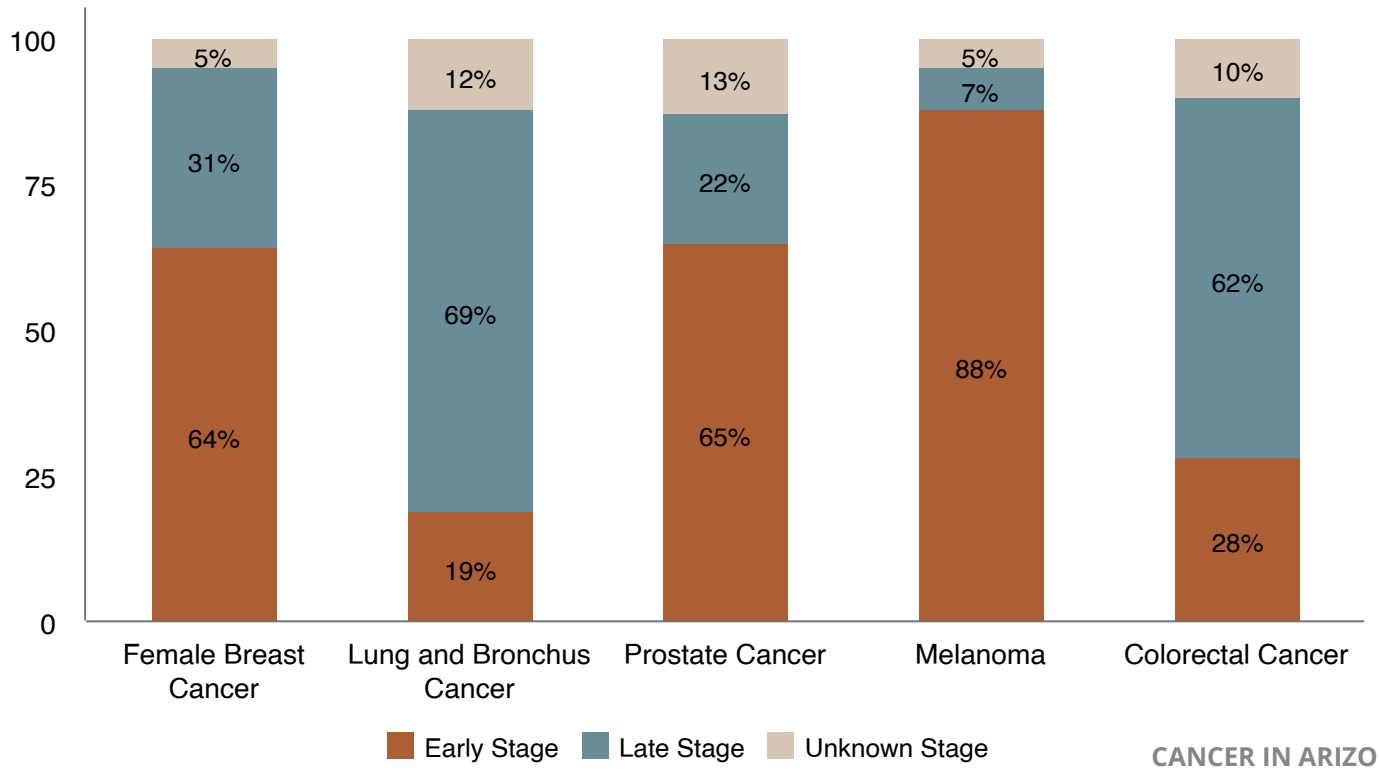


Note: The percent of each stage combined may not equal 100 due to rounding.

Mohave County

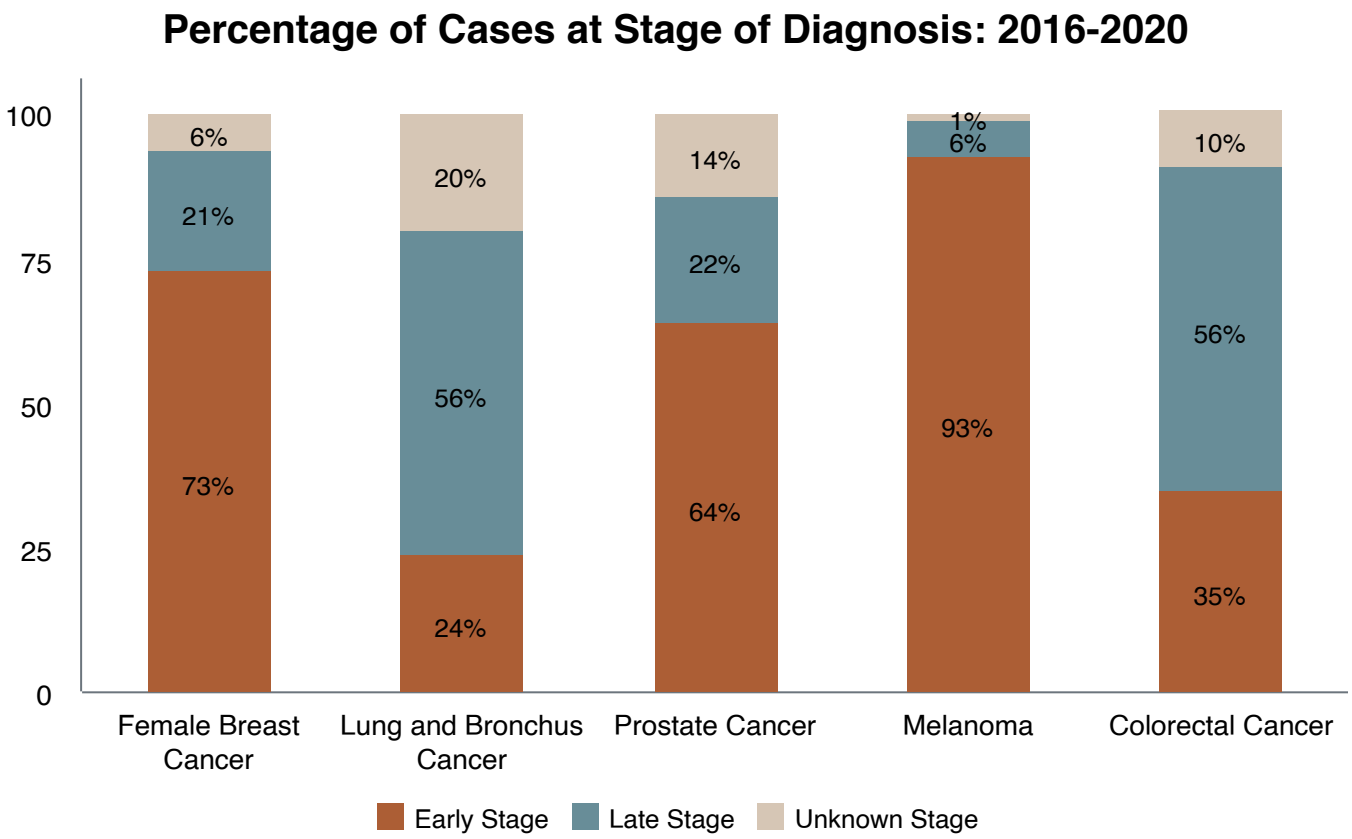


Navajo County

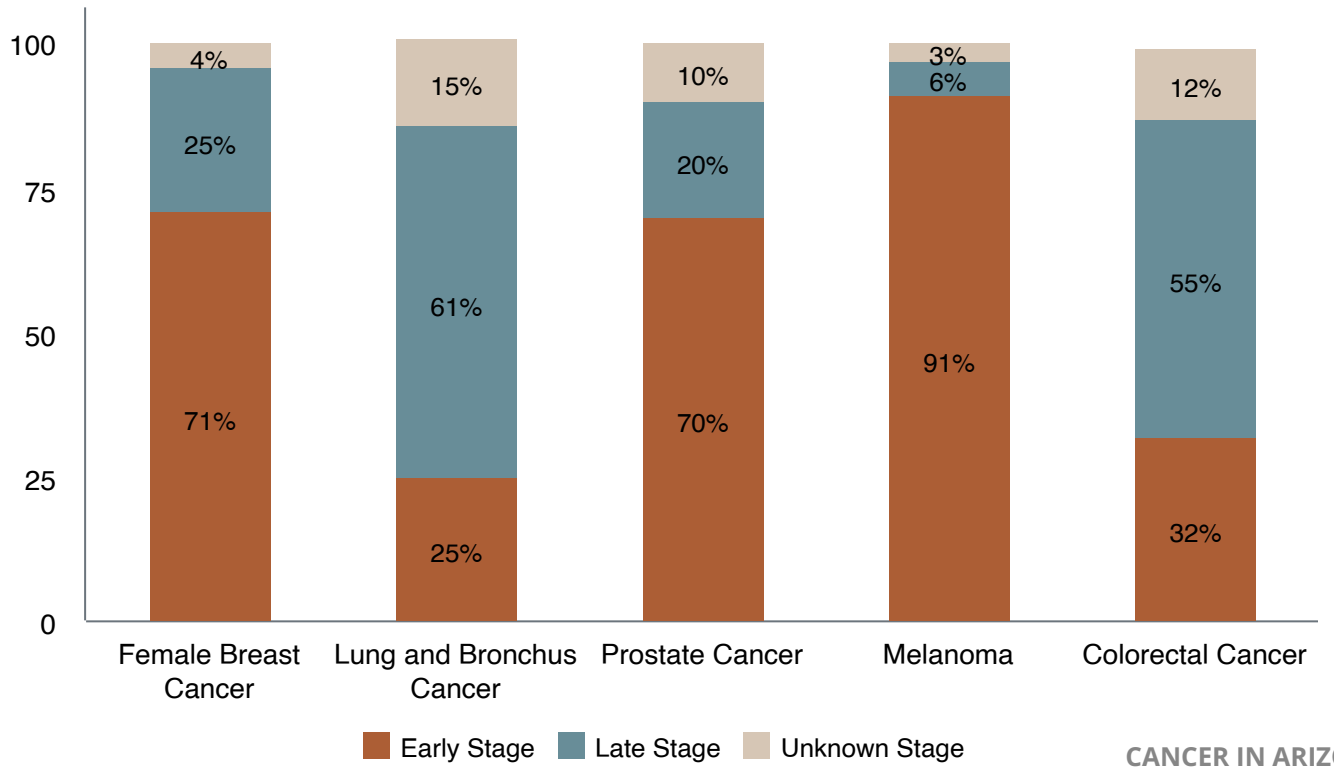


Note: The percent of each stage combined may not equal 100 due to rounding.

Pima County



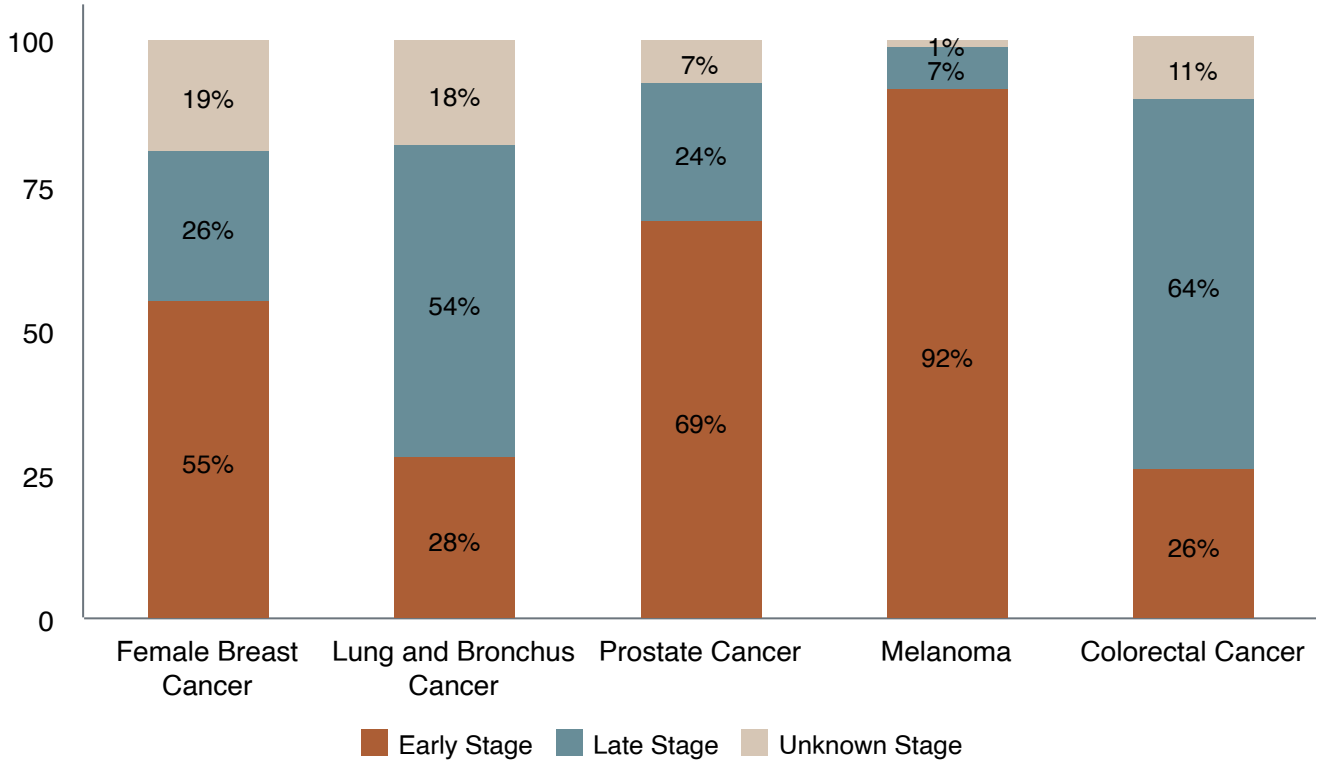
Pinal County



Note: The percent of each stage combined may not equal 100 due to rounding.

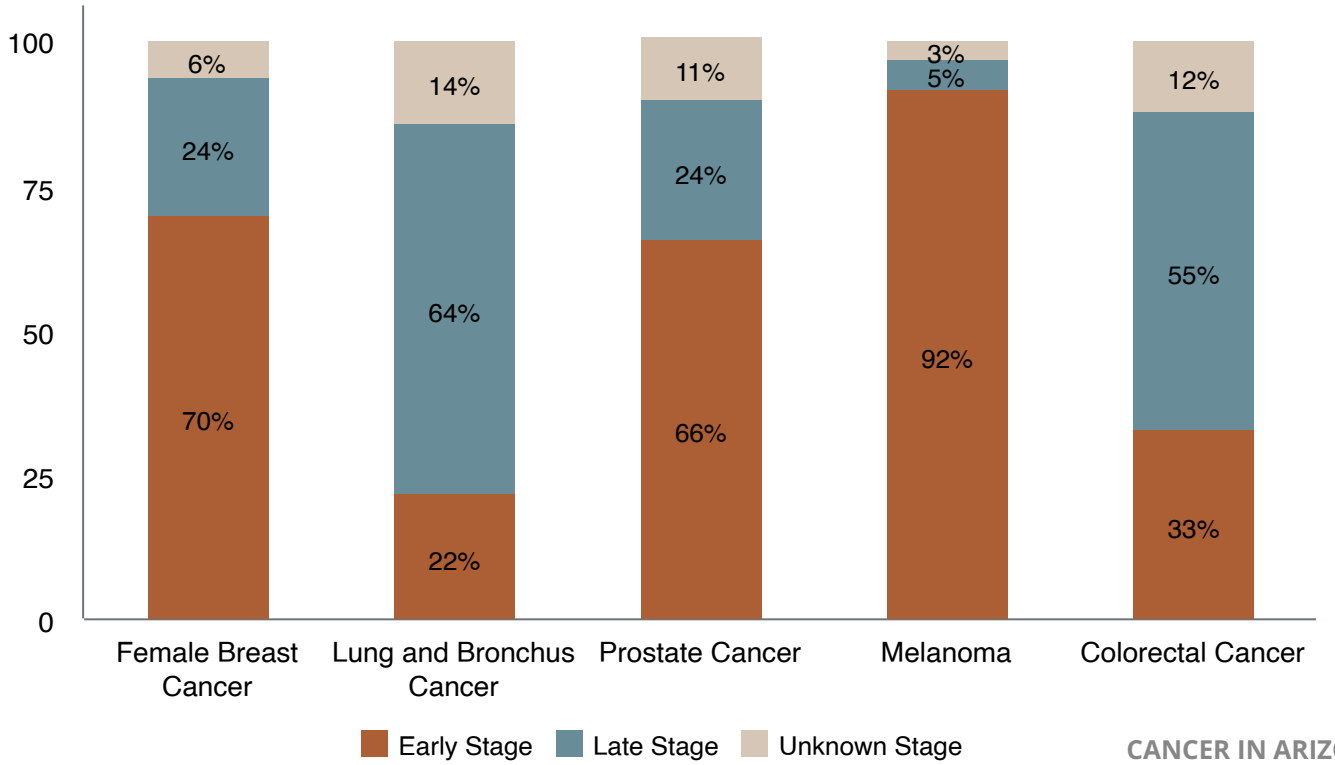
Santa Cruz County

Percentage of Cases at Stage of Diagnosis: 2016-2020



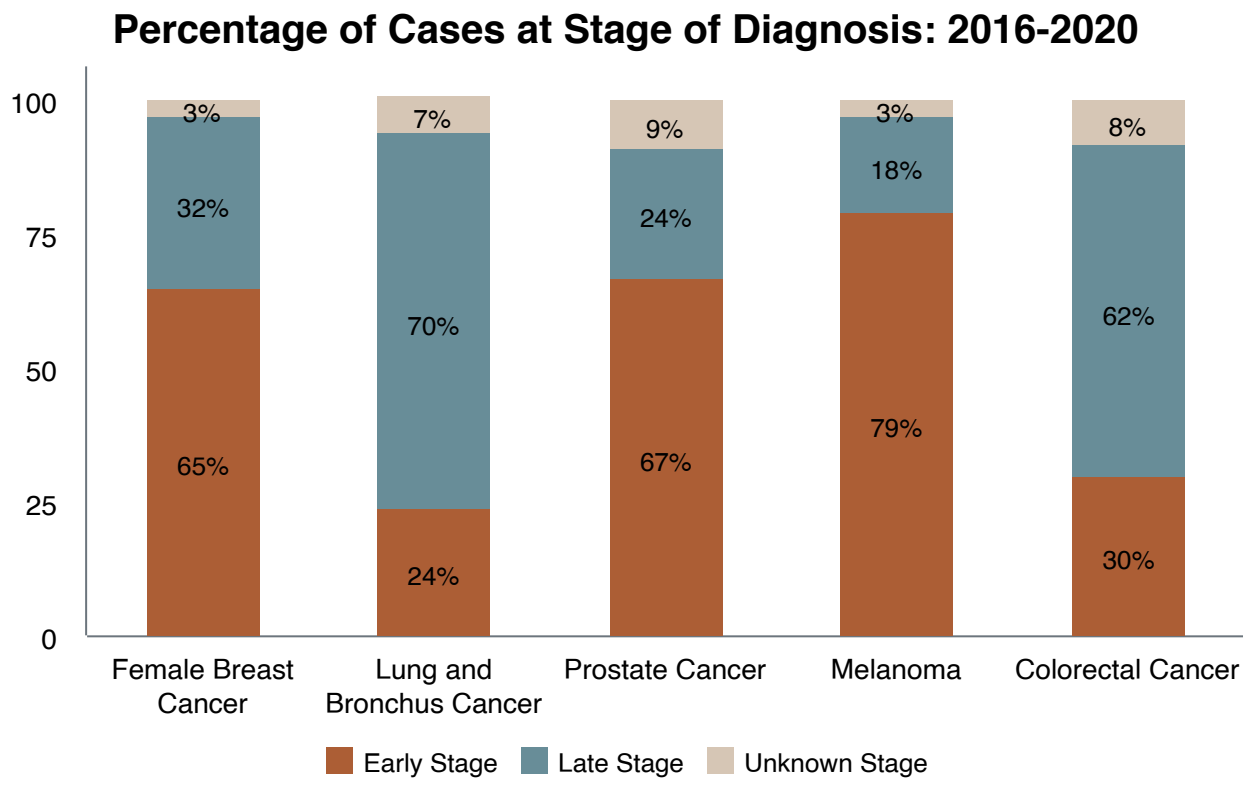
Yavapai County

Percentage of Cases at Stage of Diagnosis: 2016-2020

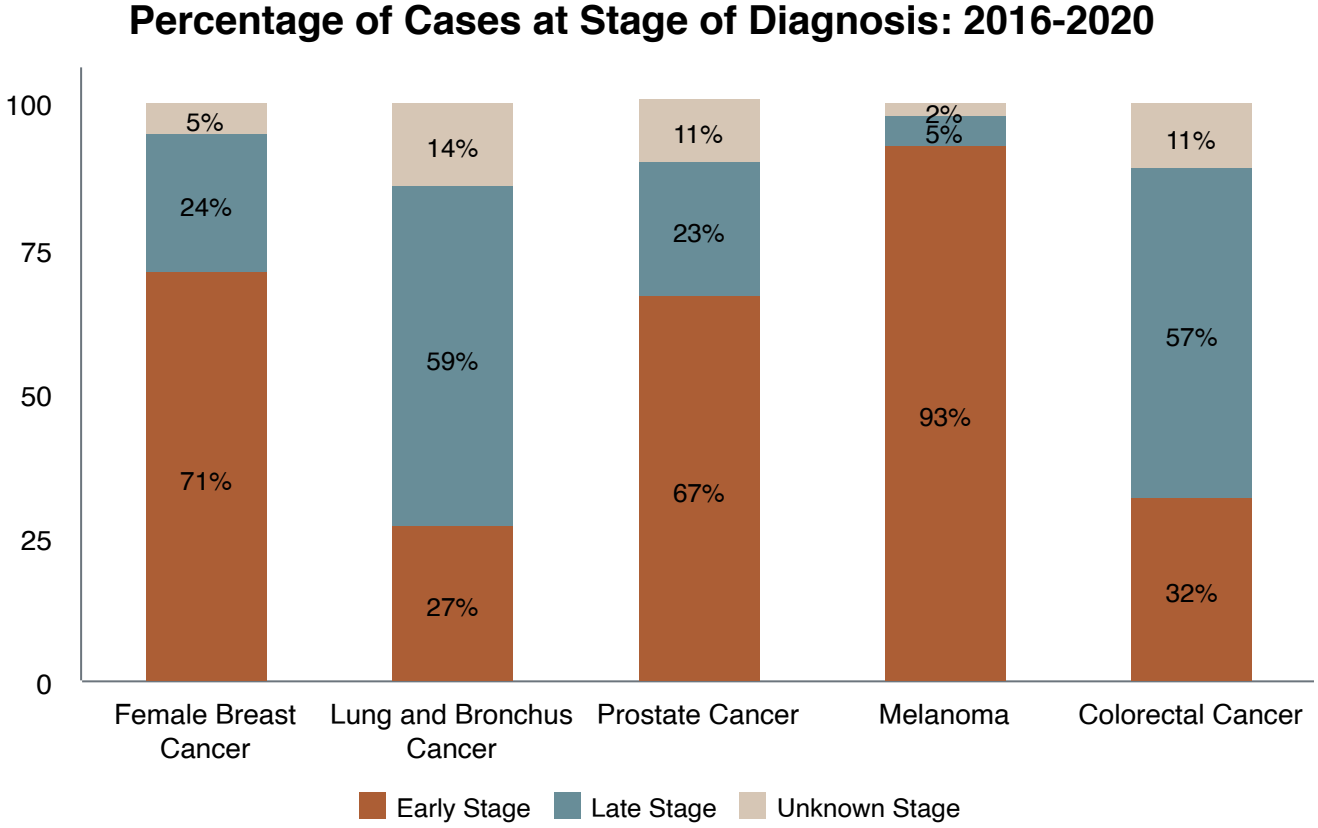


Note: The percent of each stage combined may not equal 100 due to rounding.

Yuma County



Arizona



Note: The percent of each stage combined may not equal 100 due to rounding.

A total of 95 cases of female breast, lung and bronchus, prostate, melanoma, and colorectal cancer had an unknown county.

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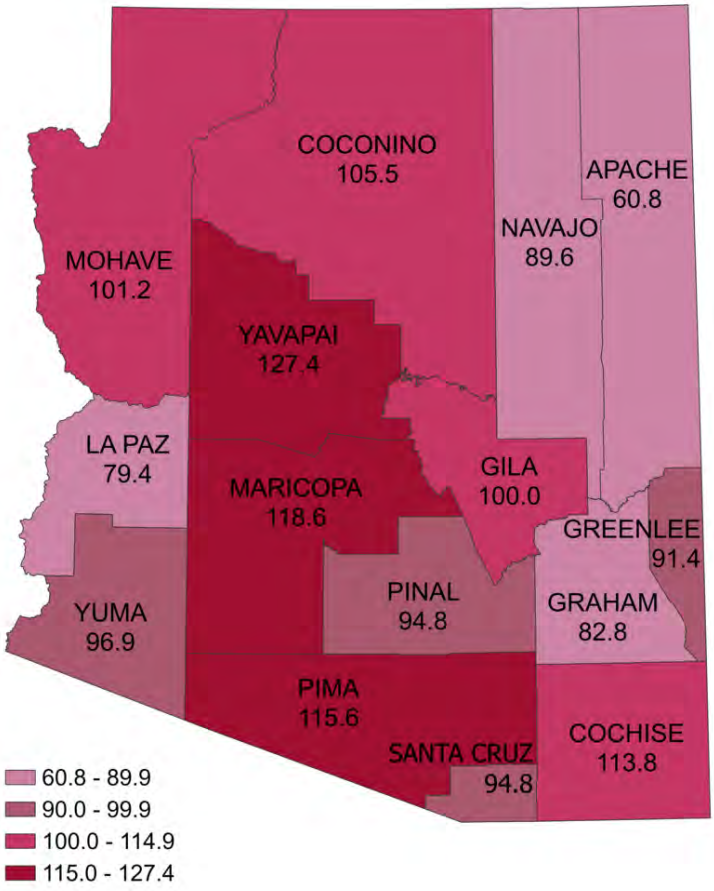
Incidence & Mortality County Maps by Cancer Type 2016-2020

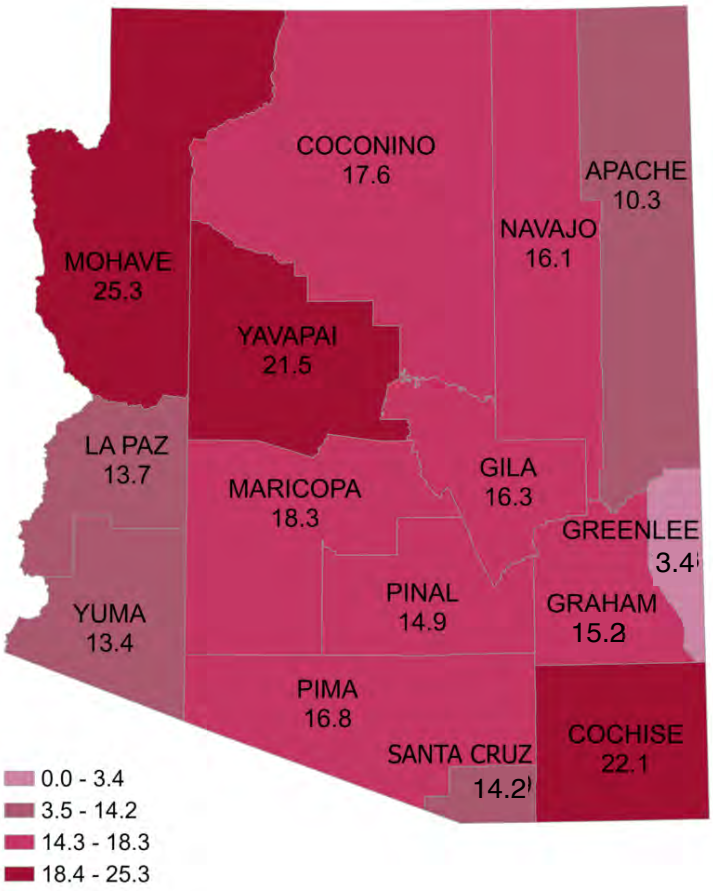
Arizona Age-Adjusted Rates for Female Breast Cancer

Incidence 2016-2020



Note: In 2016-2020, 15 invasive female breast cancer cases were reported with an unknown county

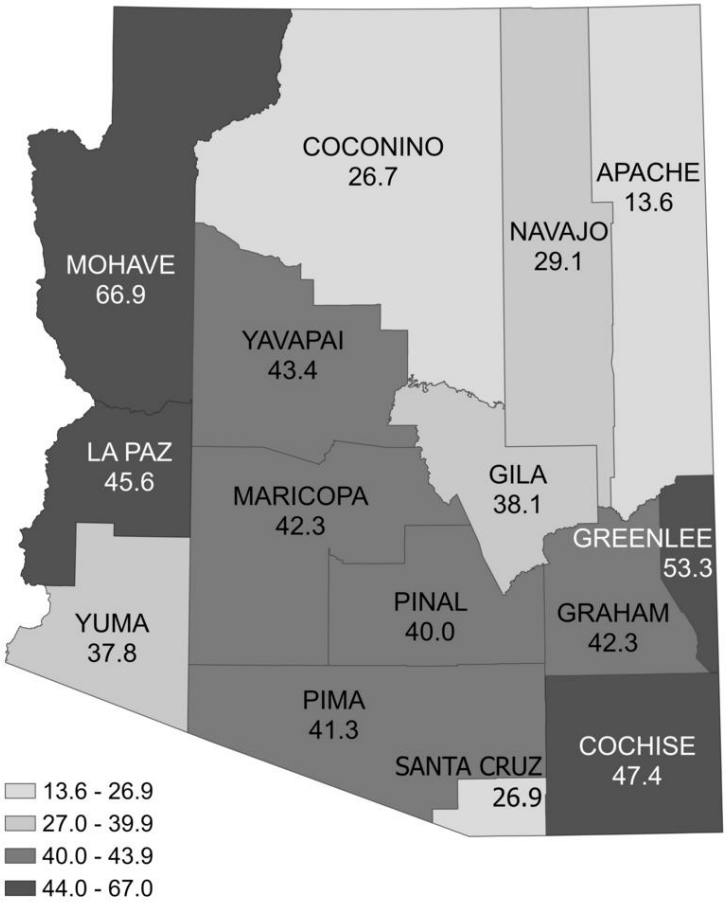
Mortality 2016-2020



Note: In 2016-2020, 5 female breast cancer deaths were reported with an unknown county

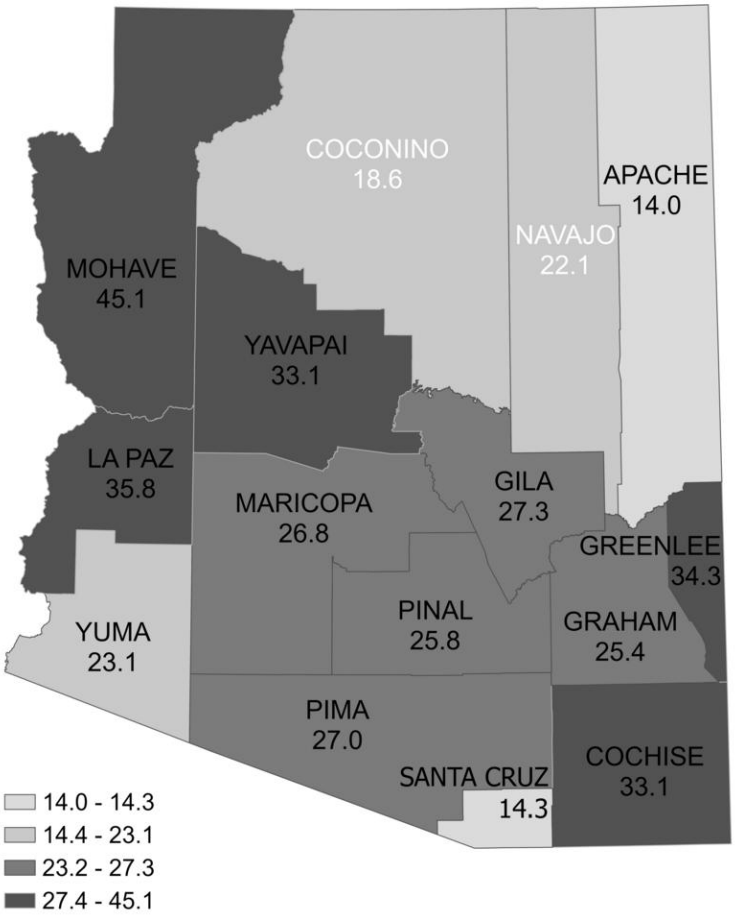
Arizona Age-Adjusted Rates for Lung & Bronchus Cancer

Incidence 2016-2020



Note: In 2016-2020,15 invasive lung and bronchus cancer cases were reported with an unknown county

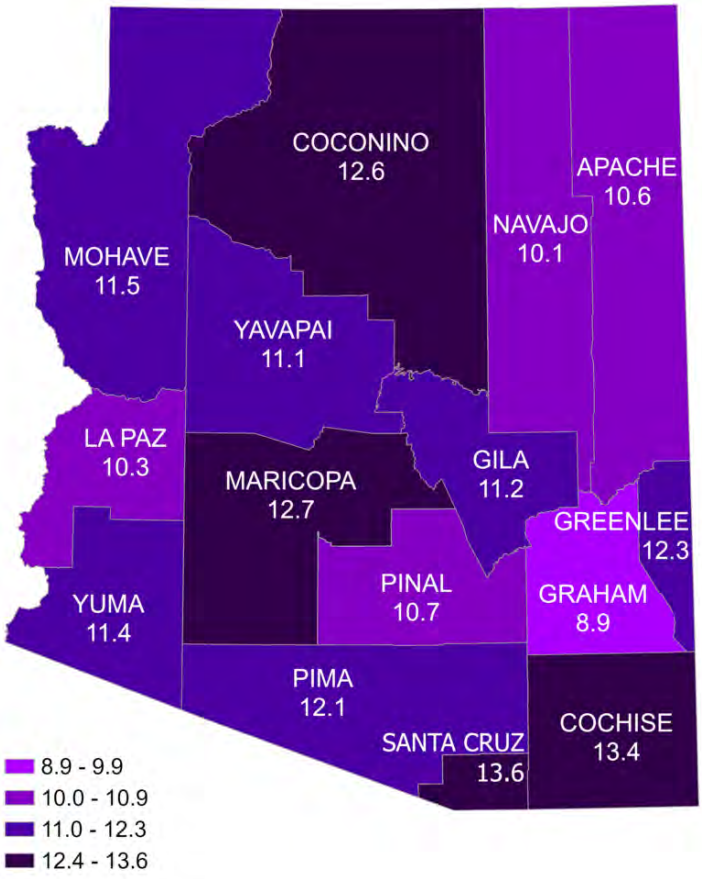
Mortality 2016-2020



Note: In 2016-2020, 37 lung and bronchus cancer deaths were reported with an unknown county

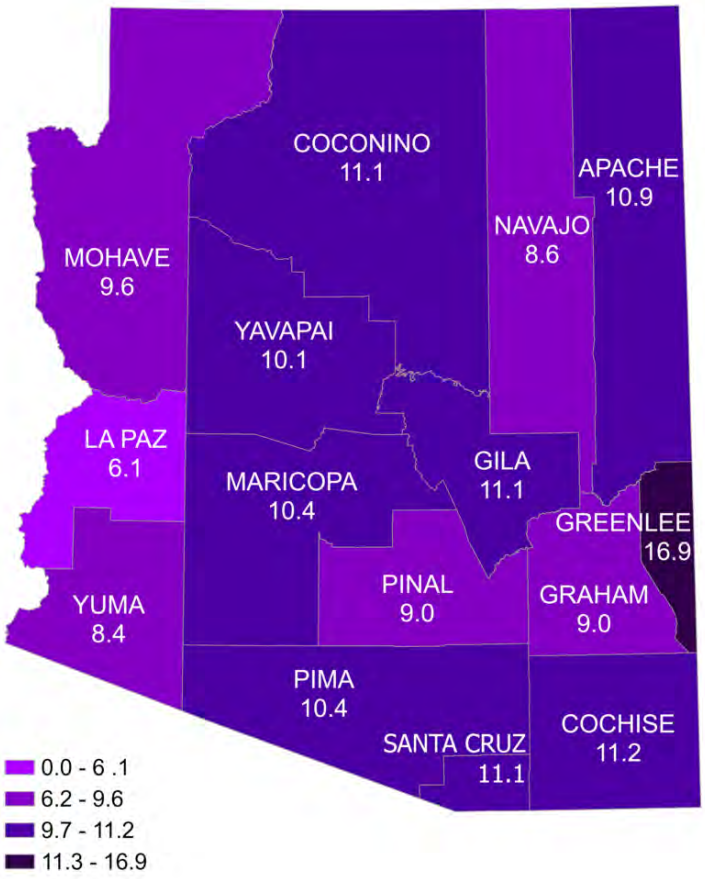
Arizona Age-Adjusted Rates for Pancreatic Cancer

Incidence 2016-2020



Note: In 2016-2020, 7 invasive pancreatic cancer cases were reported with an unknown county

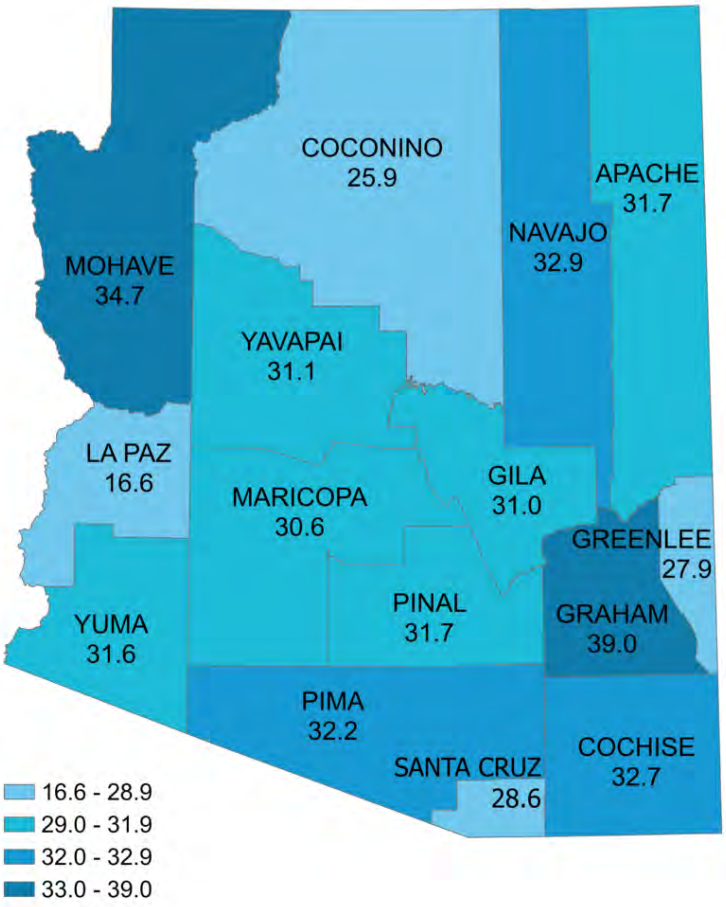
Mortality 2016-2020



Note: In 2016-2020, 12 pancreatic cancer deaths were reported with an unknown county

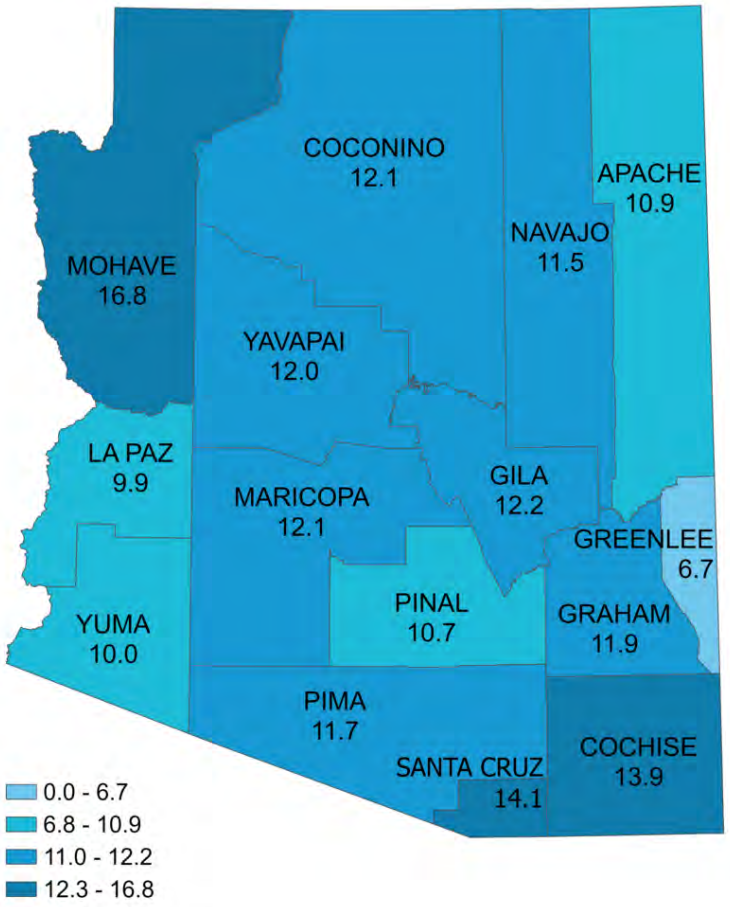
Arizona Age-Adjusted Rates for Colorectal Cancer

Incidence 2016-2020



Note: In 2016-2020, 16 invasive colorectal cancer cases were reported with an unknown county

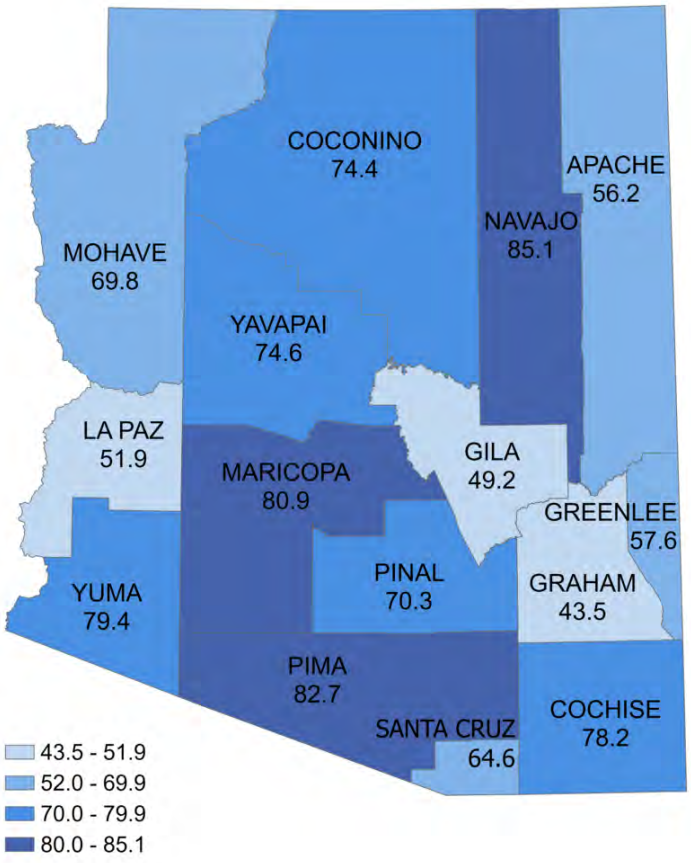
Mortality 2016-2020



Note: In 2016-2020, 12 pancreatic cancer deaths were reported with an unknown county

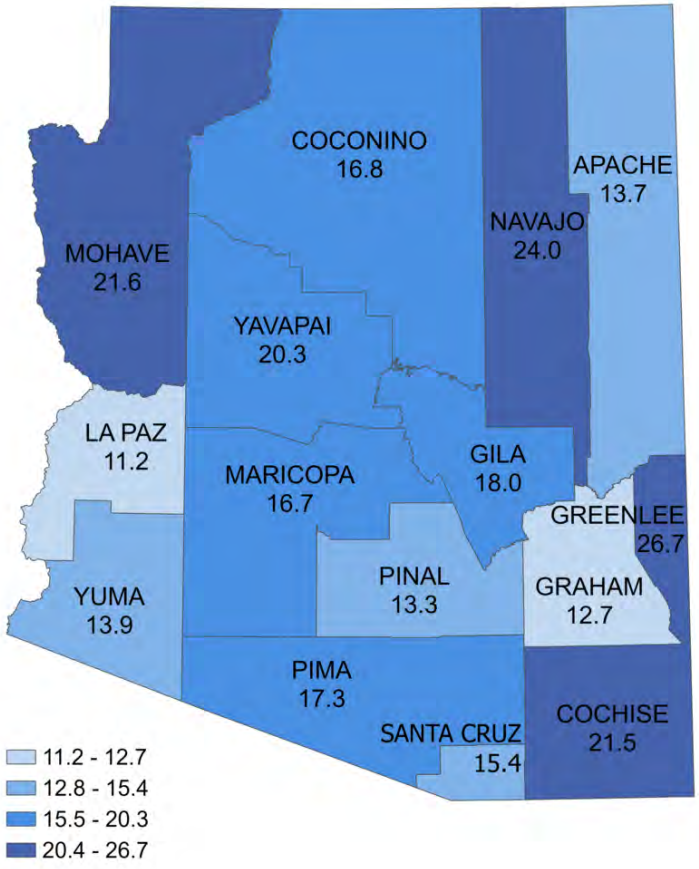
Arizona Age-Adjusted Rates for Prostate Cancer

Incidence 2016-2020



Note: In 2016-2020, 36 invasive prostate cancer cases were reported with an unknown county

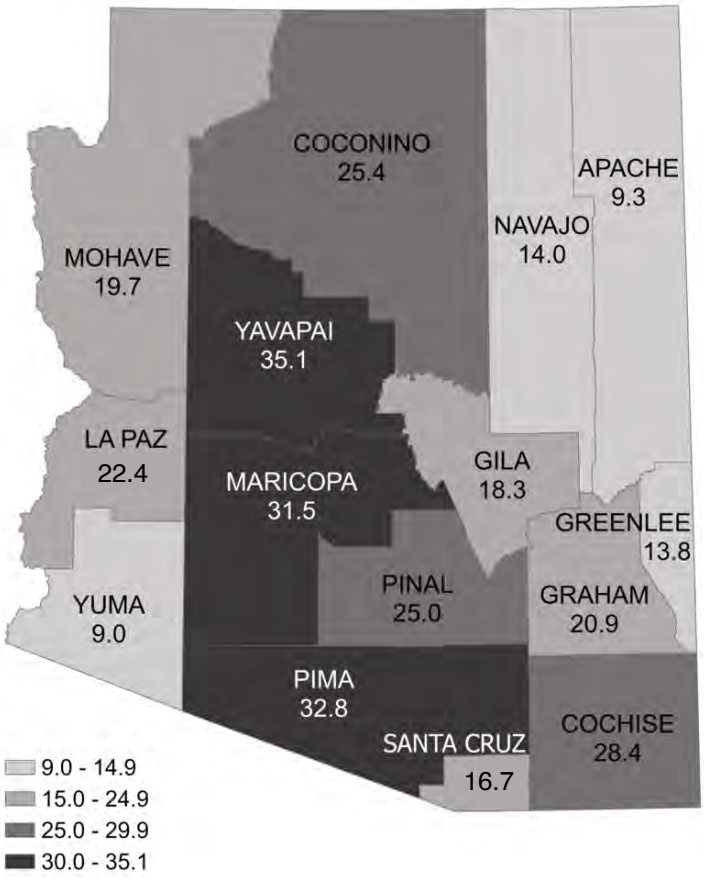
Mortality 2016-2020



Note: In 2016-2020, 5 prostate cancer deaths were reported with an unknown county

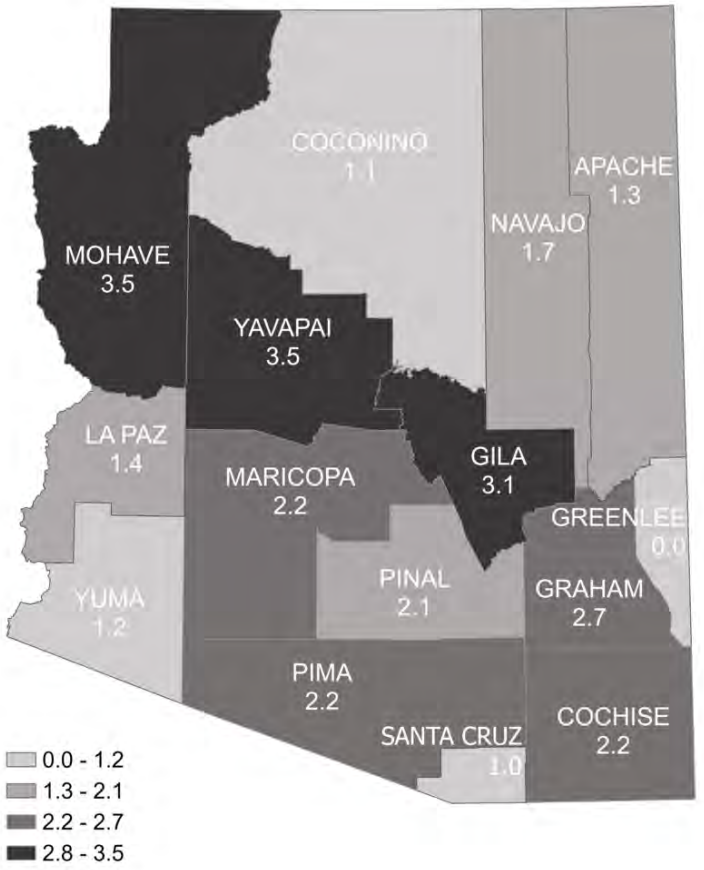
Arizona Age-Adjusted Rates for Melanoma Cancer

Incidence 2016-2020



Note: In 2016-2020, 13 invasive melanoma cancer cases were reported with an unknown county

Mortality 2016-2020



Note: In 2016-2020, 3 melanoma cancer deaths were reported with an unknown county

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Appendices

Technical Notes

Age-Adjusted Incidence and Mortality Rates

Age adjustment is a process used to compare incidence and mortality rates between populations with different age distributions. Since most disease rates increase with age, the older you get the more likely you are to have health complications, age-adjustment uses a standard population distribution to eliminate the confounding effect of age on rates. The age-adjusted rates represent rates for the population of interest, if the population of interest had the same age distribution as the standard population. Beginning with the 1999 data year, federal agencies and the Arizona Cancer Registry have adopted the year 2000 projected U.S. population as the new standard for age-adjusting incidence. All incidence rates were adjusted using the 2000 U.S. standard population by the direct method, and were presented as **number of cancers per 100,000 persons.**

Average Counts

This report contains figures that average five years of data to produce an average annual count for incidence of cancer and mortality. Each averaged number is calculated separately, and rounded to a whole number. Due to rounding in various figures the total may not equal 100%.

Behavior (In Situ and Invasive)

Behavior code: The fifth digit of the morphology code that indicates the growth pattern of a tumor, and whether or not it is invasive.

- **In situ:** No penetration of the basement membrane of the tissue of origin.
- **Invasive**: A malignant tumor that has invaded the basement membrane of the tissue of origin.

COVID-19 Impact

The impact of the COVID-19 Pandemic on patients with cancers and cancer data reporting is reflected in the data available for 2020. Fluctuations in cancer incidence and mortality rates may be due to delays in diagnosis, lack of screening, disruption of patient treatment and follow-up care, and unforeseen health complications due to contracting COVID-19. On a national scale, our standard setters, North American Association of Central Cancer Registries (NAACCR) and Centers for Disease Control and Prevention National Program of Cancer Registries (CDC NPCR), will be implementing a “self-correcting” adjustment for the diagnosis year 2020 due to the pandemic.

Early/Late Stage

Early/Late Stage uses **SEER Summary Stage 2000/2018** (in situ, local, regional, and distant) to reclassify stage into three groups:

- **Early Stage**: in situ and local stage combined; cancer is confined to the site from which it started and has not spread to surrounding tissue or other organs in the body.
- **Late Stage**: regional and distant stage combined; cancer has spread to the lymph nodes or other places in the body.
- **Unknown Stage**

Gender

Report includes cases identified as male and female only. Excluded from the incidence section for years 2016-2020 are: 9 Intersex people, 24 Transgender people and 2 people of Unknown gender. The mortality section had no cases with an Unknown gender.

Incidence Counts

Incidence counts are the number of new cases diagnosed within a certain timeframe. This report include the number of new cases of cancer diagnosed between 2016-2020. More than one cancer case may be reported for an individual. This “one-to-many” relationship results in a higher number of cancer cases than individual persons recorded in the registry. Certain demographic variables may be unknown for some cases. Therefore comparing total numbers between different figures and tables may not yield equal numbers. Additionally, the totals for all categories within a figure or table may not equal the state total.

Technical Notes, cont.

Mortality Data Criteria

Cancer mortality rates were calculated on counts of cancer deaths that meet all of the following criteria:

- The cancer death occurs to an Arizona resident
- The primary cause of death is coded C00 to C97 using ICD-10
- The case is reported to the Arizona Office of Vital Records
- The primary cause of death is classified according to the International Classification of Diseases, Injuries and Causes of Death, Tenth Revision, 1992
- Date of Death from years 2016-2020

Population Denominators

The population numbers used for analysis in this report were taken from United States Census Bureau and modified by SEER. The SEER program applied a race/ethnicity bridge to the population numbers previous to the year 2000 to more accurately estimate the number of minorities in years previous to the 2000 census. New intercensal estimates were developed to reflect the actual yearly changes in populations based on the 2010 census. The Arizona Cancer Registry chose to use these population numbers for calculating age-adjusted rates in order to be comparable with other state and national cancer data.

To ensure accuracy and consistency the Arizona Cancer Registry produces age-adjusted rates using the Surveillance, Epidemiology, and End Results Program (SEER) population denominators based on the most current Census data. Due to delays in the 2020 Census and the release of 2021 SEER population denominators, we are unable to publish 2021 mortality data at this time.

Primary Site

Primary sites were classified according to the International Classification of Diseases for Oncology, Third Edition (a.k.a. ICD-O3).

Race/Ethnicity

Race/Ethnicity is generally identified from the physician's notations in the medical record. Death Records is another source used to identify race. American Indian race is also identified through linkage with Indian Health Service (IHS) data. This IHS linkage identifies cases that may be misclassified as another race. Race/Ethnicity definitions used in this report are; White Non-Hispanic, White Hispanic, Black/African American, American Indian/Alaskan Native, and Asian & Pacific Islander. Incidence rates were divided into two ethnicity categories: Hispanic and Non-Hispanic Whites. Hispanics that have identified as another race group (Black/African American, American Indian/Alaskan Native, Asian & Pacific Islander) are included in that race group only. For this report, all cases with an unknown ethnicity were considered Non-Hispanic.

Residence at Diagnosis

The residency of cases at the time of diagnosis was grouped by county and by Arizona residents. Non-Arizona residents were excluded in the analysis.

Data Source

Mortality data is from the Arizona Department of Health Services, Arizona Health Statistics and Vital Statistics Mortality Data.

Cancer incidence data is from the Arizona Department of Health Services Arizona Cancer Registry. Data is from hospitals, physicians, clinics, nurse practitioners, physician assistants, pathology laboratories, death certificates and state data exchanges.

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ARIZONA DEPARTMENT
OF HEALTH SERVICES

Arizona Cancer Registry
Arizona Department of Health Services
150 North 18th Avenue
Phoenix, Arizona 85007

APPENDIX 17

Arizona Department of Health Services, Live Births Report, 2010-2020

TABLE 1B-2
LIVE BIRTHS ACCORDING TO SELECTED MATERNAL, PRENATAL CARE AND DELIVERY CHARACTERISTICS, BIRTHWEIGHT, PLURALITY, CHILD'S SEX, BIRTH ORDER, AND BIRTH COMPLICATIONS[a], ARIZONA, 2010-2020
(ALL RACE/ETHNIC GROUPS)

Characteristic	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Number of births	87,053	85,190	85,725	84,963	86,648	85,024	84,404	81,664	80,539	79,183	76,781
Age of mother											
≤19 years	10.8	9.9	9.5	8.5	7.6	6.9	6.4	6.2	5.8	5.5	5.1
≥30 years	35.0	36.1	36.7	37.2	38.8	39.3	40.2	40.9	42.0	42.6	43.9
Marital status											
Unmarried	44.7	44.3	45.2	45.1	44.7	45.3	44.8	44.4	44.6	45.0	45.0
Mother's education											
<9 years	5.3	4.6	4.3	3.8	3.7	3.5	3.2	3.1	3.0	2.8	2.5
Mother's race/ethnicity											
White[b]	44.5	45.0	45.1	45.0	46.3	44.9	44.7	43.7	43.3	43.1	43.1
Hispanic	39.4	38.0	38.7	38.9	38.9	40.3	40.1	40.6	41.0	41.1	41.5
Black	5.0	5.1	5.5	5.6	5.2	5.1	5.2	5.6	5.8	6.1	6.2
American Indian	6.7	6.8	6.5	6.4	5.9	5.9	6.0	6.0	5.8	5.6	5.3
Asian	4.4	5.0	4.2	4.1	3.7	3.8	4.0	4.1	4.1	4.0	3.9
Prenatal care begin											
1st Trimester	81.9	81.7	82.6	81.3	66.0	67.9	68.9	68.3	68.8	68.9	68.8
3rd Trimester	3.2	3.1	3.2	3.6	5.3	5.5	5.8	5.7	6.2	6.8	6.7
No Care	1.6	1.6	1.2	1.4	2.1	2.2	2.4	2.9	2.8	2.6	2.5
Prenatal visits											
1-4	3.3	3.4	3.6	3.8	4.4	4.4	4.6	4.6	5.0	5.6	5.4
≥5	94.9	94.5	94.9	94.7	92.1	92.2	91.5	90.8	90.9	89.9	90.2
≥9	80.5	80.6	81.3	81.2	77.6	77.0	76.0	75.6	74.5	72.4	72.0
≥13	31.6	33.7	34.6	34.8	30.7	30.4	29.9	31.2	31.0	29.2	29.2
Medical risk/ Complications[c]	49.7	46.3	52.4	55.5	**34.5**	**39.0**	40.7	42.7	44.2	46.9	49.1
Gestational age[d]											
Preterm (<37 weeks)	9.6	9.3	9.2	9.0	9.0	9.0	9.0	9.3	9.5	9.3	9.5
Birth weight											
<2,500 grams	7.1	7.0	6.9	6.9	7.0	7.2	7.3	7.5	7.6	7.4	7.4
<1,500 grams	1.1	1.2	1.2	1.1	1.2	1.1	1.2	1.2	1.2	1.1	1.1
Child's sex											
Male	50.9	51.2	51.2	51.4	51.3	51.3	50.9	50.8	51.2	51.2	50.9
Female	49.1	48.8	48.8	48.6	48.7	48.7	49.1	49.2	48.8	48.8	49.1
Plurality											
Multiple births	2.9	2.8	2.8	3.0	3.0	3.0	3.1	3.3	3.3	3.0	3.0
Caesarean delivery	27.6	27.9	27.6	27.8	27.7	27.5	27.5	26.8	27.5	27.8	28.4
Place of delivery											
Hospital[e]	98.8	98.5	98.6	98.7	98.5	98.5	98.3	98.3	98.2	98.3	97.9
Attendant at birth											
Midwife[f]	6.6	6.4	7.2	7.4	10.2	11.8	12.8	13.5	13.1	13.9	13.6
Previous live births											
1 or more	63.0	62.6	62.7	63.6	64.0	64.3	64.8	64.4	64.2	63.9	63.1

Notes: [a] Rates per 100 births.

[b] Non-Hispanic.

[c] Reported medical risks for this pregnancy and/or complications of labor and delivery; data for years 2014 and 2015 in bold were updated due to correction.

[d] Physician's estimate.

[e] Hospital, clinic, medical center or maternity home.

[f] Licensed Midwife or Certified Nurse Midwife.

APPENDIX 18

Arizona Department of Health Services, Population Health and Vital Statistics, Data Sources & Definitions

Bureau of Public Health Statistics
150 N. 18th Avenue, Suite 550
Phoenix, AZ 85007
(602) 542-7333
(602) 364-0082 Fax

Population Health and Vital Statistics

Data Sources & Definitions

Data Definitions

Information on births, deaths and fetal deaths is compiled from the original documents filed with the Arizona Department of Health Services', Bureau of Vital Records and from transcripts of original birth and death certificates filed in other states but affecting Arizona residents. (Copies of certificates for births, deaths and fetal deaths occurring to Arizona residents outside the United States are not sent to Arizona).

Information on induced terminations of pregnancy (abortions) performed on Arizona women is compiled from reports sent to the Arizona Department of Health Services by facilities within but not outside the state.

Pregnancies are the sum of live births, spontaneous terminations of pregnancy (fetal deaths or stillbirths) and induced terminations of pregnancy (abortions).

Arizona has no central registry for marriage and divorce records. Statistics are limited to counts of marriages and divorces reported monthly by the Clerk of the Superior Court in each county in which the marriage or divorce occurred. These reports contain no demographic data on the people marrying or divorcing.

Data on morbidity, levels of disease and disability in the population, are obtained for certain infectious diseases that must be reported by law. The ADHS Epidemiology and Disease Control Services conducts surveillance and monitoring of these notifiable diseases and provided data for the morbidity sections in this report.

All short-stay nonfederal hospitals in Arizona are required to submit every six months uniform patient reports to the Arizona Department of Health Services. The statistical information about both hospital inpatient discharges and emergency room visits is collected by the Section of Cost Reporting and Discharge Data Review in the Bureau of Public Health Statistics.

Population denominators for Arizona residents, used to calculate rates, are projections from the Population Statistics Unit in the Arizona Department of Economic Security (DES) (1981-1988, 1991-1999) and census enumerations (data for 1980, 1990, and 2000 from the U.S. Census Bureau. In order to obtain the 2001-2005 population denominators, the 2000 percentages of population breakdowns (or census shares) by age group and gender were applied to total state and county annual population estimates for 2001, 2002, 2003, 2004 and 2005.

Two data sources were utilized in producing the 2006 and 2007 population estimates. The totals for the State and each of its counties agree with the projections released by the Arizona Department of Commerce on March 31, 2006. The percentages of population breakdowns by single-year of age, gender and race/ethnicity were derived from the estimates at U.S. Census Populations With Bridged Race Categories. The 2006 and 2007 population estimates by race/ethnicity should not be compared with the previously published estimates for 2001-2005, which used the year 2000 census shares.

Customer Feedback

APPENDIX 19

National Center for Health Statistics, National Vital Statistics Reports, United States Life Tables, 2021

National Vital Statistics Reports

NVSS

Volume 72, Number 12 November 7, 2023

United States Life Tables, 2021

by Elizabeth Arias, Ph.D., Jiaquan Xu, M.D., and Kenneth Kochanek, M.A.

Abstract

Objectives—This report presents complete period life tables for the United States by Hispanic origin and race and sex, based on age-specific death rates in 2021.

Methods—Data used to prepare the 2021 life tables are 2021 final mortality statistics; July 1, 2021, population estimates based on the Blended Base population estimates produced by the U.S. Census Bureau; and 2021 Medicare data for people ages 66–99. The methodology used to estimate life tables for the Hispanic population remains unchanged from that developed for the publication of life tables by Hispanic origin for data year 2006. The same methodology is used to estimate life tables for the American Indian and Alaska Native non-Hispanic and Asian non-Hispanic populations. The methodology used to estimate the 2021 life tables for all other groups was first implemented with data year 2008.

Results—In 2021, the overall expectation of life at birth was 76.4 years, decreasing 0.6 year from 77.0 in 2020. From 2020 to 2021, life expectancy at birth decreased by 0.7 year for males (from 74.2 to 73.5) and by 0.6 year for females (79.9 to 79.3). Between 2020 and 2021, life expectancy decreased by 1.5 years for the American Indian and Alaska Native non-Hispanic population (67.1 to 65.6), 0.7 year for the White non-Hispanic population (77.4 to 76.7), 0.3 year for the Black non-Hispanic population (71.5 to 71.2), 0.1 year for the Hispanic population (77.9 to 77.8), and 0.1 year for the Asian non-Hispanic population (83.6 to 83.5).

Keywords: life expectancy • survival • death rates • Hispanic origin • race • National Vital Statistics System

Introduction

Life tables are of two types: the cohort (or generation) life table and the period (or current) life table. The cohort life table presents the mortality experience of a particular birth cohort—all people born in the year 1900, for example—from the moment of birth through consecutive ages in successive calendar years. Based on age-specific death rates observed through consecutive calendar years, the cohort life table reflects the mortality experience of an actual cohort from birth until no lives remain in the group. To prepare just a single complete cohort life table requires data over many years. It is usually not feasible to construct cohort life tables entirely based on observed data for real cohorts due to data unavailability or incompleteness (1). For example, a life table representation of the mortality experience of a cohort of people born in 1970 would require the use of data projection techniques to estimate deaths into the future (2,3).

The period life table, by contrast, presents what would happen to a hypothetical cohort if it experienced throughout its entire life the mortality conditions of a particular period in time. For example, a period life table for 2021 assumes a hypothetical cohort that is subject throughout its lifetime to the age-specific death rates prevailing for the actual population in 2021. Consequently, the period life table may be characterized as rendering a "snapshot" of current mortality experience by showing the long-range implications of a set of age-specific death rates that prevailed in a given year. In this report, the term "life table" refers only to the period life table and not to the cohort life table.

Life tables can be classified in two ways according to the length of the age interval in which data are presented. A complete life table contains data for every single year of age. An abridged life table typically contains data by 5- or 10-year age intervals. A complete life table can easily be combined into 5- or 10-year age groups (see Technical Notes for instructions). Other than the decennial life tables, U.S. life tables based on data before 1997 are abridged life tables constructed by reference to a standard table (4).

Complete period life tables by Hispanic origin and race, based on the 1997 Office of Management and Budget revised standards for the reporting of race and ethnicity, are presented in this report (5). Race categories differ from the bridged-race categories shown in previous reports for 2000–2017. Comparisons between data years 2000–2017 and 2018–2021

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should be interpreted considering these differences. Life expectancy estimates for bridged-race categories are included in this report for 2006–2020 to document the effect of the change in race standards and to show trends. 2020 was the last year for which estimates for bridged-race categories were presented in this report. Hispanic origin is consistent with previous reports because the classification of Hispanic origin did not change between standards (5,6). In the remainder of this report, "race" refers to "single race" based on the 1997 standard (see Technical Notes and "Comparability of Race-specific Mortality Data Based on 1977 Versus 1997 Reporting Standards" for more information on differences between single- and bridged-race groups) (7).

Data and Methods

The data used to prepare the U.S. life tables for 2021 are final numbers of deaths for 2021; July 1, 2021, population estimates; and age-specific death and population counts for Medicare beneficiaries ages 66–99 for 2021 from the Centers for Medicare & Medicaid Services. Population estimates are based on the Blended Base produced by the U.S. Census Bureau in lieu of the April 1, 2020, decennial population count. The Blended Base consists of the blend of 2020 postcensal population estimates, based on the April 1, 2010, census; 2020 Demographic Analysis Estimates; and the 2020 Census PL 94-171 Redistricting File (see https://www2.census.gov/programs-surveys/popest/technical-documentation/methodology/2020-2021/methods-statement-v2021.pdf). Data from the Medicare program were used to supplement vital statistics and census data for ages 66 and older for the total, Black non-Hispanic, and White non-Hispanic populations. Because reliable Medicare data were not available for the Hispanic, American Indian and Alaska Native non-Hispanic, and Asian non-Hispanic populations, statistical modeling was used to produce reliable old-age mortality estimates. The U.S. life tables by Hispanic origin and race are based on death rates that have been adjusted for race and ethnicity misclassification on death certificates using classification ratios (or correction factors) generated from studies that evaluate Hispanic-origin and race misclassification on death certificates in the United States (8–10). (See Technical Notes for a detailed description of the data sets and methodology used to estimate the life tables and life table partitioning by cause of death.)

Expectation of life

The most frequently used life table statistic is life expectancy (e_x), which is the average number of years of life remaining for people who have attained a given age (x). Life expectancy and other life table values for each age in 2021 are shown for the total population and by Hispanic origin and race and sex in Tables 1–18. Life expectancy is summarized by age, Hispanic origin and race, and sex in Table A.

Life expectancy at birth (e_0) for 2021 for the total population was 76.4 years. This represents the average number of years that members of the hypothetical life table cohort can expect to live at the time of birth (Table A).

Survivors to specified ages

Another way of assessing the longevity of the period life table cohort is to determine the proportion that survives to specified ages. The l_x column of the life table provides the data for computing this proportion. Table B summarizes the number of survivors by age, Hispanic origin and race, and sex. To illustrate, 51,702 people out of the original 2021 hypothetical life table cohort of 100,000 (or 51.7 %) were alive at exact age 80. In other words, the probability that a person will survive from birth to age 80, given 2021 age-specific mortality, is 51.7%. Probabilities of survival can be calculated at any age by dividing the number of survivors at the terminal age by the number at the beginning age. For example, to calculate the probability of surviving from age 20 to age 85, one would divide the number of survivors at age 85 (36,667) by the number of survivors at age 20 (98,906), which results in a 37.1% probability of survival.

Explanation of the columns of the life table

Column 1. Age (between x and $x+1$)—Shows the age interval between the two exact ages indicated. For instance, "20–21" means the 1-year interval between the 20th and 21st birthdays.

Column 2. Probability of dying (q_x)—Shows the probability of dying between ages x and $x+1$. For example, for males in the age interval 20–21 years, the probability of dying is 0.001361 (Table 2). This column forms the basis of the life table; all subsequent columns are calculated from it.

Column 3. Number surviving (l_x)—Shows the number of people from the original hypothetical cohort of 100,000 live births who survive to the beginning of each age interval. The l_x values are computed from the q_x values, which are successively applied to the remainder of the original 100,000 people still alive at the beginning of each age interval. Consequently, out of 100,000 female babies born alive, 99,496 will complete the first year of life and enter the second; 99,352 will reach age 10; 99,109 will reach age 20; and 44,237 will live to age 85 (Table 3).

Column 4. Number dying (d_x)—Shows the number dying in each successive age interval out of the original 100,000 live births. For example, out of 100,000 males born alive, 583 will die in the first year of life; 134 between ages 20 and 21; and 657 after reaching age 100 (Table 2). Each figure in column 4 is the difference between two successive figures in column 3.

Column 5. Person-years lived (L_x)—Shows the number of person-years lived by the hypothetical life table cohort within an age interval x to $x+1$. Each figure in column 5 represents the total time (in years) lived between two indicated birthdays by all those reaching the earlier birthday. Consequently, the figure 98,644 for males in the age interval 20–21 is the total number of years lived between the 20th and 21st birthdays by the 98,711 males (column 3) who reached their 20th birthday out of 100,000 males born alive (Table 2).

Column 6. Total number of person-years lived (T_x)—Shows the total number of person-years that would be lived after the beginning of the age interval x to $x+1$ by the hypothetical life table cohort. For example, 5,370,868 is the total number of years lived after reaching age 20 by the 98,711 males who reached that age (Table 2).

Table A. Expectation of life, by age, Hispanic origin and race, and sex: United States, 2021

							Non-Hispanic											
	All origins			Hispanic			American Indian and Alaska Native			Asian			Black			White		
Age (years)	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
0	76.4	73.5	79.3	77.8	74.6	81.1	65.6	62.2	69.2	83.5	81.2	85.6	71.2	67.6	75.0	76.7	74.0	79.5
1	75.8	73.0	78.7	77.2	74.0	80.5	65.1	61.7	68.8	82.8	80.5	84.9	71.0	67.4	74.7	76.0	73.4	78.8
5	71.9	69.1	74.8	73.3	70.1	76.5	61.2	57.8	64.9	78.8	76.5	80.9	67.1	63.5	70.8	72.1	69.4	74.8
10	66.9	64.1	69.8	68.3	65.1	71.5	56.3	52.9	59.9	73.9	71.6	75.9	62.2	58.6	65.9	67.1	64.5	69.9
15	62.0	59.2	64.9	63.4	60.2	66.6	51.3	48.0	55.0	68.9	66.6	71.0	57.3	53.7	61.0	62.1	59.5	64.9
20	57.1	54.4	60.0	58.5	55.4	61.7	46.7	43.4	50.3	64.0	61.7	66.0	52.7	49.2	56.1	57.3	54.7	60.0
25	52.5	49.8	55.2	53.8	50.8	56.9	42.4	39.2	45.8	59.2	56.9	61.1	48.2	44.9	51.4	52.6	50.1	55.2
30	47.8	45.4	50.4	49.2	46.3	52.1	38.3	35.3	41.5	54.3	52.1	56.2	43.8	40.7	46.8	47.9	45.6	50.4
35	43.3	41.0	45.7	44.6	41.9	47.3	34.5	31.7	37.5	49.5	47.3	51.3	39.5	36.6	42.3	43.4	41.2	45.7
40	38.8	36.6	41.1	40.1	37.5	42.6	31.0	28.4	33.7	44.7	42.6	46.4	35.3	32.5	37.8	38.9	36.8	41.1
45	34.4	32.3	36.5	35.6	33.2	37.9	27.5	25.1	30.0	39.9	37.9	41.6	31.1	28.6	33.5	34.5	32.5	36.5
50	30.1	28.2	32.1	31.2	28.9	33.3	24.5	22.3	26.7	35.2	33.3	36.8	27.1	24.8	29.3	30.2	28.3	32.1
55	26.0	24.2	27.8	27.0	24.9	28.9	21.5	19.6	23.4	30.7	28.8	32.1	23.3	21.1	25.3	26.0	24.3	27.8
60	22.1	20.5	23.7	23.0	21.1	24.7	18.8	17.2	20.3	26.2	24.6	27.5	19.8	17.8	21.6	22.1	20.5	23.7
65	18.4	17.0	19.7	19.3	17.6	20.6	16.3	15.0	17.3	21.9	20.5	23.0	16.7	14.9	18.1	18.4	17.0	19.7
70	14.9	13.7	16.0	15.8	14.4	16.8	13.6	12.6	14.4	17.9	16.7	18.7	13.7	12.3	14.9	14.9	13.7	15.9
75	11.6	10.6	12.5	12.4	11.3	13.2	11.2	10.4	11.7	14.0	13.0	14.6	11.0	9.8	11.8	11.5	10.6	12.4
80	8.7	7.9	9.4	9.4	8.5	9.9	9.1	8.5	9.4	10.5	9.7	10.9	8.5	7.6	9.1	8.7	7.8	9.3
85	6.3	5.6	6.7	6.9	6.1	7.1	7.2	6.8	7.3	7.5	6.9	7.7	6.4	5.6	6.7	6.2	5.6	6.6
90	4.4	3.9	4.6	4.8	4.3	4.9	5.6	5.4	5.6	5.0	4.7	5.1	4.7	4.2	4.9	4.3	3.8	4.5
95	3.0	2.7	3.2	3.4	3.0	3.3	4.5	4.3	4.3	3.4	3.1	3.3	3.4	3.1	3.5	3.0	2.6	3.1
100	2.2	1.9	2.2	2.4	2.2	2.3	3.6	3.5	3.4	2.3	2.2	2.2	2.6	2.4	2.6	2.1	1.9	2.2

NOTE: Life tables by Hispanic origin and race are based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Column 7. Expectation of life (e_x)—The expectation of life at any given age is the average number of years remaining to be lived by those surviving to that age, based on a given set of age-specific rates of dying. It is calculated by dividing the total person-years that would be lived beyond age x by the number of people who survived to that age interval (T_x/l_x). Consequently, the average remaining lifetime for males who reach age 20 is 54.4 years (5,370,868 divided by 98,711) (Table 2).

Results

Life expectancy in the United States

Tables 1–18 show complete life tables for 2021 by Hispanic origin and race and sex. Table A summarizes life expectancy by age, Hispanic origin and race, and sex. Life expectancy at birth for 2021 represents the average number of years that a group of infants would live if they were to experience throughout life the age-specific death rates prevailing in 2021. In 2021, life expectancy at birth was 76.4 years, decreasing by 0.6 year from 77.0 in 2020 (Table 19).

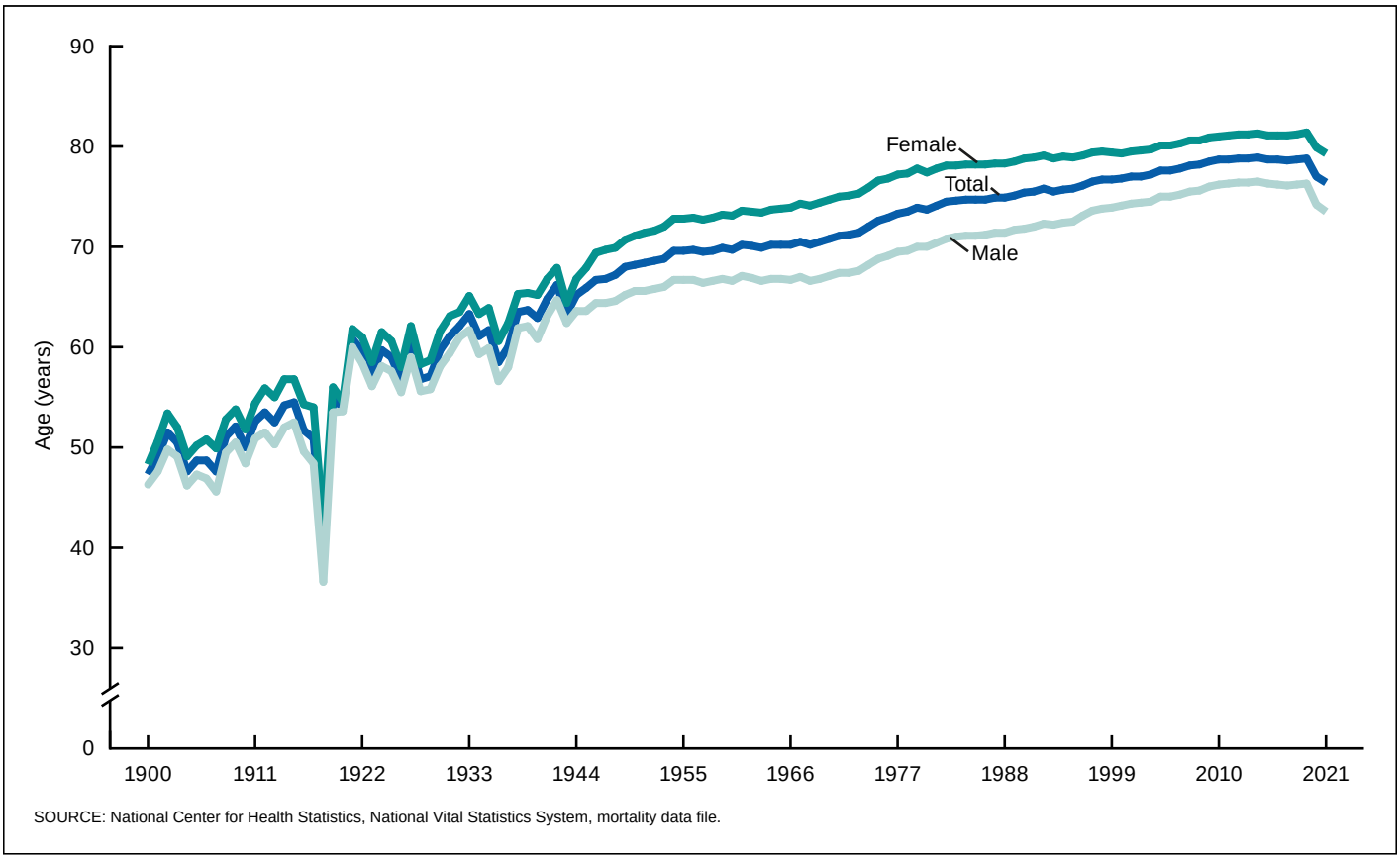
The difference in life expectancy between the sexes was 5.8 years in 2021, increasing 0.1 year from 2020. From 1900 to 1975, the difference in life expectancy between the sexes increased from 2.0 years to 7.8 years (Figure 1, Table 19). The increasing gap during these years is attributed to increases in male mortality due to ischemic heart disease and lung cancer, both of which increased largely as the result of men's early and widespread adoption of cigarette smoking (11,12). Between 1979 and 2010, the difference in life expectancy between the sexes narrowed from 7.8 years to 4.8 years, and then increased to 5.8 in 2021 (Figure 1, Table 19).

The 2021 life table may be used to compare life expectancy at any age from birth onward. Based on mortality experienced in 2021, a person age 65 could expect to live an average of 18.4 more years for a total of 83.4 years; a person age 85 could expect to live an additional 6.3 years for a total of 91.3 years; and a person age 100 could expect to live an additional 2.2 years, on average (Table A).

Life expectancy by Hispanic origin and race

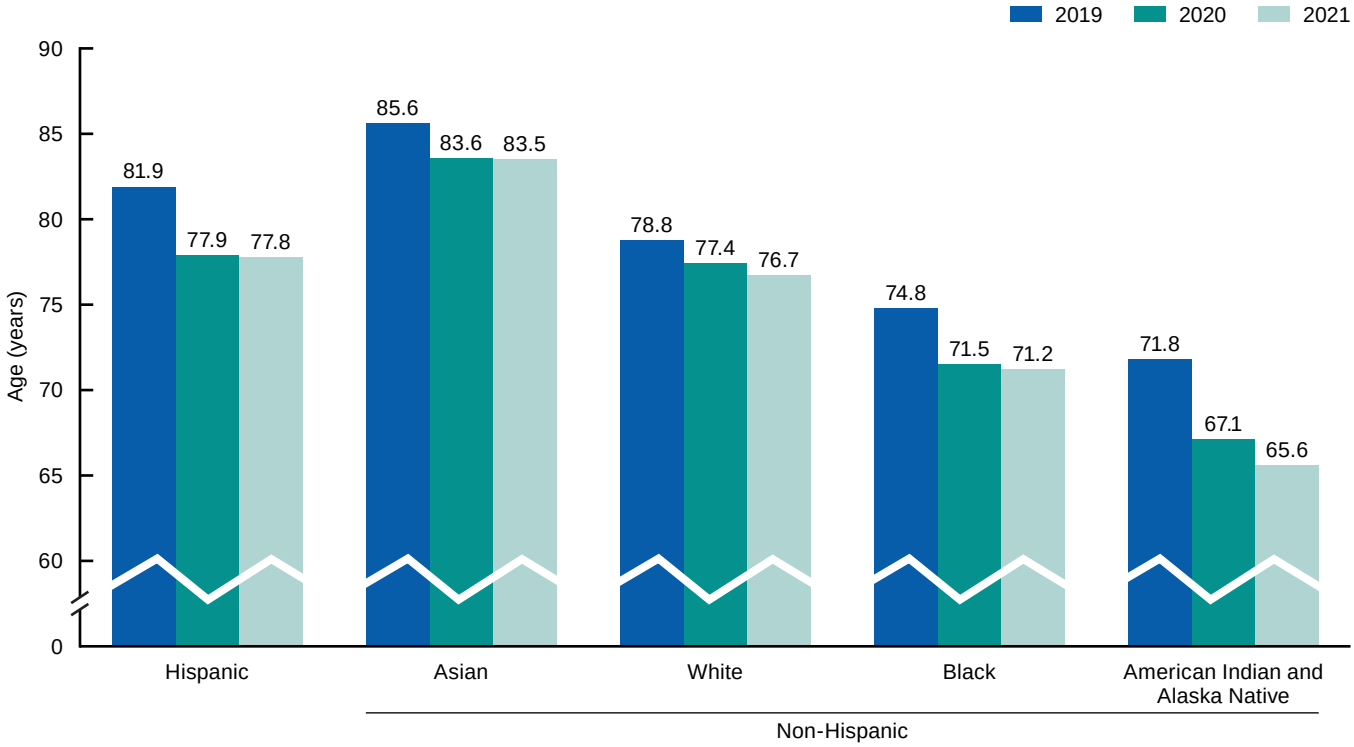
In 2021, the Hispanic population had a life expectancy of 77.8 years. Among the non-Hispanic population, the Asian population had the highest life expectancy at birth (83.5 years), followed by the White (76.7), Black (71.2), and American Indian and Alaska Native (65.6) populations (Table A, Figure 2). From 2020 to 2021, life expectancy at birth declined for all Hispanic-origin and race populations (Figure 2). Life expectancy declined by 0.1 year for the Hispanic population (from 77.9 to 77.8). Within the non-Hispanic population, life expectancy declined by 1.5 years for the American Indian and Alaska Native population (67.1 to 65.6), 0.7 year for the White population (77.4 to 76.7), 0.3 year for the Black population (71.5 to 71.2), and 0.1 year for the Asian population (83.6 to 83.5).

Figure 1. Life expectancy at birth, by sex: United States, 1900–2021



SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Figure 2. Life expectancy at birth, by Hispanic origin and race: United States, 2019–2021



SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Between 2020 and 2021, life expectancy did not change for Hispanic males (74.6) but declined 0.2 years for Hispanic females (from 81.3 to 81.1) (Figure 3). Within the non-Hispanic population, American Indian and Alaska Native males experienced the greatest decline, 1.6 years (63.8 to 62.2), followed by American Indian and Alaska Native females with a decline of 1.5 years (70.7 to 69.2), White males with a decline of 0.8 year (74.8 to 74.0), White females with a decline of 0.6 year (80.1 to 79.5), Black females with a decline of 0.4 year (75.4 to 75.0), Asian females with a decline of 0.3 year (85.9 to 85.6), and Black males with a decline of 0.2 year (67.8 to 67.6). Asian males experienced an increase in life expectancy of 0.1 year (from 81.1 to 81.2).

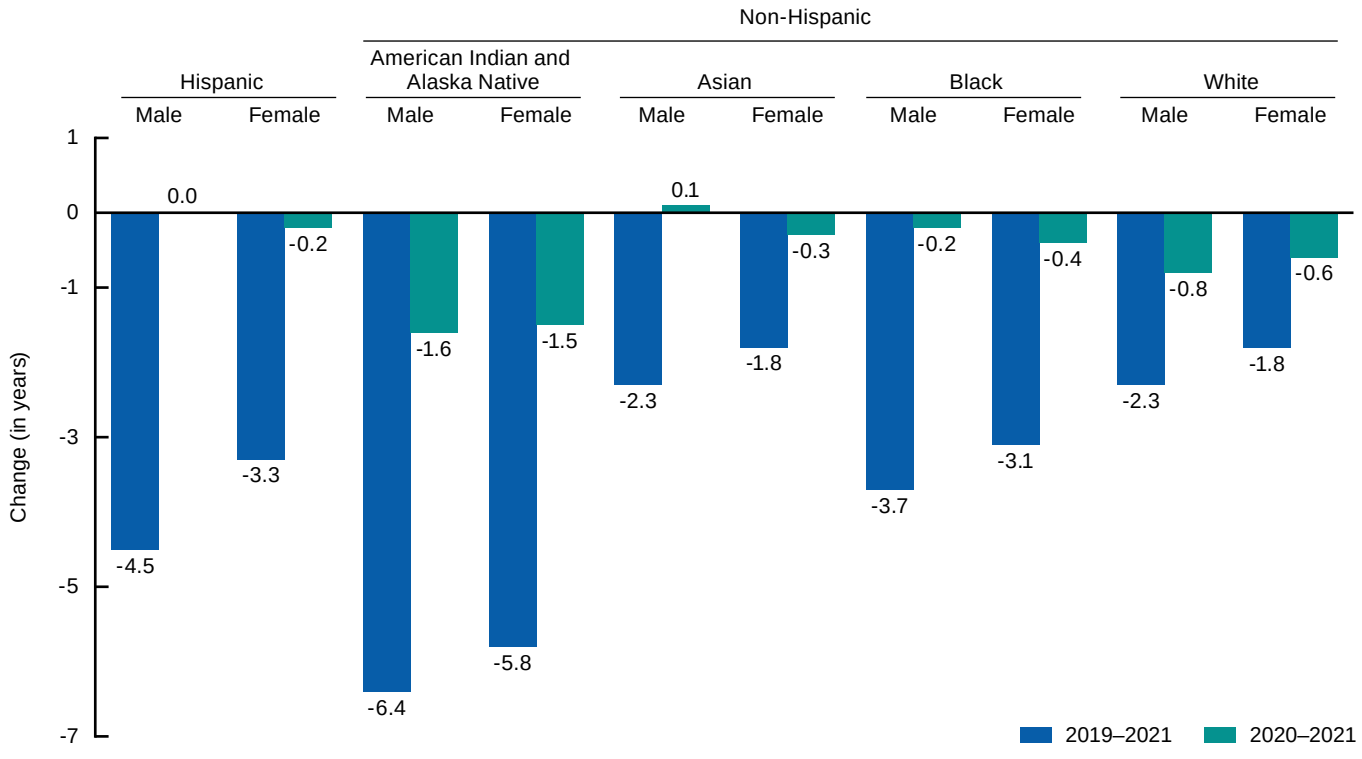
From 2019 to 2021, life expectancy declined by 4.5 years for Hispanic males (from 79.1 to 74.6) and by 3.3 years for Hispanic females (84.4 to 81.1) (Figure 3). Within the non-Hispanic population, life expectancy declined by 6.4 years for American Indian and Alaska Native males (68.6 to 62.2), 5.8 years for American Indian and Alaska Native females (75.0 to 69.2), 3.7 years for Black males (71.3 to 67.6), 3.1 years for Black females (78.1 to 75.0), 2.3 years for White males (76.3 to 74.0), 2.3 years for Asian males (83.5 to 81.2), and 1.8 years each for Asian (87.4 to 85.6) and White (81.3 to 79.5) females.

Effect on life expectancy of changes in cause-specific mortality

Changes in mortality by age and cause of death can have a major effect on life expectancy (Figures 4–6). Declines in cause-specific mortality contribute to increases in life expectancy, while increases in cause-specific mortality contribute to decreases in life expectancy. The decline of 0.6 year in life expectancy from 2020 to 2021 was primarily due to increases in mortality due to COVID-19 (59.7% of the negative contribution), unintentional injuries (19.7%), Chronic liver disease and cirrhosis (3.1%), suicide (2.0%), and homicide (1.7%). The decline in life expectancy would have been even greater were it not for the offsetting effects of decreases in mortality due to influenza and pneumonia (29.2%), Chronic lower respiratory diseases (24.7%), Alzheimer disease (18.3%), cancer (17.9%), and Parkinson disease (2.7%) (see Technical Notes for a description of the life table partitioning method) (13).

The American Indian and Alaska Native non-Hispanic population experienced the largest decline in life expectancy from 2020 to 2021 (1.5 years). This decrease was primarily due to increases in mortality due to unintentional injuries (24.3%), COVID-19 (21.1%), Chronic liver disease and cirrhosis (20.1%), suicide (5.5%), and heart disease (4.1%). The decline in life expectancy would have been even greater were it not for the offsetting effects of decreases in mortality due to influenza and pneumonia (24.8%), homicide (23.3%), congenital malformations (12.0%), Perinatal conditions (9.4%), and Alzheimer disease (4.3%).

Figure 3. Change in life expectancy at birth, by Hispanic origin and race and sex: United States, 2019–2021 and 2020–2021



NOTE: Life tables by Hispanic origin and race are based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.
SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

The second-greatest decline in life expectancy was experienced by the White non-Hispanic population (0.7 year). The decline was due primarily to increases in mortality due to COVID-19 (64.0%), unintentional injuries (14.5%), heart disease (3.3%), Chronic liver disease and cirrhosis (2.6%), and suicide (1.5%). The decrease in life expectancy was offset by decreases in mortality due to influenza and pneumonia (27.5%), Chronic lower respiratory diseases (24.4%), Alzheimer disease (19.3%), cancer (18.0%), and Parkinson disease (3.1%).

The third-largest decrease in life expectancy was experienced by the Black non-Hispanic population (0.3 year). The decline was primarily due to increases in mortality due to unintentional injuries (38.5%), COVID-19 (30.5%), homicide (8.7%), suicide (4.2%), and Chronic liver disease and cirrhosis (2.9%). The decline in life expectancy would have been greater were it not for the offsetting effects of decreases in mortality due to heart disease (22.7%), cancer (19.6%), influenza and pneumonia (14.7%), Chronic lower respiratory diseases (12.3%), and Perinatal conditions (7.4%).

The Asian non-Hispanic population experienced a decline in life expectancy of 0.1 year. The decline was primarily due to increases in mortality due to cancer (24.5%), unintentional injuries (17.3%), perinatal conditions (14.7%), stroke (7.6%) and hypertension (6.3%). The decrease in life expectancy was offset by decreases in mortality due to influenza and pneumonia (32.0%), Chronic lower respiratory diseases (16.3%), diabetes (15.4%), heart disease (8.4%), and Alzheimer disease (7.5%).

The Hispanic population also experienced a 0.1-year decline in life expectancy, primarily due to increases in mortality due to unintentional injuries (44.7%), COVID-19 (26.9%), homicide (6.3%), Chronic liver disease and cirrhosis (5.6%), and suicide (3.3%). The negative effects of these causes were offset by decreases in mortality due to heart disease (36.8%), influenza and pneumonia (20.0%), Alzheimer disease (12.4%), diabetes (12.1%), and Chronic lower respiratory diseases (9.0%).

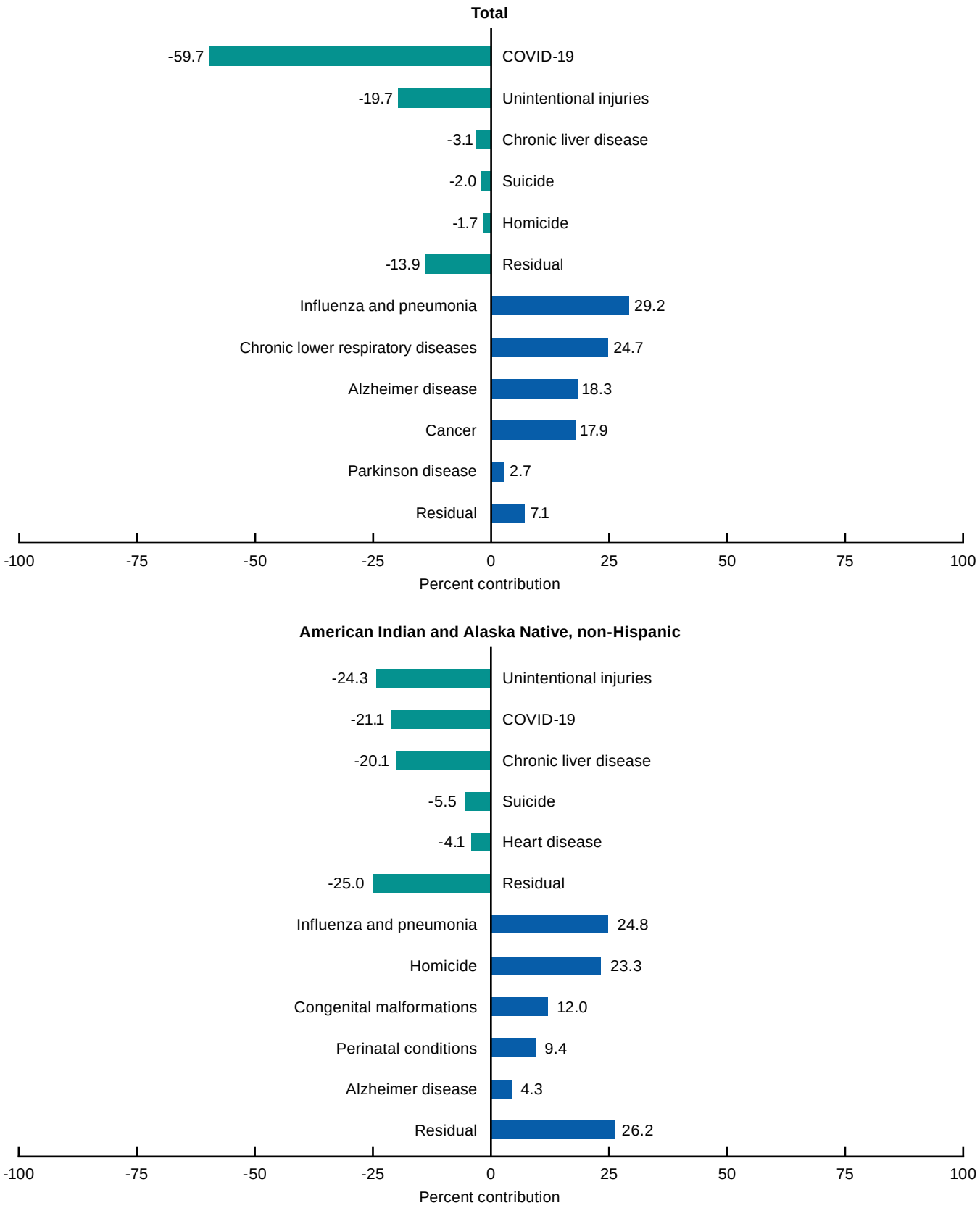
Survivorship in the United States

Table B summarizes the number of survivors out of 100,000 people born alive (l_x) by age, Hispanic origin and race, and sex for 2021. In 2021, 99.5% of all infants born in the United States survived the first year of life; 98.9% survived to age 20; 79.6% survived to age 65; 36.7% survived to age 85; and 1.4% survived to age 100.

Survivorship by Hispanic origin and race

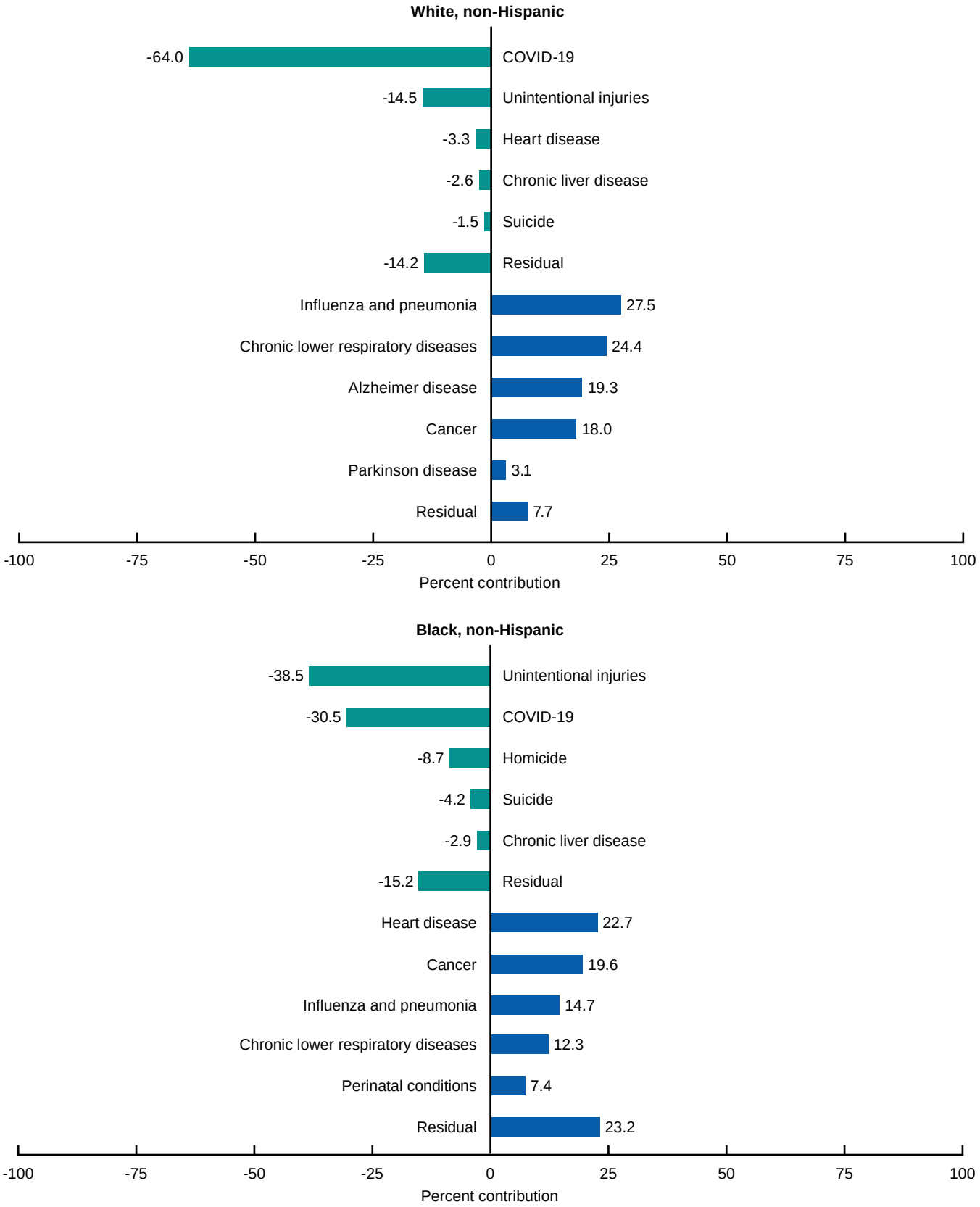
In 2021, 99.5% of Hispanic infants survived the first year of life. Among the non-Hispanic population, 99.6% of Asian and White infants survived the first year of life, followed by 99.3% of American Indian and Alaska Native infants and 98.9% of Black infants (Figure 7, Table B). The probability of survival by selected ages varied across Hispanic-origin and race groups. In 2021, 99.0% of the Hispanic population survived to age 20, 81.6% to

Figure 4. Percent contribution to the changes in life expectancy from 2020 to 2021, by cause of death and Hispanic origin and race: Total and American Indian and Alaska Native, non-Hispanic populations



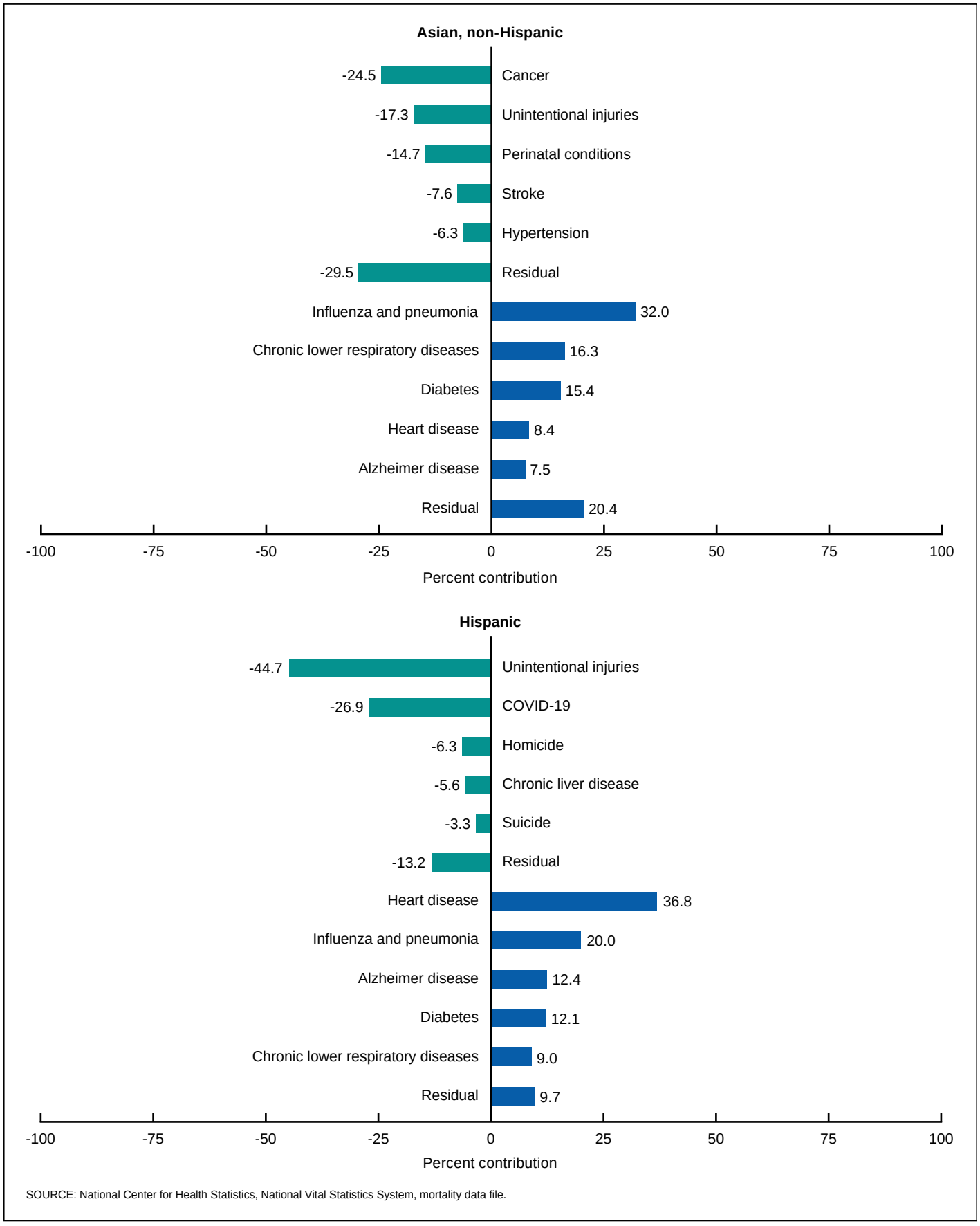
SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Figure 5. Percent contribution to the changes in life expectancy from 2020 to 2021, by cause of death and Hispanic origin and race: White, non-Hispanic and Black, non-Hispanic populations



SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Figure 6. Percent contribution to the changes in life expectancy from 2020 to 2021, by cause of death and Hispanic origin and race: Asian, non-Hispanic and Hispanic populations



SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

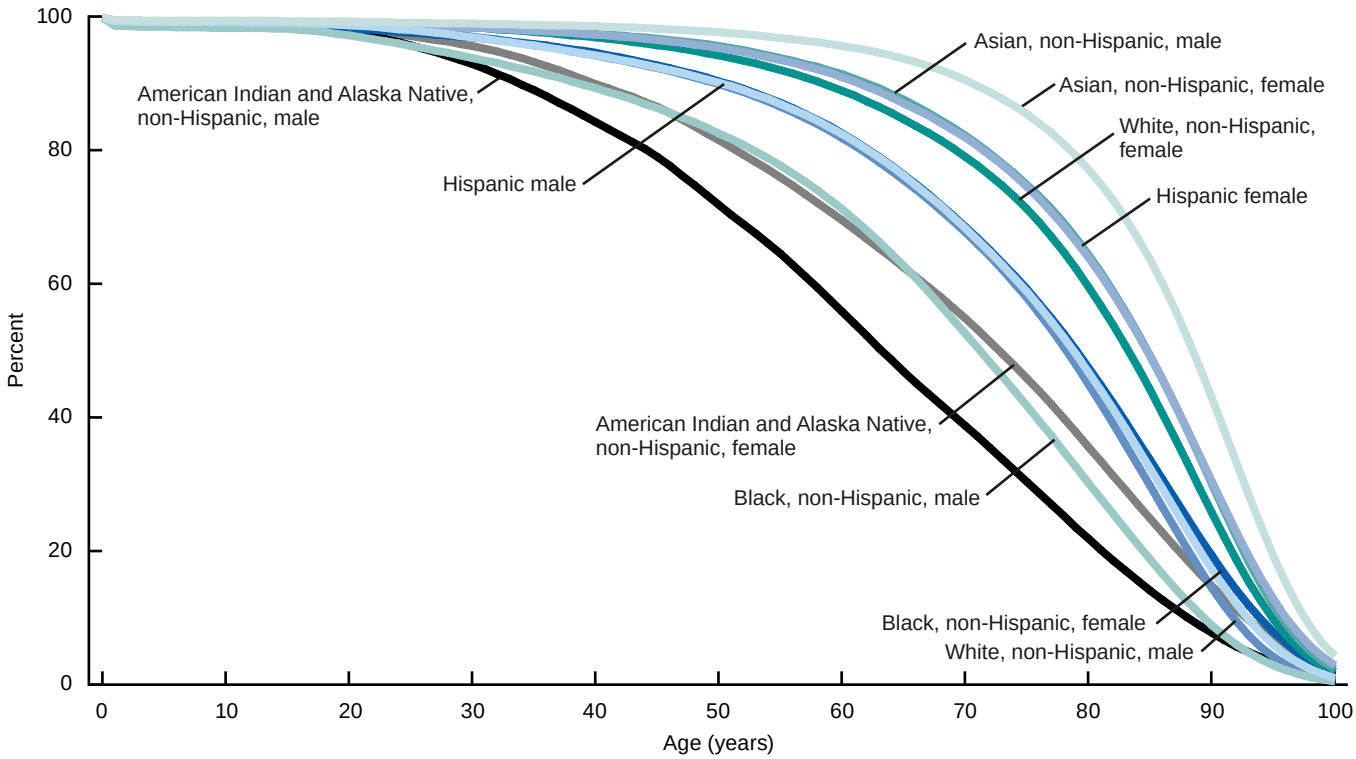
Table B. Number of survivors out of 100,000 born alive, by age, Hispanic origin and race, and sex: United States, 2021

Age (years)	All origins			Hispanic			Non-Hispanic											
							American Indian and Alaska Native			Asian			Black			White		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
0	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
1	99,455	99,417	99,496	99,520	99,488	99,552	99,257	99,247	99,259	99,632	99,599	99,668	98,949	98,849	99,051	99,562	99,532	99,594
5	99,355	99,308	99,404	99,439	99,408	99,472	99,042	98,979	99,099	99,576	99,539	99,615	98,744	98,652	98,864	99,475	99,426	99,526
10	99,296	99,242	99,352	99,390	99,357	99,427	98,937	98,876	98,992	99,537	99,494	99,582	98,625	98,527	98,765	99,423	99,363	99,487
15	99,214	99,147	99,283	99,317	99,278	99,360	98,777	98,715	98,835	99,491	99,444	99,542	98,478	98,360	98,658	99,349	99,270	99,433
20	98,906	98,711	99,109	99,047	98,907	99,197	98,057	97,826	98,279	99,339	99,285	99,453	97,836	97,379	98,365	99,092	98,921	99,273
25	98,335	97,896	98,795	98,523	98,163	98,907	96,607	95,946	97,258	99,030	98,930	99,306	96,769	95,813	97,815	98,606	98,239	98,992
30	97,566	96,811	98,357	97,817	97,108	98,569	94,408	93,064	95,777	98,744	98,551	99,155	95,498	94,028	97,081	97,889	97,246	98,566
35	96,577	95,472	97,733	96,945	95,870	98,103	91,275	89,191	93,442	98,428	98,125	98,990	93,979	91,989	96,090	96,914	95,942	97,933
40	95,363	93,895	96,897	95,905	94,418	97,520	87,185	84,388	90,109	98,059	97,614	98,751	92,065	89,489	94,752	95,697	94,385	97,074
45	93,824	91,958	95,776	94,573	92,601	96,720	82,828	79,181	86,662	97,538	96,888	98,412	89,657	86,488	92,916	94,167	92,492	95,929
50	91,803	89,467	94,245	92,779	90,306	95,481	76,675	71,977	81,660	96,737	95,788	97,873	86,602	82,746	90,522	92,158	90,060	94,371
55	89,000	86,044	92,099	90,281	87,132	93,745	70,188	64,669	76,110	95,456	94,024	97,018	82,552	77,867	87,290	89,388	86,725	92,213
60	85,017	81,235	88,984	86,669	82,602	91,146	62,572	56,019	69,683	93,672	91,552	95,829	77,026	71,389	82,721	85,464	82,013	89,127
65	79,571	74,780	84,604	81,570	76,387	87,249	54,466	47,020	62,648	90,892	87,756	93,912	69,672	62,902	76,517	80,137	75,722	84,833
70	72,671	66,772	78,857	75,031	68,505	82,059	46,513	38,920	54,950	86,649	82,352	90,673	60,702	52,730	68,729	73,392	67,896	79,235
75	63,810	57,001	70,967	66,603	58,966	74,730	37,780	30,541	46,011	80,516	75,035	85,558	50,597	41,890	59,355	64,531	58,093	71,381
80	51,702	44,313	59,493	55,311	46,928	64,080	28,343	21,952	35,734	71,187	64,510	77,321	38,950	30,316	47,649	52,197	45,115	59,748
85	36,667	29,498	44,237	40,842	32,479	49,262	19,186	14,220	24,994	56,955	49,432	63,756	26,312	18,890	33,750	36,832	29,850	44,270
90	20,222	14,623	26,100	24,301	17,447	30,641	11,142	7,868	14,889	37,174	30,193	43,111	14,248	9,043	19,484	20,105	14,643	25,909
95	7,260	4,407	10,201	9,981	6,053	12,958	5,181	3,467	6,962	16,428	11,992	19,438	5,528	2,984	8,014	7,035	4,252	9,919
100	1,390	657	2,127	2,383	1,134	3,011	1,826	1,162	2,372	3,873	2,462	4,372	1,355	601	2,027	1,283	587	1,985

NOTE: Life tables by Hispanic origin and race are based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Figure 7. Percentage surviving, by Hispanic origin and race, age, and sex: United States, 2021



SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

age 65, and 40.8% to age 85. Among the non-Hispanic population, the Asian population had the highest survival probability at age 20 (99.3%), followed by the White population (99.1%), the American Indian and Alaska Native population (98.1%), and the Black population (97.8%). By age 65, the Asian population had the highest survival probability at 90.9%, followed by the White (80.1%), Black (69.7%), and American Indian and Alaska Native (54.5%) populations. The survival advantage experienced by the Asian population increased with age so that by age 85, 57.0% had survived, compared with 36.8% of the White, 26.3% of the Black, and 19.2% of the American Indian and Alaska Native populations.

Summary

U.S. life expectancy at birth for 2021 was 76.4 years, the lowest it has been since 1996. Both male (73.5) and female (79.3) life expectancy declined to levels not seen since 1996. From 2020 to 2021, the decline in life expectancy at birth based on the final 2021 life tables was 0.3 year less than that based on provisional 2021 life tables for the total (provisional: 76.1) and male (73.2) populations, and 0.2 year less for the female population (79.1) (14). The differences are mostly due to differences in mortality estimates for ages 85 and older. Medicare data, which is used to supplement vital statistics mortality data in the construction of annual final U.S. life tables, was not available for the estimation of provisional life tables. In addition, the 2021 postcensal population estimates used to produce the two sets of tables differed. The final tables are based on the 2021 postcensal estimates that were constructed using the Blended Base developed by the U.S. Census Bureau, while those used for the provisional tables were based on the April 1, 2010, decennial census (see https://www2.census.gov/programs-surveys/popest/technical-documentation/methodology/2020-2021/methods-statement-v2021.pdf).

The American Indian and Alaska Native non-Hispanic population experienced the greatest decline in life expectancy between 2020 and 2021, from 67.1 to 65.6 years. The White non-Hispanic population experienced the second largest decline in life expectancy (from 77.4 to 76.7) and was the lowest it has been since 1995 for the White population (regardless of Hispanic origin). Life expectancy for the Black non-Hispanic population declined from 71.5 to 71.2, a level last seen in 1997 for the Black population (regardless of Hispanic origin). Life expectancy for the Hispanic population declined from 77.9 to 77.8, a level lower than in 2006 (80.3), the first year for which life expectancy estimates by Hispanic origin were produced (15,16). Life expectancy for the Asian non-Hispanic population declined from 83.6 to 83.5 and remained the highest life expectancy in the United States.

Disparities in life expectancy at birth by Hispanic origin and race decreased in some cases and increased in others in 2021 compared with 2020. The White non-Hispanic advantage relative to the Black non-Hispanic population decreased by 6.8% from 2020 (5.9) to 2021 (5.5). The life expectancy gap between the Black and White (regardless of Hispanic origin) populations

had been narrowing over the past several decades, declining from 7.1 years in 1993 to 4.0 years in 2019 (15). As a result of the pandemic, the gap increased to 5.9 years in 2020. The last time the gap in life expectancy between the White and Black (regardless of Hispanic origin) populations was this large was in 2000 (15). The White non-Hispanic advantage relative to the American Indian and Alaska Native non-Hispanic population increased 7.8% from 2020 (10.3) to 2021 (11.1).

The Hispanic advantage relative to the White non-Hispanic population increased by 120% from 2020 (0.5) to 2021 (1.1). The Hispanic population lost most of the mortality advantage it had experienced relative to the White non-Hispanic population through 2019 (3.1) as a result of the pandemic. The Asian non-Hispanic life expectancy advantage relative to the White non-Hispanic population increased by 9.7% from 2020 (6.2) to 2021 (6.8). In both cases, the changing gap was the result of larger increases in mortality in the White non-Hispanic population.

The decline in life expectancy at birth for the total population and all Hispanic-origin and race groups shown in this report was mainly due to increases in mortality due to COVID-19 and unintentional injuries, with the effect of the latter overtaking the former for several populations.

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List of Detailed Tables

Table 1. Life table for the total population: United States, 2021

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table01.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.005446	100,000	545	99,522	7,637,023	76.4
1–2	0.000403	99,455	40	99,435	7,537,501	75.8
2–3	0.000254	99,415	25	99,403	7,438,065	74.8
3–4	0.000192	99,390	19	99,381	7,338,663	73.8
4–5	0.000161	99,371	16	99,363	7,239,282	72.9
5–6	0.000143	99,355	14	99,348	7,139,919	71.9
6–7	0.000130	99,341	13	99,334	7,040,571	70.9
7–8	0.000119	99,328	12	99,322	6,941,237	69.9
8–9	0.000107	99,316	11	99,311	6,841,915	68.9
9–10	0.000095	99,305	9	99,301	6,742,604	67.9
10–11	0.000090	99,296	9	99,292	6,643,303	66.9
11–12	0.000100	99,287	10	99,282	6,544,012	65.9
12–13	0.000136	99,277	13	99,270	6,444,730	64.9
13–14	0.000205	99,264	20	99,253	6,345,459	63.9
14–15	0.000299	99,243	30	99,228	6,246,206	62.9
15–16	0.000405	99,214	40	99,194	6,146,977	62.0
16–17	0.000513	99,173	51	99,148	6,047,784	61.0
17–18	0.000623	99,123	62	99,092	5,948,636	60.0
18–19	0.000731	99,061	72	99,025	5,849,544	59.1
19–20	0.000837	98,988	83	98,947	5,750,519	58.1
20–21	0.000949	98,906	94	98,859	5,651,572	57.1
21–22	0.001065	98,812	105	98,759	5,552,714	56.2
22–23	0.001170	98,706	115	98,649	5,453,955	55.3
23–24	0.001259	98,591	124	98,529	5,355,306	54.3
24–25	0.001335	98,467	131	98,401	5,256,777	53.4
25–26	0.001406	98,335	138	98,266	5,158,376	52.5
26–27	0.001480	98,197	145	98,125	5,060,110	51.5
27–28	0.001560	98,052	153	97,975	4,961,985	50.6
28–29	0.001651	97,899	162	97,818	4,864,010	49.7
29–30	0.001749	97,737	171	97,652	4,766,191	48.8
30–31	0.001849	97,566	180	97,476	4,668,539	47.8
31–32	0.001947	97,386	190	97,291	4,571,063	46.9
32–33	0.002040	97,196	198	97,097	4,473,772	46.0
33–34	0.002128	96,998	206	96,895	4,376,675	45.1
34–35	0.002216	96,792	214	96,685	4,279,780	44.2
35–36	0.002308	96,577	223	96,466	4,183,095	43.3
36–37	0.002409	96,354	232	96,238	4,086,629	42.4
37–38	0.002519	96,122	242	96,001	3,990,391	41.5
38–39	0.002638	95,880	253	95,754	3,894,389	40.6
39–40	0.002768	95,627	265	95,495	3,798,636	39.7
40–41	0.002916	95,363	278	95,223	3,703,141	38.8
41–42	0.003078	95,084	293	94,938	3,607,917	37.9
42–43	0.003244	94,792	307	94,638	3,512,979	37.1
43–44	0.003410	94,484	322	94,323	3,418,342	36.2
44–45	0.003587	94,162	338	93,993	3,324,018	35.3
45–46	0.003792	93,824	356	93,646	3,230,025	34.4
46–47	0.004036	93,468	377	93,280	3,136,379	33.6
47–48	0.004315	93,091	402	92,890	3,043,099	32.7
48–49	0.004625	92,690	429	92,475	2,950,209	31.8
49–50	0.004959	92,261	458	92,032	2,857,733	31.0
50–51	0.005308	91,803	487	91,560	2,765,701	30.1
51–52	0.005686	91,316	519	91,056	2,674,142	29.3
52–53	0.006118	90,797	555	90,519	2,583,085	28.4
53–54	0.006620	90,241	597	89,943	2,492,566	27.6
54–55	0.007184	89,644	644	89,322	2,402,623	26.8
55–56	0.007766	89,000	691	88,654	2,313,301	26.0
56–57	0.008369	88,309	739	87,939	2,224,647	25.2
57–58	0.009042	87,570	792	87,174	2,136,708	24.4
58–59	0.009795	86,778	850	86,353	2,049,534	23.6
59–60	0.010606	85,928	911	85,472	1,963,181	22.8

See footnote at end of table.

Table 1. Life table for the total population: United States, 2021—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table01.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.011467	85,017	975	84,529	1,877,709	22.1
61–62	0.012333	84,042	1,037	83,523	1,793,180	21.3
62–63	0.013173	83,005	1,093	82,458	1,709,656	20.6
63–64	0.013981	81,912	1,145	81,339	1,627,198	19.9
64–65	0.014798	80,767	1,195	80,169	1,545,859	19.1
65–66	0.015666	79,571	1,247	78,948	1,465,690	18.4
66–67	0.016726	78,325	1,310	77,670	1,386,742	17.7
67–68	0.017853	77,015	1,375	76,327	1,309,072	17.0
68–69	0.019122	75,640	1,446	74,917	1,232,745	16.3
69–70	0.020526	74,193	1,523	73,432	1,157,828	15.6
70–71	0.021919	72,671	1,593	71,874	1,084,396	14.9
71–72	0.023536	71,078	1,673	70,241	1,012,522	14.2
72–73	0.025372	69,405	1,761	68,524	942,281	13.6
73–74	0.027616	67,644	1,868	66,710	873,756	12.9
74–75	0.029889	65,776	1,966	64,793	807,047	12.3
75–76	0.033726	63,810	2,152	62,734	742,254	11.6
76–77	0.036933	61,658	2,277	60,519	679,520	11.0
77–78	0.041016	59,380	2,436	58,163	619,001	10.4
78–79	0.044758	56,945	2,549	55,671	560,838	9.8
79–80	0.049530	54,396	2,694	53,049	505,168	9.3
80–81	0.054120	51,702	2,798	50,303	452,119	8.7
81–82	0.059483	48,904	2,909	47,449	401,816	8.2
82–83	0.065401	45,995	3,008	44,491	354,367	7.7
83–84	0.072224	42,987	3,105	41,434	309,876	7.2
84–85	0.080609	39,882	3,215	38,275	268,441	6.7
85–86	0.089139	36,667	3,268	35,033	230,167	6.3
86–87	0.099586	33,399	3,326	31,736	195,134	5.8
87–88	0.111021	30,073	3,339	28,403	163,398	5.4
88–89	0.123484	26,734	3,301	25,083	134,995	5.0
89–90	0.137001	23,433	3,210	21,828	109,911	4.7
90–91	0.151584	20,222	3,065	18,690	88,084	4.4
91–92	0.167229	17,157	2,869	15,722	69,394	4.0
92–93	0.183913	14,288	2,628	12,974	53,672	3.8
93–94	0.201590	11,660	2,351	10,485	40,697	3.5
94–95	0.220190	9,310	2,050	8,285	30,213	3.2
95–96	0.239623	7,260	1,740	6,390	21,928	3.0
96–97	0.259772	5,520	1,434	4,803	15,538	2.8
97–98	0.280504	4,086	1,146	3,513	10,735	2.6
98–99	0.301662	2,940	887	2,497	7,222	2.5
99–100	0.323082	2,053	663	1,721	4,725	2.3
100 and older	1.000000	1,390	1,390	3,004	3,004	2.2

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 2. Life table for males: United States, 2021

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table02.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.005833	100,000	583	99,489	7,354,986	73.5
1–2	0.000416	99,417	41	99,396	7,255,497	73.0
2–3	0.000274	99,375	27	99,362	7,156,101	72.0
3–4	0.000224	99,348	22	99,337	7,056,739	71.0
4–5	0.000175	99,326	17	99,317	6,957,402	70.0
5–6	0.000161	99,308	16	99,300	6,858,085	69.1
6–7	0.000149	99,292	15	99,285	6,758,785	68.1
7–8	0.000137	99,278	14	99,271	6,659,500	67.1
8–9	0.000119	99,264	12	99,258	6,560,229	66.1
9–10	0.000098	99,252	10	99,247	6,460,971	65.1
10–11	0.000084	99,242	8	99,238	6,361,724	64.1
11–12	0.000093	99,234	9	99,230	6,262,485	63.1
12–13	0.000144	99,225	14	99,218	6,163,256	62.1
13–14	0.000248	99,211	25	99,198	6,064,038	61.1
14–15	0.000392	99,186	39	99,167	5,964,840	60.1
15–16	0.000556	99,147	55	99,120	5,865,673	59.2
16–17	0.000719	99,092	71	99,056	5,766,553	58.2
17–18	0.000885	99,021	88	98,977	5,667,497	57.2
18–19	0.001044	98,933	103	98,882	5,568,520	56.3
19–20	0.001199	98,830	118	98,771	5,469,638	55.3
20–21	0.001361	98,711	134	98,644	5,370,868	54.4
21–22	0.001527	98,577	151	98,502	5,272,223	53.5
22–23	0.001678	98,427	165	98,344	5,173,722	52.6
23–24	0.001805	98,261	177	98,173	5,075,378	51.7
24–25	0.001915	98,084	188	97,990	4,977,205	50.7
25–26	0.002015	97,896	197	97,798	4,879,215	49.8
26–27	0.002116	97,699	207	97,596	4,781,417	48.9
27–28	0.002221	97,492	217	97,384	4,683,821	48.0
28–29	0.002334	97,276	227	97,162	4,586,438	47.1
29–30	0.002451	97,049	238	96,930	4,489,275	46.3
30–31	0.002569	96,811	249	96,686	4,392,346	45.4
31–32	0.002682	96,562	259	96,433	4,295,659	44.5
32–33	0.002789	96,303	269	96,169	4,199,227	43.6
33–34	0.002887	96,035	277	95,896	4,103,058	42.7
34–35	0.002982	95,757	286	95,615	4,007,162	41.8
35–36	0.003081	95,472	294	95,325	3,911,547	41.0
36–37	0.003190	95,178	304	95,026	3,816,222	40.1
37–38	0.003310	94,874	314	94,717	3,721,196	39.2
38–39	0.003446	94,560	326	94,397	3,626,479	38.4
39–40	0.003597	94,234	339	94,065	3,532,082	37.5
40–41	0.003772	93,895	354	93,718	3,438,018	36.6
41–42	0.003964	93,541	371	93,356	3,344,299	35.8
42–43	0.004158	93,170	387	92,977	3,250,944	34.9
43–44	0.004353	92,783	404	92,581	3,157,967	34.0
44–45	0.004560	92,379	421	92,168	3,065,386	33.2
45–46	0.004799	91,958	441	91,737	2,973,218	32.3
46–47	0.005090	91,516	466	91,283	2,881,481	31.5
47–48	0.005431	91,051	494	90,803	2,790,198	30.6
48–49	0.005818	90,556	527	90,293	2,699,394	29.8
49–50	0.006241	90,029	562	89,748	2,609,102	29.0
50–51	0.006679	89,467	598	89,169	2,519,353	28.2
51–52	0.007151	88,870	636	88,552	2,430,185	27.3
52–53	0.007690	88,234	678	87,895	2,341,633	26.5
53–54	0.008316	87,556	728	87,192	2,253,738	25.7
54–55	0.009023	86,828	783	86,436	2,166,546	25.0
55–56	0.009754	86,044	839	85,624	2,080,111	24.2
56–57	0.010510	85,205	895	84,757	1,994,486	23.4
57–58	0.011350	84,309	957	83,831	1,909,729	22.7
58–59	0.012285	83,352	1,024	82,840	1,825,898	21.9
59–60	0.013286	82,328	1,094	81,782	1,743,058	21.2

See footnote at end of table.

Table 2. Life table for males: United States, 2021—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table02.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.014341	81,235	1,165	80,652	1,661,276	20.5
61–62	0.015402	80,070	1,233	79,453	1,580,624	19.7
62–63	0.016437	78,836	1,296	78,189	1,501,171	19.0
63–64	0.017445	77,541	1,353	76,864	1,422,982	18.4
64–65	0.018475	76,188	1,408	75,484	1,346,118	17.7
65–66	0.019576	74,780	1,464	74,048	1,270,634	17.0
66–67	0.020927	73,316	1,534	72,549	1,196,586	16.3
67–68	0.022303	71,782	1,601	70,982	1,124,036	15.7
68–69	0.023804	70,181	1,671	69,346	1,053,055	15.0
69–70	0.025383	68,511	1,739	67,641	983,709	14.4
70–71	0.026908	66,772	1,797	65,873	916,068	13.7
71–72	0.028704	64,975	1,865	64,042	850,195	13.1
72–73	0.030788	63,110	1,943	62,138	786,152	12.5
73–74	0.033361	61,167	2,041	60,147	724,014	11.8
74–75	0.035944	59,126	2,125	58,064	663,867	11.2
75–76	0.040497	57,001	2,308	55,847	605,804	10.6
76–77	0.044053	54,693	2,409	53,488	549,957	10.1
77–78	0.048810	52,283	2,552	51,007	496,469	9.5
78–79	0.053173	49,731	2,644	48,409	445,461	9.0
79–80	0.058908	47,087	2,774	45,700	397,052	8.4
80–81	0.063954	44,313	2,834	42,896	351,352	7.9
81–82	0.070311	41,479	2,916	40,021	308,456	7.4
82–83	0.076958	38,563	2,968	37,079	268,435	7.0
83–84	0.084813	35,595	3,019	34,086	231,356	6.5
84–85	0.094500	32,576	3,078	31,037	197,271	6.1
85–86	0.104319	29,498	3,077	27,959	166,234	5.6
86–87	0.116428	26,421	3,076	24,882	138,275	5.2
87–88	0.129619	23,344	3,026	21,831	113,392	4.9
88–89	0.143914	20,319	2,924	18,856	91,561	4.5
89–90	0.159317	17,394	2,771	16,009	72,704	4.2
90–91	0.175814	14,623	2,571	13,338	56,695	3.9
91–92	0.193369	12,052	2,331	10,887	43,358	3.6
92–93	0.211919	9,722	2,060	8,692	32,471	3.3
93–94	0.231379	7,661	1,773	6,775	23,779	3.1
94–95	0.251638	5,889	1,482	5,148	17,004	2.9
95–96	0.272559	4,407	1,201	3,806	11,856	2.7
96–97	0.293988	3,206	942	2,735	8,050	2.5
97–98	0.315751	2,263	715	1,906	5,315	2.3
98–99	0.337666	1,549	523	1,287	3,409	2.2
99–100	0.359544	1,026	369	841	2,122	2.1
100 and older	1.000000	657	657	1,281	1,281	1.9

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 3. Life table for females: United States, 2021

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table03.xlsx.

Age (years)	Probability of dying between ages x and $x+1$ q_x	Number surviving to age x l_x	Number dying between ages x and $x+1$ d_x	Person-years lived between ages x and $x+1$ L_x	Total number of person-years lived above age x T_x	Expectation of life at age x e_x
0–1	0.005040	100,000	504	99,557	7,932,807	79.3
1–2	0.000389	99,496	39	99,477	7,833,250	78.7
2–3	0.000234	99,457	23	99,446	7,733,774	77.8
3–4	0.000158	99,434	16	99,426	7,634,328	76.8
4–5	0.000147	99,418	15	99,411	7,534,902	75.8
5–6	0.000124	99,404	12	99,398	7,435,491	74.8
6–7	0.000109	99,391	11	99,386	7,336,093	73.8
7–8	0.000100	99,381	10	99,376	7,236,707	72.8
8–9	0.000094	99,371	9	99,366	7,137,332	71.8
9–10	0.000093	99,361	9	99,357	7,037,966	70.8
10–11	0.000096	99,352	10	99,347	6,938,609	69.8
11–12	0.000107	99,342	11	99,337	6,839,262	68.8
12–13	0.000128	99,332	13	99,325	6,739,925	67.9
13–14	0.000160	99,319	16	99,311	6,640,600	66.9
14–15	0.000201	99,303	20	99,293	6,541,289	65.9
15–16	0.000247	99,283	25	99,271	6,441,995	64.9
16–17	0.000297	99,259	29	99,244	6,342,724	63.9
17–18	0.000349	99,229	35	99,212	6,243,481	62.9
18–19	0.000403	99,195	40	99,175	6,144,269	61.9
19–20	0.000459	99,155	46	99,132	6,045,094	61.0
20–21	0.000520	99,109	52	99,083	5,945,962	60.0
21–22	0.000584	99,057	58	99,029	5,846,879	59.0
22–23	0.000641	99,000	64	98,968	5,747,851	58.1
23–24	0.000690	98,936	68	98,902	5,648,883	57.1
24–25	0.000733	98,868	72	98,832	5,549,981	56.1
25–26	0.000774	98,795	76	98,757	5,451,149	55.2
26–27	0.000820	98,719	81	98,678	5,352,392	54.2
27–28	0.000876	98,638	86	98,595	5,253,714	53.3
28–29	0.000946	98,552	93	98,505	5,155,119	52.3
29–30	0.001026	98,458	101	98,408	5,056,614	51.4
30–31	0.001111	98,357	109	98,303	4,958,206	50.4
31–32	0.001194	98,248	117	98,189	4,859,903	49.5
32–33	0.001275	98,131	125	98,068	4,761,714	48.5
33–34	0.001354	98,006	133	97,939	4,663,646	47.6
34–35	0.001433	97,873	140	97,803	4,565,707	46.6
35–36	0.001518	97,733	148	97,658	4,467,904	45.7
36–37	0.001611	97,584	157	97,506	4,370,245	44.8
37–38	0.001709	97,427	167	97,344	4,272,740	43.9
38–39	0.001814	97,261	176	97,172	4,175,396	42.9
39–40	0.001925	97,084	187	96,991	4,078,223	42.0
40–41	0.002048	96,897	198	96,798	3,981,232	41.1
41–42	0.002183	96,699	211	96,593	3,884,434	40.2
42–43	0.002321	96,488	224	96,376	3,787,841	39.3
43–44	0.002461	96,264	237	96,145	3,691,465	38.3
44–45	0.002611	96,027	251	95,902	3,595,320	37.4
45–46	0.002784	95,776	267	95,643	3,499,418	36.5
46–47	0.002984	95,510	285	95,367	3,403,775	35.6
47–48	0.003203	95,225	305	95,072	3,308,408	34.7
48–49	0.003436	94,919	326	94,756	3,213,336	33.9
49–50	0.003680	94,593	348	94,419	3,118,580	33.0
50–51	0.003935	94,245	371	94,060	3,024,160	32.1
51–52	0.004217	93,874	396	93,677	2,930,101	31.2
52–53	0.004544	93,479	425	93,266	2,836,424	30.3
53–54	0.004928	93,054	459	92,824	2,743,158	29.5
54–55	0.005361	92,595	496	92,347	2,650,333	28.6
55–56	0.005809	92,099	535	91,831	2,557,986	27.8
56–57	0.006274	91,564	574	91,277	2,466,155	26.9
57–58	0.006795	90,989	618	90,680	2,374,879	26.1
58–59	0.007383	90,371	667	90,037	2,284,199	25.3
59–60	0.008020	89,704	719	89,344	2,194,161	24.5

See footnote at end of table.

Table 3. Life table for females: United States, 2021—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table03.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.008703	88,984	774	88,597	2,104,817	23.7
61–62	0.009396	88,210	829	87,796	2,016,220	22.9
62–63	0.010066	87,381	880	86,941	1,928,424	22.1
63–64	0.010706	86,502	926	86,039	1,841,482	21.3
64–65	0.011354	85,576	972	85,090	1,755,444	20.5
65–66	0.012041	84,604	1,019	84,095	1,670,354	19.7
66–67	0.012880	83,585	1,077	83,047	1,586,259	19.0
67–68	0.013821	82,509	1,140	81,938	1,503,212	18.2
68–69	0.014915	81,368	1,214	80,762	1,421,274	17.5
69–70	0.016188	80,155	1,298	79,506	1,340,512	16.7
70–71	0.017475	78,857	1,378	78,168	1,261,007	16.0
71–72	0.018964	77,479	1,469	76,744	1,182,838	15.3
72–73	0.020616	76,010	1,567	75,226	1,106,094	14.6
73–74	0.022603	74,443	1,683	73,602	1,030,868	13.8
74–75	0.024647	72,760	1,793	71,864	957,266	13.2
75–76	0.027933	70,967	1,982	69,976	885,402	12.5
76–77	0.030922	68,985	2,133	67,918	815,427	11.8
77–78	0.034536	66,851	2,309	65,697	747,509	11.2
78–79	0.037857	64,543	2,443	63,321	681,812	10.6
79–80	0.041967	62,099	2,606	60,796	618,491	10.0
80–81	0.046336	59,493	2,757	58,115	557,695	9.4
81–82	0.051084	56,736	2,898	55,287	499,580	8.8
82–83	0.056608	53,838	3,048	52,314	444,293	8.3
83–84	0.062881	50,790	3,194	49,194	391,978	7.7
84–85	0.070582	47,597	3,359	45,917	342,785	7.2
85–86	0.079149	44,237	3,501	42,487	296,868	6.7
86–87	0.087870	40,736	3,579	38,946	254,381	6.2
87–88	0.098712	37,156	3,668	35,323	215,435	5.8
88–89	0.110635	33,489	3,705	31,636	180,113	5.4
89–90	0.123686	29,784	3,684	27,942	148,477	5.0
90–91	0.137893	26,100	3,599	24,300	120,535	4.6
91–92	0.153272	22,501	3,449	20,776	96,235	4.3
92–93	0.169816	19,052	3,235	17,434	75,458	4.0
93–94	0.187493	15,817	2,966	14,334	58,024	3.7
94–95	0.206246	12,851	2,651	11,526	43,690	3.4
95–96	0.225991	10,201	2,305	9,048	32,164	3.2
96–97	0.246613	7,895	1,947	6,922	23,116	2.9
97–98	0.267972	5,948	1,594	5,151	16,194	2.7
98–99	0.289905	4,354	1,262	3,723	11,043	2.5
99–100	0.312227	3,092	965	2,609	7,319	2.4
100 and older	1.000000	2,127	2,127	4,710	4,710	2.2

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 4. Life table for the Hispanic population: United States, 2021

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table04.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.004804	100,000	480	99,571	7,783,960	77.8
1–2	0.000296	99,520	29	99,505	7,684,390	77.2
2–3	0.000219	99,490	22	99,479	7,584,885	76.2
3–4	0.000155	99,468	15	99,461	7,485,405	75.3
4–5	0.000140	99,453	14	99,446	7,385,945	74.3
5–6	0.000117	99,439	12	99,433	7,286,499	73.3
6–7	0.000106	99,427	11	99,422	7,187,066	72.3
7–8	0.000097	99,417	10	99,412	7,087,643	71.3
8–9	0.000089	99,407	9	99,403	6,988,231	70.3
9–10	0.000083	99,398	8	99,394	6,888,829	69.3
10–11	0.000082	99,390	8	99,386	6,789,434	68.3
11–12	0.000093	99,382	9	99,377	6,690,048	67.3
12–13	0.000124	99,373	12	99,367	6,590,671	66.3
13–14	0.000181	99,360	18	99,351	6,491,304	65.3
14–15	0.000260	99,342	26	99,330	6,391,953	64.3
15–16	0.000349	99,317	35	99,299	6,292,623	63.4
16–17	0.000441	99,282	44	99,260	6,193,324	62.4
17–18	0.000539	99,238	54	99,211	6,094,064	61.4
18–19	0.000641	99,185	64	99,153	5,994,852	60.4
19–20	0.000744	99,121	74	99,084	5,895,700	59.5
20–21	0.000856	99,047	85	99,005	5,796,615	58.5
21–22	0.000972	98,963	96	98,914	5,697,610	57.6
22–23	0.001077	98,866	106	98,813	5,598,696	56.6
23–24	0.001164	98,760	115	98,702	5,499,883	55.7
24–25	0.001235	98,645	122	98,584	5,401,181	54.8
25–26	0.001301	98,523	128	98,459	5,302,597	53.8
26–27	0.001369	98,395	135	98,328	5,204,138	52.9
27–28	0.001436	98,260	141	98,190	5,105,810	52.0
28–29	0.001506	98,119	148	98,045	5,007,620	51.0
29–30	0.001578	97,971	155	97,894	4,909,575	50.1
30–31	0.001652	97,817	162	97,736	4,811,681	49.2
31–32	0.001725	97,655	168	97,571	4,713,945	48.3
32–33	0.001794	97,487	175	97,399	4,616,374	47.4
33–34	0.001858	97,312	181	97,221	4,518,975	46.4
34–35	0.001920	97,131	186	97,038	4,421,754	45.5
35–36	0.001983	96,945	192	96,848	4,324,716	44.6
36–37	0.002054	96,752	199	96,653	4,227,868	43.7
37–38	0.002138	96,554	206	96,450	4,131,214	42.8
38–39	0.002240	96,347	216	96,239	4,034,764	41.9
39–40	0.002358	96,131	227	96,018	3,938,525	41.0
40–41	0.002487	95,905	239	95,786	3,842,507	40.1
41–42	0.002625	95,666	251	95,541	3,746,721	39.2
42–43	0.002777	95,415	265	95,283	3,651,181	38.3
43–44	0.002943	95,150	280	95,010	3,555,898	37.4
44–45	0.003127	94,870	297	94,722	3,460,888	36.5
45–46	0.003331	94,573	315	94,416	3,366,166	35.6
46–47	0.003557	94,258	335	94,091	3,271,750	34.7
47–48	0.003804	93,923	357	93,744	3,177,660	33.8
48–49	0.004069	93,566	381	93,375	3,083,915	33.0
49–50	0.004356	93,185	406	92,982	2,990,540	32.1
50–51	0.004661	92,779	432	92,563	2,897,558	31.2
51–52	0.004998	92,347	462	92,116	2,804,995	30.4
52–53	0.005385	91,885	495	91,638	2,712,879	29.5
53–54	0.005835	91,390	533	91,124	2,621,241	28.7
54–55	0.006341	90,857	576	90,569	2,530,118	27.8
55–56	0.006880	90,281	621	89,970	2,439,549	27.0
56–57	0.007447	89,660	668	89,326	2,349,578	26.2
57–58	0.008068	88,992	718	88,633	2,260,252	25.4
58–59	0.008757	88,274	773	87,888	2,171,619	24.6
59–60	0.009511	87,501	832	87,085	2,083,731	23.8

See footnotes at end of table.

Table 4. Life table for the Hispanic population: United States, 2021—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table04.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.010346	86,669	897	86,221	1,996,646	23.0
61–62	0.011226	85,772	963	85,291	1,910,426	22.3
62–63	0.012093	84,809	1,026	84,297	1,825,135	21.5
63–64	0.012907	83,784	1,081	83,243	1,740,838	20.8
64–65	0.013692	82,702	1,132	82,136	1,657,595	20.0
65–66	0.014514	81,570	1,184	80,978	1,575,459	19.3
66–67	0.015435	80,386	1,241	79,766	1,494,481	18.6
67–68	0.016456	79,145	1,302	78,494	1,414,715	17.9
68–69	0.017598	77,843	1,370	77,158	1,336,221	17.2
69–70	0.018857	76,473	1,442	75,752	1,259,063	16.5
70–71	0.020211	75,031	1,516	74,273	1,183,311	15.8
71–72	0.021671	73,515	1,593	72,718	1,109,039	15.1
72–73	0.023303	71,921	1,676	71,083	1,036,321	14.4
73–74	0.025180	70,245	1,769	69,361	965,237	13.7
74–75	0.027363	68,477	1,874	67,540	895,876	13.1
75–76	0.029903	66,603	1,992	65,607	828,336	12.4
76–77	0.032843	64,611	2,122	63,550	762,729	11.8
77–78	0.036219	62,489	2,263	61,358	699,179	11.2
78–79	0.039647	60,226	2,388	59,032	637,822	10.6
79–80	0.043700	57,838	2,528	56,574	578,790	10.0
80–81	0.047881	55,311	2,648	53,986	522,215	9.4
81–82	0.052757	52,662	2,778	51,273	468,229	8.9
82–83	0.058071	49,884	2,897	48,436	416,956	8.4
83–84	0.064052	46,987	3,010	45,482	368,520	7.8
84–85	0.071304	43,978	3,136	42,410	323,038	7.3
85–86	0.078421	40,842	3,203	39,240	280,628	6.9
86–87	0.087569	37,639	3,296	35,991	241,388	6.4
87–88	0.097592	34,343	3,352	32,667	205,397	6.0
88–89	0.108530	30,991	3,363	29,310	172,730	5.6
89–90	0.120412	27,628	3,327	25,964	143,420	5.2
90–91	0.133256	24,301	3,238	22,682	117,456	4.8
91–92	0.147067	21,063	3,098	19,514	94,774	4.5
92–93	0.161832	17,965	2,907	16,511	75,260	4.2
93–94	0.177521	15,058	2,673	13,721	58,748	3.9
94–95	0.194082	12,385	2,404	11,183	45,027	3.6
95–96	0.211444	9,981	2,110	8,926	33,844	3.4
96–97	0.229513	7,871	1,806	6,967	24,918	3.2
97–98	0.248178	6,064	1,505	5,312	17,951	3.0
98–99	0.267305	4,559	1,219	3,950	12,639	2.8
99–100	0.286750	3,341	958	2,862	8,689	2.6
100 and older	1.000000	2,383	2,383	5,828	5,828	2.4

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 5. Life table for Hispanic males: United States, 2021

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table05.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.005120	100,000	512	99,542	7,464,667	74.6
1–2	0.000304	99,488	30	99,473	7,365,125	74.0
2–3	0.000198	99,458	20	99,448	7,265,652	73.1
3–4	0.000155	99,438	15	99,430	7,166,204	72.1
4–5	0.000144	99,423	14	99,415	7,066,774	71.1
5–6	0.000121	99,408	12	99,402	6,967,358	70.1
6–7	0.000115	99,396	11	99,391	6,867,956	69.1
7–8	0.000107	99,385	11	99,380	6,768,566	68.1
8–9	0.000094	99,374	9	99,370	6,669,186	67.1
9–10	0.000079	99,365	8	99,361	6,569,816	66.1
10–11	0.000069	99,357	7	99,354	6,470,456	65.1
11–12	0.000078	99,350	8	99,346	6,371,102	64.1
12–13	0.000120	99,342	12	99,336	6,271,756	63.1
13–14	0.000204	99,330	20	99,320	6,172,419	62.1
14–15	0.000323	99,310	32	99,294	6,073,099	61.2
15–16	0.000460	99,278	46	99,255	5,973,805	60.2
16–17	0.000600	99,233	60	99,203	5,874,549	59.2
17–18	0.000747	99,173	74	99,136	5,775,346	58.2
18–19	0.000893	99,099	89	99,055	5,676,210	57.3
19–20	0.001041	99,010	103	98,959	5,577,156	56.3
20–21	0.001197	98,907	118	98,848	5,478,197	55.4
21–22	0.001361	98,789	134	98,722	5,379,349	54.5
22–23	0.001520	98,655	150	98,580	5,280,627	53.5
23–24	0.001669	98,505	164	98,422	5,182,047	52.6
24–25	0.001804	98,340	177	98,252	5,083,625	51.7
25–26	0.001937	98,163	190	98,068	4,985,373	50.8
26–27	0.002065	97,973	202	97,872	4,887,305	49.9
27–28	0.002177	97,770	213	97,664	4,789,434	49.0
28–29	0.002267	97,558	221	97,447	4,691,770	48.1
29–30	0.002343	97,336	228	97,222	4,594,323	47.2
30–31	0.002412	97,108	234	96,991	4,497,100	46.3
31–32	0.002484	96,874	241	96,754	4,400,109	45.4
32–33	0.002558	96,634	247	96,510	4,303,355	44.5
33–34	0.002639	96,386	254	96,259	4,206,845	43.6
34–35	0.002727	96,132	262	96,001	4,110,586	42.8
35–36	0.002815	95,870	270	95,735	4,014,585	41.9
36–37	0.002909	95,600	278	95,461	3,918,850	41.0
37–38	0.003022	95,322	288	95,178	3,823,389	40.1
38–39	0.003162	95,034	300	94,884	3,728,212	39.2
39–40	0.003324	94,733	315	94,576	3,633,328	38.4
40–41	0.003507	94,418	331	94,253	3,538,752	37.5
41–42	0.003698	94,087	348	93,913	3,444,499	36.6
42–43	0.003885	93,739	364	93,557	3,350,586	35.7
43–44	0.004064	93,375	379	93,185	3,257,029	34.9
44–45	0.004244	92,996	395	92,798	3,163,843	34.0
45–46	0.004440	92,601	411	92,395	3,071,045	33.2
46–47	0.004672	92,190	431	91,975	2,978,650	32.3
47–48	0.004952	91,759	454	91,532	2,886,675	31.5
48–49	0.005290	91,305	483	91,063	2,795,143	30.6
49–50	0.005680	90,822	516	90,564	2,704,080	29.8
50–51	0.006097	90,306	551	90,031	2,613,516	28.9
51–52	0.006546	89,755	587	89,461	2,523,485	28.1
52–53	0.007056	89,168	629	88,853	2,434,024	27.3
53–54	0.007645	88,539	677	88,200	2,345,171	26.5
54–55	0.008306	87,862	730	87,497	2,256,971	25.7
55–56	0.009015	87,132	786	86,739	2,169,474	24.9
56–57	0.009762	86,346	843	85,925	2,082,735	24.1
57–58	0.010562	85,504	903	85,052	1,996,810	23.4
58–59	0.011422	84,600	966	84,117	1,911,758	22.6
59–60	0.012345	83,634	1,032	83,118	1,827,640	21.9

See footnotes at end of table.

Table 5. Life table for Hispanic males: United States, 2021—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table05.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.013356	82,602	1,103	82,050	1,744,522	21.1
61–62	0.014431	81,498	1,176	80,910	1,662,472	20.4
62–63	0.015522	80,322	1,247	79,699	1,581,562	19.7
63–64	0.016601	79,076	1,313	78,419	1,501,863	19.0
64–65	0.017689	77,763	1,376	77,075	1,423,444	18.3
65–66	0.018858	76,387	1,440	75,667	1,346,368	17.6
66–67	0.020146	74,947	1,510	74,192	1,270,701	17.0
67–68	0.021501	73,437	1,579	72,648	1,196,509	16.3
68–69	0.022893	71,858	1,645	71,036	1,123,862	15.6
69–70	0.024322	70,213	1,708	69,359	1,052,826	15.0
70–71	0.025805	68,505	1,768	67,621	983,467	14.4
71–72	0.027409	66,737	1,829	65,823	915,846	13.7
72–73	0.029217	64,908	1,896	63,960	850,023	13.1
73–74	0.031359	63,012	1,976	62,024	786,063	12.5
74–75	0.033913	61,036	2,070	60,001	724,039	11.9
75–76	0.036911	58,966	2,176	57,878	664,038	11.3
76–77	0.040358	56,789	2,292	55,644	606,160	10.7
77–78	0.044334	54,498	2,416	53,290	550,517	10.1
78–79	0.048321	52,081	2,517	50,823	497,227	9.5
79–80	0.053203	49,565	2,637	48,246	446,404	9.0
80–81	0.057978	46,928	2,721	45,567	398,158	8.5
81–82	0.064010	44,207	2,830	42,792	352,590	8.0
82–83	0.070081	41,377	2,900	39,927	309,798	7.5
83–84	0.077023	38,478	2,964	36,996	269,871	7.0
84–85	0.085469	35,514	3,035	33,996	232,875	6.6
85–86	0.093127	32,479	3,025	30,966	198,879	6.1
86–87	0.103924	29,454	3,061	27,923	167,912	5.7
87–88	0.115699	26,393	3,054	24,866	139,989	5.3
88–89	0.128479	23,339	2,999	21,840	115,123	4.9
89–90	0.142274	20,341	2,894	18,894	93,283	4.6
90–91	0.157078	17,447	2,740	16,077	74,389	4.3
91–92	0.172864	14,706	2,542	13,435	58,312	4.0
92–93	0.189585	12,164	2,306	11,011	44,877	3.7
93–94	0.207169	9,858	2,042	8,837	33,866	3.4
94–95	0.225522	7,816	1,763	6,934	25,029	3.2
95–96	0.244527	6,053	1,480	5,313	18,095	3.0
96–97	0.264045	4,573	1,207	3,969	12,782	2.8
97–98	0.283922	3,365	956	2,888	8,813	2.6
98–99	0.303989	2,410	733	2,044	5,925	2.5
99–100	0.324071	1,677	544	1,406	3,881	2.3
100 and older	1.000000	1,134	1,134	2,476	2,476	2.2

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 6. Life table for Hispanic females: United States, 2021

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table06.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.004476	100,000	448	99,600	8,108,756	81.1
1–2	0.000281	99,552	28	99,538	8,009,156	80.5
2–3	0.000238	99,524	24	99,512	7,909,617	79.5
3–4	0.000152	99,501	15	99,493	7,810,105	78.5
4–5	0.000132	99,485	13	99,479	7,710,612	77.5
5–6	0.000111	99,472	11	99,467	7,611,133	76.5
6–7	0.000095	99,461	9	99,457	7,511,666	75.5
7–8	0.000086	99,452	9	99,448	7,412,210	74.5
8–9	0.000082	99,443	8	99,439	7,312,762	73.5
9–10	0.000084	99,435	8	99,431	7,213,323	72.5
10–11	0.000091	99,427	9	99,422	7,113,892	71.5
11–12	0.000105	99,418	10	99,412	7,014,470	70.6
12–13	0.000125	99,407	12	99,401	6,915,058	69.6
13–14	0.000155	99,395	15	99,387	6,815,657	68.6
14–15	0.000192	99,379	19	99,370	6,716,269	67.6
15–16	0.000233	99,360	23	99,349	6,616,900	66.6
16–17	0.000277	99,337	27	99,323	6,517,551	65.6
17–18	0.000325	99,310	32	99,294	6,418,228	64.6
18–19	0.000378	99,277	38	99,259	6,318,934	63.6
19–20	0.000434	99,240	43	99,218	6,219,675	62.7
20–21	0.000496	99,197	49	99,172	6,120,457	61.7
21–22	0.000559	99,148	55	99,120	6,021,285	60.7
22–23	0.000606	99,092	60	99,062	5,922,165	59.8
23–24	0.000630	99,032	62	99,001	5,823,103	58.8
24–25	0.000638	98,970	63	98,938	5,724,102	57.8
25–26	0.000638	98,907	63	98,875	5,625,163	56.9
26–27	0.000645	98,844	64	98,812	5,526,288	55.9
27–28	0.000666	98,780	66	98,747	5,427,477	54.9
28–29	0.000708	98,714	70	98,679	5,328,730	54.0
29–30	0.000767	98,644	76	98,606	5,230,051	53.0
30–31	0.000835	98,569	82	98,527	5,131,444	52.1
31–32	0.000899	98,486	89	98,442	5,032,917	51.1
32–33	0.000956	98,398	94	98,351	4,934,475	50.1
33–34	0.001001	98,304	98	98,254	4,836,124	49.2
34–35	0.001038	98,205	102	98,154	4,737,870	48.2
35–36	0.001078	98,103	106	98,050	4,639,716	47.3
36–37	0.001127	97,998	110	97,942	4,541,665	46.3
37–38	0.001183	97,887	116	97,829	4,443,723	45.4
38–39	0.001249	97,771	122	97,710	4,345,894	44.4
39–40	0.001325	97,649	129	97,584	4,248,184	43.5
40–41	0.001403	97,520	137	97,451	4,150,599	42.6
41–42	0.001493	97,383	145	97,310	4,053,148	41.6
42–43	0.001610	97,238	157	97,159	3,955,838	40.7
43–44	0.001766	97,081	171	96,995	3,858,678	39.7
44–45	0.001953	96,909	189	96,815	3,761,683	38.8
45–46	0.002166	96,720	209	96,615	3,664,868	37.9
46–47	0.002385	96,511	230	96,396	3,568,253	37.0
47–48	0.002594	96,281	250	96,156	3,471,857	36.1
48–49	0.002780	96,031	267	95,897	3,375,701	35.2
49–50	0.002956	95,764	283	95,622	3,279,804	34.2
50–51	0.003138	95,481	300	95,331	3,184,182	33.3
51–52	0.003352	95,181	319	95,022	3,088,851	32.5
52–53	0.003610	94,862	342	94,691	2,993,829	31.6
53–54	0.003923	94,520	371	94,334	2,899,138	30.7
54–55	0.004287	94,149	404	93,947	2,804,804	29.8
55–56	0.004671	93,745	438	93,526	2,710,857	28.9
56–57	0.005077	93,307	474	93,071	2,617,331	28.1
57–58	0.005539	92,834	514	92,577	2,524,260	27.2
58–59	0.006074	92,319	561	92,039	2,431,684	26.3
59–60	0.006677	91,759	613	91,452	2,339,645	25.5

See footnotes at end of table.

Table 6. Life table for Hispanic females: United States, 2021—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table06.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.007357	91,146	671	90,811	2,248,192	24.7
61–62	0.008070	90,475	730	90,110	2,157,382	23.8
62–63	0.008757	89,745	786	89,352	2,067,271	23.0
63–64	0.009373	88,959	834	88,542	1,977,919	22.2
64–65	0.009947	88,126	877	87,687	1,889,376	21.4
65–66	0.010537	87,249	919	86,789	1,801,689	20.6
66–67	0.011220	86,330	969	85,845	1,714,900	19.9
67–68	0.012028	85,361	1,027	84,848	1,629,055	19.1
68–69	0.013010	84,334	1,097	83,786	1,544,207	18.3
69–70	0.014158	83,237	1,179	82,648	1,460,421	17.5
70–71	0.015430	82,059	1,266	81,426	1,377,773	16.8
71–72	0.016804	80,792	1,358	80,114	1,296,348	16.0
72–73	0.018334	79,435	1,456	78,707	1,216,234	15.3
73–74	0.020062	77,978	1,564	77,196	1,137,528	14.6
74–75	0.022039	76,414	1,684	75,572	1,060,331	13.9
75–76	0.024330	74,730	1,818	73,821	984,759	13.2
76–77	0.026988	72,912	1,968	71,928	910,938	12.5
77–78	0.030039	70,944	2,131	69,879	839,010	11.8
78–79	0.033190	68,813	2,284	67,671	769,132	11.2
79–80	0.036811	66,529	2,449	65,305	701,461	10.5
80–81	0.040839	64,080	2,617	62,772	636,156	9.9
81–82	0.045249	61,463	2,781	60,073	573,384	9.3
82–83	0.050427	58,682	2,959	57,202	513,312	8.7
83–84	0.056221	55,723	3,133	54,157	456,109	8.2
84–85	0.063280	52,590	3,328	50,926	401,953	7.6
85–86	0.071180	49,262	3,506	47,509	351,027	7.1
86–87	0.079022	45,756	3,616	43,948	303,518	6.6
87–88	0.089153	42,140	3,757	40,262	259,570	6.2
88–89	0.100350	38,383	3,852	36,457	219,308	5.7
89–90	0.112667	34,531	3,891	32,586	182,851	5.3
90–91	0.126142	30,641	3,865	28,708	150,265	4.9
91–92	0.140800	26,776	3,770	24,891	121,557	4.5
92–93	0.156643	23,006	3,604	21,204	96,666	4.2
93–94	0.173651	19,402	3,369	17,717	75,462	3.9
94–95	0.191776	16,033	3,075	14,495	57,745	3.6
95–96	0.210941	12,958	2,733	11,591	43,249	3.3
96–97	0.231041	10,225	2,362	9,044	31,658	3.1
97–98	0.251938	7,862	1,981	6,872	22,614	2.9
98–99	0.273471	5,882	1,608	5,077	15,742	2.7
99–100	0.295455	4,273	1,263	3,642	10,665	2.5
100 and older	1.000000	3,011	3,011	7,023	7,023	2.3

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 7. Life table for the American Indian and Alaska Native, non-Hispanic population: United States, 2021

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table07.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.007435	100,000	743	99,371	6,556,120	65.6
1–2	0.000938	99,257	93	99,210	6,456,749	65.1
2–3	0.000548	99,163	54	99,136	6,357,539	64.1
3–4	0.000341	99,109	34	99,092	6,258,403	63.1
4–5	0.000331	99,075	33	99,059	6,159,311	62.2
5–6	0.000272	99,042	27	99,029	6,060,252	61.2
6–7	0.000242	99,016	24	99,004	5,961,223	60.2
7–8	0.000215	98,992	21	98,981	5,862,219	59.2
8–9	0.000185	98,970	18	98,961	5,763,238	58.2
9–10	0.000156	98,952	15	98,944	5,664,277	57.2
10–11	0.000143	98,937	14	98,930	5,565,333	56.3
11–12	0.000167	98,923	16	98,914	5,466,403	55.3
12–13	0.000253	98,906	25	98,894	5,367,489	54.3
13–14	0.000416	98,881	41	98,861	5,268,595	53.3
14–15	0.000642	98,840	63	98,808	5,169,735	52.3
15–16	0.000903	98,777	89	98,732	5,070,927	51.3
16–17	0.001176	98,687	116	98,629	4,972,195	50.4
17–18	0.001459	98,571	144	98,499	4,873,565	49.4
18–19	0.001741	98,427	171	98,342	4,775,066	48.5
19–20	0.002025	98,256	199	98,157	4,676,724	47.6
20–21	0.002330	98,057	228	97,943	4,578,568	46.7
21–22	0.002657	97,829	260	97,699	4,480,625	45.8
22–23	0.002984	97,569	291	97,423	4,382,926	44.9
23–24	0.003299	97,278	321	97,117	4,285,503	44.1
24–25	0.003604	96,957	349	96,782	4,188,386	43.2
25–26	0.003898	96,607	377	96,419	4,091,604	42.4
26–27	0.004203	96,231	404	96,028	3,995,185	41.5
27–28	0.004546	95,826	436	95,608	3,899,156	40.7
28–29	0.004943	95,391	471	95,155	3,803,548	39.9
29–30	0.005381	94,919	511	94,664	3,708,393	39.1
30–31	0.005821	94,408	550	94,134	3,613,730	38.3
31–32	0.006249	93,859	586	93,566	3,519,596	37.5
32–33	0.006697	93,272	625	92,960	3,426,030	36.7
33–34	0.007179	92,648	665	92,315	3,333,070	36.0
34–35	0.007690	91,983	707	91,629	3,240,755	35.2
35–36	0.008296	91,275	757	90,897	3,149,126	34.5
36–37	0.008910	90,518	807	90,115	3,058,229	33.8
37–38	0.009359	89,712	840	89,292	2,968,115	33.1
38–39	0.009538	88,872	848	88,448	2,878,823	32.4
39–40	0.009532	88,024	839	87,605	2,790,375	31.7
40–41	0.009409	87,185	820	86,775	2,702,770	31.0
41–42	0.009407	86,365	812	85,959	2,615,995	30.3
42–43	0.009749	85,552	834	85,135	2,530,036	29.6
43–44	0.010597	84,718	898	84,270	2,444,901	28.9
44–45	0.011839	83,821	992	83,324	2,360,631	28.2
45–46	0.013321	82,828	1,103	82,277	2,277,307	27.5
46–47	0.014720	81,725	1,203	81,123	2,195,030	26.9
47–48	0.015790	80,522	1,271	79,886	2,113,907	26.3
48–49	0.016314	79,250	1,293	78,604	2,034,021	25.7
49–50	0.016452	77,958	1,283	77,316	1,955,417	25.1
50–51	0.016450	76,675	1,261	76,044	1,878,100	24.5
51–52	0.016631	75,414	1,254	74,787	1,802,056	23.9
52–53	0.017131	74,159	1,270	73,524	1,727,269	23.3
53–54	0.018080	72,889	1,318	72,230	1,653,745	22.7
54–55	0.019325	71,571	1,383	70,880	1,581,515	22.1
55–56	0.020584	70,188	1,445	69,466	1,510,635	21.5
56–57	0.021703	68,743	1,492	67,997	1,441,170	21.0
57–58	0.022773	67,251	1,531	66,486	1,373,172	20.4
58–59	0.023773	65,720	1,562	64,939	1,306,687	19.9
59–60	0.024719	64,158	1,586	63,365	1,241,748	19.4

See footnotes at end of table.

Table 7. Life table for the American Indian and Alaska Native, non-Hispanic population: United States, 2021—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table07.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.025720	62,572	1,609	61,767	1,178,383	18.8
61–62	0.026718	60,962	1,629	60,148	1,116,616	18.3
62–63	0.027551	59,334	1,635	58,516	1,056,468	17.8
63–64	0.028171	57,699	1,625	56,886	997,952	17.3
64–65	0.028665	56,073	1,607	55,270	941,066	16.8
65–66	0.029089	54,466	1,584	53,674	885,797	16.3
66–67	0.029653	52,882	1,568	52,098	832,123	15.7
67–68	0.030585	51,314	1,569	50,529	780,025	15.2
68–69	0.032062	49,744	1,595	48,947	729,496	14.7
69–70	0.033984	48,149	1,636	47,331	680,550	14.1
70–71	0.036158	46,513	1,682	45,672	633,219	13.6
71–72	0.038385	44,831	1,721	43,971	587,547	13.1
72–73	0.040663	43,110	1,753	42,234	543,576	12.6
73–74	0.042977	41,357	1,777	40,469	501,342	12.1
74–75	0.045466	39,580	1,800	38,680	460,874	11.6
75–76	0.048454	37,780	1,831	36,865	422,194	11.2
76–77	0.052040	35,950	1,871	35,014	385,329	10.7
77–78	0.055916	34,079	1,906	33,126	350,314	10.3
78–79	0.059671	32,173	1,920	31,213	317,188	9.9
79–80	0.063148	30,253	1,910	29,298	285,975	9.5
80–81	0.066423	28,343	1,883	27,402	256,677	9.1
81–82	0.070123	26,460	1,855	25,533	229,275	8.7
82–83	0.074432	24,605	1,831	23,689	203,742	8.3
83–84	0.079379	22,774	1,808	21,870	180,053	7.9
84–85	0.084867	20,966	1,779	20,076	158,183	7.5
85–86	0.089447	19,186	1,716	18,328	138,107	7.2
86–87	0.095841	17,470	1,674	16,633	119,779	6.9
87–88	0.102589	15,796	1,620	14,986	103,146	6.5
88–89	0.109693	14,175	1,555	13,398	88,160	6.2
89–90	0.117151	12,621	1,479	11,881	74,762	5.9
90–91	0.124960	11,142	1,392	10,446	62,881	5.6
91–92	0.133109	9,750	1,298	9,101	52,435	5.4
92–93	0.141585	8,452	1,197	7,854	43,334	5.1
93–94	0.150369	7,255	1,091	6,710	35,480	4.9
94–95	0.159436	6,164	983	5,673	28,771	4.7
95–96	0.168757	5,181	874	4,744	23,098	4.5
96–97	0.178296	4,307	768	3,923	18,353	4.3
97–98	0.188013	3,539	665	3,206	14,430	4.1
98–99	0.197861	2,874	569	2,589	11,224	3.9
99–100	0.207792	2,305	479	2,066	8,634	3.7
100 and older	1.000000	1,826	1,826	6,569	6,569	3.6

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 8. Life table for American Indian and Alaska Native, non-Hispanic males: United States, 2021

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table08.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.007531	100,000	753	99,369	6,219,931	62.2
1–2	0.001234	99,247	122	99,186	6,120,563	61.7
2–3	0.000710	99,125	70	99,089	6,021,377	60.7
3–4	0.000457	99,054	45	99,031	5,922,288	59.8
4–5	0.000296	99,009	29	98,994	5,823,256	58.8
5–6	0.000299	98,979	30	98,965	5,724,262	57.8
6–7	0.000251	98,950	25	98,937	5,625,297	56.8
7–8	0.000209	98,925	21	98,915	5,526,360	55.9
8–9	0.000164	98,904	16	98,896	5,427,445	54.9
9–10	0.000121	98,888	12	98,882	5,328,549	53.9
10–11	0.000099	98,876	10	98,871	5,229,667	52.9
11–12	0.000126	98,866	12	98,860	5,130,795	51.9
12–13	0.000234	98,854	23	98,842	5,031,935	50.9
13–14	0.000443	98,831	44	98,809	4,933,093	49.9
14–15	0.000734	98,787	72	98,751	4,834,284	48.9
15–16	0.001071	98,715	106	98,662	4,735,533	48.0
16–17	0.001425	98,609	141	98,539	4,636,871	47.0
17–18	0.001798	98,468	177	98,380	4,538,332	46.1
18–19	0.002177	98,291	214	98,184	4,439,952	45.2
19–20	0.002565	98,077	252	97,952	4,341,768	44.3
20–21	0.002978	97,826	291	97,680	4,243,816	43.4
21–22	0.003421	97,534	334	97,368	4,146,136	42.5
22–23	0.003874	97,201	377	97,013	4,048,768	41.7
23–24	0.004325	96,824	419	96,615	3,951,755	40.8
24–25	0.004767	96,406	460	96,176	3,855,141	40.0
25–26	0.005192	95,946	498	95,697	3,758,965	39.2
26–27	0.005617	95,448	536	95,180	3,663,268	38.4
27–28	0.006057	94,912	575	94,624	3,568,088	37.6
28–29	0.006524	94,337	615	94,029	3,473,464	36.8
29–30	0.007012	93,721	657	93,393	3,379,435	36.1
30–31	0.007498	93,064	698	92,715	3,286,042	35.3
31–32	0.007970	92,366	736	91,998	3,193,327	34.6
32–33	0.008448	91,630	774	91,243	3,101,329	33.8
33–34	0.008945	90,856	813	90,450	3,010,086	33.1
34–35	0.009466	90,043	852	89,617	2,919,636	32.4
35–36	0.010080	89,191	899	88,741	2,830,019	31.7
36–37	0.010716	88,292	946	87,819	2,741,278	31.0
37–38	0.011211	87,346	979	86,856	2,653,459	30.4
38–39	0.011469	86,366	990	85,871	2,566,603	29.7
39–40	0.011566	85,376	987	84,882	2,480,732	29.1
40–41	0.011545	84,388	974	83,901	2,395,850	28.4
41–42	0.011652	83,414	972	82,928	2,311,949	27.7
42–43	0.012149	82,442	1,002	81,942	2,229,020	27.0
43–44	0.013218	81,441	1,076	80,902	2,147,079	26.4
44–45	0.014729	80,364	1,184	79,772	2,066,176	25.7
45–46	0.016542	79,181	1,310	78,526	1,986,404	25.1
46–47	0.018259	77,871	1,422	77,160	1,907,878	24.5
47–48	0.019526	76,449	1,493	75,703	1,830,718	23.9
48–49	0.020062	74,956	1,504	74,204	1,755,016	23.4
49–50	0.020089	73,452	1,476	72,715	1,680,811	22.9
50–51	0.019915	71,977	1,433	71,260	1,608,097	22.3
51–52	0.019996	70,543	1,411	69,838	1,536,837	21.8
52–53	0.020574	69,133	1,422	68,422	1,466,999	21.2
53–54	0.021844	67,710	1,479	66,971	1,398,577	20.7
54–55	0.023582	66,231	1,562	65,450	1,331,606	20.1
55–56	0.025351	64,669	1,639	63,850	1,266,156	19.6
56–57	0.026914	63,030	1,696	62,182	1,202,306	19.1
57–58	0.028406	61,334	1,742	60,463	1,140,124	18.6
58–59	0.029791	59,591	1,775	58,704	1,079,662	18.1
59–60	0.031081	57,816	1,797	56,918	1,020,958	17.7

See footnotes at end of table.

Table 8. Life table for American Indian and Alaska Native, non-Hispanic males: United States, 2021—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table08.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.032469	56,019	1,819	55,110	964,040	17.2
61–62	0.033829	54,200	1,834	53,284	908,930	16.8
62–63	0.034840	52,367	1,824	51,455	855,647	16.3
63–64	0.035376	50,542	1,788	49,648	804,192	15.9
64–65	0.035575	48,754	1,734	47,887	754,544	15.5
65–66	0.035568	47,020	1,672	46,184	706,657	15.0
66–67	0.035721	45,347	1,620	44,538	660,473	14.6
67–68	0.036380	43,728	1,591	42,932	615,936	14.1
68–69	0.037856	42,137	1,595	41,339	573,003	13.6
69–70	0.039991	40,542	1,621	39,731	531,664	13.1
70–71	0.042404	38,920	1,650	38,095	491,933	12.6
71–72	0.044790	37,270	1,669	36,435	453,838	12.2
72–73	0.047233	35,601	1,682	34,760	417,402	11.7
73–74	0.049737	33,919	1,687	33,076	382,643	11.3
74–75	0.052470	32,232	1,691	31,387	349,567	10.8
75–76	0.055818	30,541	1,705	29,689	318,180	10.4
76–77	0.059853	28,836	1,726	27,973	288,492	10.0
77–78	0.064144	27,110	1,739	26,241	260,519	9.6
78–79	0.068106	25,371	1,728	24,507	234,278	9.2
79–80	0.071531	23,643	1,691	22,798	209,771	8.9
80–81	0.074599	21,952	1,638	21,133	186,973	8.5
81–82	0.078252	20,314	1,590	19,520	165,840	8.2
82–83	0.082456	18,725	1,544	17,953	146,320	7.8
83–84	0.087406	17,181	1,502	16,430	128,367	7.5
84–85	0.093069	15,679	1,459	14,950	111,937	7.1
85–86	0.097599	14,220	1,388	13,526	96,988	6.8
86–87	0.104251	12,832	1,338	12,163	83,462	6.5
87–88	0.111235	11,494	1,279	10,855	71,298	6.2
88–89	0.118547	10,216	1,211	9,610	60,443	5.9
89–90	0.126180	9,005	1,136	8,437	50,833	5.6
90–91	0.134120	7,868	1,055	7,341	42,397	5.4
91–92	0.142352	6,813	970	6,328	35,056	5.1
92–93	0.150852	5,843	881	5,403	28,728	4.9
93–94	0.159595	4,962	792	4,566	23,325	4.7
94–95	0.168546	4,170	703	3,819	18,759	4.5
95–96	0.177669	3,467	616	3,159	14,941	4.3
96–97	0.186919	2,851	533	2,585	11,781	4.1
97–98	0.196249	2,318	455	2,091	9,197	4.0
98–99	0.205607	1,863	383	1,672	7,106	3.8
99–100	0.214940	1,480	318	1,321	5,434	3.7
100 and older	1.000000	1,162	1,162	4,113	4,113	3.5

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 9. Life table for American Indian and Alaska Native, non-Hispanic females: United States, 2021

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table09.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.007412	100,000	741	99,366	6,923,977	69.2
1–2	0.000640	99,259	64	99,227	6,824,612	68.8
2–3	0.000385	99,195	38	99,176	6,725,385	67.8
3–4	0.000223	99,157	22	99,146	6,626,209	66.8
4–5	0.000362	99,135	36	99,117	6,527,063	65.8
5–6	0.000243	99,099	24	99,087	6,427,946	64.9
6–7	0.000230	99,075	23	99,063	6,328,859	63.9
7–8	0.000218	99,052	22	99,041	6,229,795	62.9
8–9	0.000203	99,030	20	99,020	6,130,754	61.9
9–10	0.000187	99,010	19	99,001	6,031,734	60.9
10–11	0.000181	98,992	18	98,983	5,932,733	59.9
11–12	0.000201	98,974	20	98,964	5,833,750	58.9
12–13	0.000266	98,954	26	98,941	5,734,786	58.0
13–14	0.000387	98,928	38	98,908	5,635,845	57.0
14–15	0.000552	98,889	55	98,862	5,536,937	56.0
15–16	0.000743	98,835	73	98,798	5,438,075	55.0
16–17	0.000938	98,761	93	98,715	5,339,277	54.1
17–18	0.001134	98,669	112	98,613	5,240,562	53.1
18–19	0.001319	98,557	130	98,492	5,141,949	52.2
19–20	0.001499	98,427	148	98,353	5,043,457	51.2
20–21	0.001697	98,279	167	98,196	4,945,104	50.3
21–22	0.001911	98,112	187	98,019	4,846,908	49.4
22–23	0.002108	97,925	206	97,822	4,748,890	48.5
23–24	0.002279	97,719	223	97,607	4,651,068	47.6
24–25	0.002436	97,496	237	97,377	4,553,461	46.7
25–26	0.002582	97,258	251	97,133	4,456,084	45.8
26–27	0.002755	97,007	267	96,874	4,358,951	44.9
27–28	0.002989	96,740	289	96,595	4,262,078	44.1
28–29	0.003307	96,451	319	96,291	4,165,482	43.2
29–30	0.003689	96,132	355	95,955	4,069,191	42.3
30–31	0.004077	95,777	390	95,582	3,973,236	41.5
31–32	0.004455	95,387	425	95,174	3,877,654	40.7
32–33	0.004874	94,962	463	94,730	3,782,480	39.8
33–34	0.005348	94,499	505	94,246	3,687,749	39.0
34–35	0.005865	93,994	551	93,718	3,593,503	38.2
35–36	0.006478	93,442	605	93,140	3,499,785	37.5
36–37	0.007088	92,837	658	92,508	3,406,645	36.7
37–38	0.007504	92,179	692	91,833	3,314,137	36.0
38–39	0.007614	91,487	697	91,139	3,222,304	35.2
39–40	0.007509	90,791	682	90,450	3,131,165	34.5
40–41	0.007289	90,109	657	89,780	3,040,715	33.7
41–42	0.007184	89,452	643	89,131	2,950,935	33.0
42–43	0.007375	88,809	655	88,482	2,861,804	32.2
43–44	0.008011	88,154	706	87,801	2,773,322	31.5
44–45	0.008993	87,448	786	87,055	2,685,521	30.7
45–46	0.010157	86,662	880	86,222	2,598,466	30.0
46–47	0.011251	85,782	965	85,299	2,512,244	29.3
47–48	0.012134	84,816	1,029	84,302	2,426,945	28.6
48–49	0.012649	83,787	1,060	83,257	2,342,643	28.0
49–50	0.012898	82,727	1,067	82,194	2,259,386	27.3
50–51	0.013065	81,660	1,067	81,127	2,177,192	26.7
51–52	0.013345	80,594	1,076	80,056	2,096,065	26.0
52–53	0.013783	79,518	1,096	78,970	2,016,009	25.4
53–54	0.014444	78,422	1,133	77,856	1,937,039	24.7
54–55	0.015251	77,289	1,179	76,700	1,859,184	24.1
55–56	0.016060	76,110	1,222	75,499	1,782,484	23.4
56–57	0.016797	74,888	1,258	74,259	1,706,985	22.8
57–58	0.017512	73,630	1,289	72,986	1,632,725	22.2
58–59	0.018202	72,341	1,317	71,682	1,559,740	21.6
59–60	0.018879	71,024	1,341	70,354	1,488,058	21.0

See footnotes at end of table.

Table 9. Life table for American Indian and Alaska Native, non-Hispanic females: United States, 2021—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table09.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.019580	69,683	1,364	69,001	1,417,704	20.3
61–62	0.020303	68,319	1,387	67,625	1,348,703	19.7
62–63	0.021033	66,932	1,408	66,228	1,281,078	19.1
63–64	0.021785	65,524	1,427	64,810	1,214,850	18.5
64–65	0.022598	64,096	1,448	63,372	1,150,040	17.9
65–66	0.023462	62,648	1,470	61,913	1,086,667	17.3
66–67	0.024437	61,178	1,495	60,431	1,024,754	16.8
67–68	0.025629	59,683	1,530	58,918	964,324	16.2
68–69	0.027088	58,154	1,575	57,366	905,405	15.6
69–70	0.028774	56,578	1,628	55,764	848,039	15.0
70–71	0.030660	54,950	1,685	54,108	792,275	14.4
71–72	0.032673	53,266	1,740	52,395	738,167	13.9
72–73	0.034770	51,525	1,792	50,629	685,772	13.3
73–74	0.036955	49,734	1,838	48,815	635,142	12.8
74–75	0.039343	47,896	1,884	46,954	586,327	12.2
75–76	0.042182	46,011	1,941	45,041	539,374	11.7
76–77	0.045562	44,071	2,008	43,067	494,333	11.2
77–78	0.049256	42,063	2,072	41,027	451,266	10.7
78–79	0.052941	39,991	2,117	38,932	410,239	10.3
79–80	0.056489	37,874	2,139	36,804	371,307	9.8
80–81	0.059947	35,734	2,142	34,663	334,503	9.4
81–82	0.063767	33,592	2,142	32,521	299,840	8.9
82–83	0.068331	31,450	2,149	30,375	267,319	8.5
83–84	0.073541	29,301	2,155	28,224	236,944	8.1
84–85	0.079268	27,146	2,152	26,070	208,720	7.7
85–86	0.084707	24,994	2,117	23,936	182,650	7.3
86–87	0.090510	22,877	2,071	21,842	158,714	6.9
87–88	0.097724	20,807	2,033	19,790	136,872	6.6
88–89	0.105385	18,773	1,978	17,784	117,082	6.2
89–90	0.113498	16,795	1,906	15,842	99,298	5.9
90–91	0.122062	14,889	1,817	13,980	83,457	5.6
91–92	0.131072	13,071	1,713	12,215	69,477	5.3
92–93	0.140516	11,358	1,596	10,560	57,262	5.0
93–94	0.150376	9,762	1,468	9,028	46,702	4.8
94–95	0.160625	8,294	1,332	7,628	37,674	4.5
95–96	0.171230	6,962	1,192	6,366	30,046	4.3
96–97	0.182150	5,770	1,051	5,244	23,680	4.1
97–98	0.193336	4,719	912	4,263	18,436	3.9
98–99	0.204730	3,806	779	3,417	14,173	3.7
99–100	0.216269	3,027	655	2,700	10,756	3.6
100 and older	1.000000	2,372	2,372	8,057	8,057	3.4

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 10. Life table for the Asian, non-Hispanic population: United States, 2021

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table10.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.003678	100,000	368	99,665	8,347,653	83.5
1–2	0.000230	99,632	23	99,621	8,247,988	82.8
2–3	0.000113	99,609	11	99,604	8,148,367	81.8
3–4	0.000141	99,598	14	99,591	8,048,764	80.8
4–5	0.000080	99,584	8	99,580	7,949,173	79.8
5–6	0.000092	99,576	9	99,571	7,849,593	78.8
6–7	0.000086	99,567	9	99,563	7,750,021	77.8
7–8	0.000079	99,558	8	99,554	7,650,459	76.8
8–9	0.000072	99,550	7	99,547	7,550,904	75.8
9–10	0.000065	99,543	6	99,540	7,451,357	74.9
10–11	0.000061	99,537	6	99,534	7,351,817	73.9
11–12	0.000063	99,531	6	99,528	7,252,283	72.9
12–13	0.000077	99,524	8	99,521	7,152,756	71.9
13–14	0.000107	99,517	11	99,511	7,053,235	70.9
14–15	0.000149	99,506	15	99,499	6,953,724	69.9
15–16	0.000191	99,491	19	99,482	6,854,225	68.9
16–17	0.000235	99,472	23	99,461	6,754,743	67.9
17–18	0.000293	99,449	29	99,434	6,655,282	66.9
18–19	0.000367	99,420	36	99,402	6,555,848	65.9
19–20	0.000449	99,383	45	99,361	6,456,446	65.0
20–21	0.000538	99,339	53	99,312	6,357,085	64.0
21–22	0.000617	99,285	61	99,255	6,257,773	63.0
22–23	0.000662	99,224	66	99,191	6,158,519	62.1
23–24	0.000663	99,158	66	99,125	6,059,327	61.1
24–25	0.000635	99,093	63	99,061	5,960,202	60.1
25–26	0.000599	99,030	59	99,000	5,861,141	59.2
26–27	0.000574	98,970	57	98,942	5,762,141	58.2
27–28	0.000561	98,914	56	98,886	5,663,199	57.3
28–29	0.000568	98,858	56	98,830	5,564,313	56.3
29–30	0.000586	98,802	58	98,773	5,465,483	55.3
30–31	0.000608	98,744	60	98,714	5,366,710	54.3
31–32	0.000626	98,684	62	98,653	5,267,995	53.4
32–33	0.000643	98,622	63	98,591	5,169,342	52.4
33–34	0.000656	98,559	65	98,527	5,070,752	51.4
34–35	0.000670	98,494	66	98,461	4,972,225	50.5
35–36	0.000687	98,428	68	98,394	4,873,764	49.5
36–37	0.000711	98,361	70	98,326	4,775,370	48.5
37–38	0.000743	98,291	73	98,254	4,677,044	47.6
38–39	0.000784	98,218	77	98,179	4,578,790	46.6
39–40	0.000835	98,141	82	98,100	4,480,611	45.7
40–41	0.000898	98,059	88	98,015	4,382,511	44.7
41–42	0.000971	97,971	95	97,923	4,284,496	43.7
42–43	0.001055	97,876	103	97,824	4,186,573	42.8
43–44	0.001150	97,772	112	97,716	4,088,749	41.8
44–45	0.001253	97,660	122	97,599	3,991,033	40.9
45–46	0.001359	97,538	133	97,471	3,893,435	39.9
46–47	0.001476	97,405	144	97,333	3,795,963	39.0
47–48	0.001617	97,261	157	97,183	3,698,630	38.0
48–49	0.001791	97,104	174	97,017	3,601,448	37.1
49–50	0.001993	96,930	193	96,833	3,504,431	36.2
50–51	0.002227	96,737	215	96,629	3,407,597	35.2
51–52	0.002470	96,521	238	96,402	3,310,968	34.3
52–53	0.002693	96,283	259	96,153	3,214,566	33.4
53–54	0.002879	96,024	276	95,885	3,118,413	32.5
54–55	0.003043	95,747	291	95,601	3,022,528	31.6
55–56	0.003212	95,456	307	95,302	2,926,926	30.7
56–57	0.003421	95,149	325	94,986	2,831,624	29.8
57–58	0.003690	94,824	350	94,649	2,736,637	28.9
58–59	0.004041	94,474	382	94,283	2,641,989	28.0
59–60	0.004463	94,092	420	93,882	2,547,706	27.1

See footnotes at end of table.

Table 10. Life table for the Asian, non-Hispanic population: United States, 2021—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table10.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.004922	93,672	461	93,442	2,453,824	26.2
61–62	0.005407	93,211	504	92,959	2,360,382	25.3
62–63	0.005948	92,707	551	92,431	2,267,423	24.5
63–64	0.006550	92,156	604	91,854	2,174,992	23.6
64–65	0.007209	91,552	660	91,222	2,083,138	22.8
65–66	0.007915	90,892	719	90,532	1,991,916	21.9
66–67	0.008662	90,173	781	89,782	1,901,383	21.1
67–68	0.009460	89,392	846	88,969	1,811,601	20.3
68–69	0.010313	88,546	913	88,089	1,722,632	19.5
69–70	0.011226	87,633	984	87,141	1,634,543	18.7
70–71	0.012221	86,649	1,059	86,120	1,547,402	17.9
71–72	0.013292	85,590	1,138	85,021	1,461,282	17.1
72–73	0.014440	84,452	1,219	83,843	1,376,261	16.3
73–74	0.015715	83,233	1,308	82,579	1,292,418	15.5
74–75	0.017205	81,925	1,409	81,220	1,209,839	14.8
75–76	0.018985	80,516	1,529	79,751	1,128,619	14.0
76–77	0.021229	78,987	1,677	78,149	1,048,868	13.3
77–78	0.024006	77,310	1,856	76,382	970,719	12.6
78–79	0.026950	75,454	2,033	74,437	894,337	11.9
79–80	0.030422	73,421	2,234	72,304	819,900	11.2
80–81	0.033977	71,187	2,419	69,978	747,596	10.5
81–82	0.038086	68,768	2,619	67,459	677,618	9.9
82–83	0.042795	66,149	2,831	64,734	610,159	9.2
83–84	0.048211	63,318	3,053	61,792	545,425	8.6
84–85	0.054930	60,266	3,310	58,611	483,633	8.0
85–86	0.061675	56,955	3,513	55,199	425,023	7.5
86–87	0.070545	53,443	3,770	51,558	369,824	6.9
87–88	0.080502	49,673	3,999	47,673	318,266	6.4
88–89	0.091627	45,674	4,185	43,581	270,593	5.9
89–90	0.103991	41,489	4,314	39,332	227,012	5.5
90–91	0.117652	37,174	4,374	34,988	187,680	5.0
91–92	0.132651	32,801	4,351	30,625	152,692	4.7
92–93	0.149004	28,450	4,239	26,330	122,067	4.3
93–94	0.166701	24,211	4,036	22,193	95,737	4.0
94–95	0.185698	20,175	3,746	18,301	73,544	3.6
95–96	0.205918	16,428	3,383	14,737	55,243	3.4
96–97	0.227246	13,045	2,965	11,563	40,506	3.1
97–98	0.249532	10,081	2,516	8,823	28,943	2.9
98–99	0.272593	7,565	2,062	6,534	20,120	2.7
99–100	0.296219	5,503	1,630	4,688	13,586	2.5
100 and older	1.000000	3,873	3,873	8,898	8,898	2.3

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 11. Life table for Asian, non-Hispanic males: United States, 2021

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table11.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.004015	100,000	401	99,637	8,115,184	81.2
1–2	0.000284	99,599	28	99,584	8,015,546	80.5
2–3	0.000109	99,570	11	99,565	7,915,962	79.5
3–4	0.000150	99,559	15	99,552	7,816,397	78.5
4–5	0.000052	99,544	5	99,542	7,716,845	77.5
5–6	0.000100	99,539	10	99,534	7,617,303	76.5
6–7	0.000097	99,529	10	99,524	7,517,769	75.5
7–8	0.000092	99,520	9	99,515	7,418,245	74.5
8–9	0.000086	99,510	9	99,506	7,318,730	73.5
9–10	0.000079	99,502	8	99,498	7,219,224	72.6
10–11	0.000074	99,494	7	99,490	7,119,726	71.6
11–12	0.000075	99,487	7	99,483	7,020,235	70.6
12–13	0.000087	99,479	9	99,475	6,920,752	69.6
13–14	0.000114	99,470	11	99,465	6,821,278	68.6
14–15	0.000153	99,459	15	99,452	6,721,813	67.6
15–16	0.000193	99,444	19	99,434	6,622,361	66.6
16–17	0.000238	99,425	24	99,413	6,522,927	65.6
17–18	0.000301	99,401	30	99,386	6,423,514	64.6
18–19	0.000387	99,371	38	99,352	6,324,128	63.6
19–20	0.000485	99,333	48	99,309	6,224,776	62.7
20–21	0.000592	99,285	59	99,255	6,125,467	61.7
21–22	0.000688	99,226	68	99,192	6,026,212	60.7
22–23	0.000753	99,158	75	99,120	5,927,020	59.8
23–24	0.000776	99,083	77	99,044	5,827,900	58.8
24–25	0.000771	99,006	76	98,968	5,728,856	57.9
25–26	0.000759	98,930	75	98,892	5,629,888	56.9
26–27	0.000754	98,855	74	98,817	5,530,996	56.0
27–28	0.000756	98,780	75	98,743	5,432,178	55.0
28–29	0.000771	98,705	76	98,667	5,333,436	54.0
29–30	0.000794	98,629	78	98,590	5,234,768	53.1
30–31	0.000819	98,551	81	98,511	5,136,178	52.1
31–32	0.000842	98,470	83	98,429	5,037,667	51.2
32–33	0.000865	98,388	85	98,345	4,939,238	50.2
33–34	0.000889	98,302	87	98,259	4,840,893	49.2
34–35	0.000915	98,215	90	98,170	4,742,634	48.3
35–36	0.000946	98,125	93	98,079	4,644,464	47.3
36–37	0.000985	98,032	97	97,984	4,546,385	46.4
37–38	0.001033	97,936	101	97,885	4,448,401	45.4
38–39	0.001093	97,835	107	97,781	4,350,516	44.5
39–40	0.001167	97,728	114	97,671	4,252,734	43.5
40–41	0.001256	97,614	123	97,553	4,155,063	42.6
41–42	0.001361	97,491	133	97,425	4,057,511	41.6
42–43	0.001481	97,358	144	97,286	3,960,086	40.7
43–44	0.001611	97,214	157	97,136	3,862,800	39.7
44–45	0.001748	97,058	170	96,973	3,765,664	38.8
45–46	0.001888	96,888	183	96,797	3,668,691	37.9
46–47	0.002044	96,705	198	96,606	3,571,894	36.9
47–48	0.002235	96,508	216	96,400	3,475,288	36.0
48–49	0.002475	96,292	238	96,173	3,378,888	35.1
49–50	0.002761	96,054	265	95,921	3,282,716	34.2
50–51	0.003090	95,788	296	95,640	3,186,795	33.3
51–52	0.003430	95,492	328	95,329	3,091,154	32.4
52–53	0.003749	95,165	357	94,986	2,995,826	31.5
53–54	0.004022	94,808	381	94,617	2,900,839	30.6
54–55	0.004269	94,427	403	94,225	2,806,222	29.7
55–56	0.004515	94,024	425	93,811	2,711,997	28.8
56–57	0.004814	93,599	451	93,374	2,618,186	28.0
57–58	0.005201	93,148	484	92,906	2,524,812	27.1
58–59	0.005710	92,664	529	92,399	2,431,906	26.2
59–60	0.006322	92,135	583	91,844	2,339,507	25.4

See footnotes at end of table.

Table 11. Life table for Asian, non-Hispanic males: United States, 2021—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table11.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.006990	91,552	640	91,232	2,247,663	24.6
61–62	0.007681	90,912	698	90,563	2,156,431	23.7
62–63	0.008406	90,214	758	89,835	2,065,867	22.9
63–64	0.009156	89,456	819	89,046	1,976,032	22.1
64–65	0.009937	88,637	881	88,196	1,886,986	21.3
65–66	0.010764	87,756	945	87,284	1,798,790	20.5
66–67	0.011647	86,811	1,011	86,306	1,711,506	19.7
67–68	0.012577	85,800	1,079	85,261	1,625,201	18.9
68–69	0.013559	84,721	1,149	84,147	1,539,940	18.2
69–70	0.014599	83,572	1,220	82,962	1,455,793	17.4
70–71	0.015722	82,352	1,295	81,705	1,372,831	16.7
71–72	0.016933	81,058	1,373	80,371	1,291,126	15.9
72–73	0.018255	79,685	1,455	78,958	1,210,755	15.2
73–74	0.019753	78,230	1,545	77,458	1,131,797	14.5
74–75	0.021516	76,685	1,650	75,860	1,054,339	13.7
75–76	0.023580	75,035	1,769	74,150	978,479	13.0
76–77	0.026146	73,266	1,916	72,308	904,329	12.3
77–78	0.029361	71,350	2,095	70,303	832,021	11.7
78–79	0.032783	69,255	2,270	68,120	761,718	11.0
79–80	0.036947	66,985	2,475	65,747	693,598	10.4
80–81	0.040915	64,510	2,639	63,190	627,850	9.7
81–82	0.045743	61,871	2,830	60,456	564,660	9.1
82–83	0.050935	59,040	3,007	57,537	504,204	8.5
83–84	0.056985	56,033	3,193	54,437	446,668	8.0
84–85	0.064493	52,840	3,408	51,136	392,231	7.4
85–86	0.071431	49,432	3,531	47,667	341,095	6.9
86–87	0.081409	45,901	3,737	44,033	293,428	6.4
87–88	0.092535	42,165	3,902	40,214	249,395	5.9
88–89	0.104872	38,263	4,013	36,256	209,181	5.5
89–90	0.118470	34,250	4,058	32,221	172,925	5.0
90–91	0.133360	30,193	4,026	28,179	140,703	4.7
91–92	0.149547	26,166	3,913	24,210	112,524	4.3
92–93	0.167010	22,253	3,716	20,395	88,314	4.0
93–94	0.185693	18,537	3,442	16,815	67,920	3.7
94–95	0.205506	15,094	3,102	13,543	51,104	3.4
95–96	0.226324	11,992	2,714	10,635	37,561	3.1
96–97	0.247987	9,278	2,301	8,128	26,925	2.9
97–98	0.270305	6,977	1,886	6,034	18,798	2.7
98–99	0.293064	5,091	1,492	4,345	12,763	2.5
99–100	0.316036	3,599	1,137	3,031	8,418	2.3
100 and older	1.000000	2,462	2,462	5,387	5,387	2.2

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 12. Life table for Asian, non-Hispanic females: United States, 2021

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table12.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.003320	100,000	332	99,695	8,559,441	85.6
1–2	0.000172	99,668	17	99,659	8,459,746	84.9
2–3	0.000117	99,651	12	99,645	8,360,087	83.9
3–4	0.000132	99,639	13	99,633	8,260,442	82.9
4–5	0.000110	99,626	11	99,621	8,160,809	81.9
5–6	0.000081	99,615	8	99,611	8,061,189	80.9
6–7	0.000070	99,607	7	99,604	7,961,578	79.9
7–8	0.000063	99,600	6	99,597	7,861,974	78.9
8–9	0.000059	99,594	6	99,591	7,762,377	77.9
9–10	0.000058	99,588	6	99,585	7,662,786	76.9
10–11	0.000060	99,582	6	99,579	7,563,201	75.9
11–12	0.000066	99,576	7	99,573	7,463,622	75.0
12–13	0.000077	99,570	8	99,566	7,364,049	74.0
13–14	0.000092	99,562	9	99,557	7,264,483	73.0
14–15	0.000111	99,553	11	99,547	7,164,926	72.0
15–16	0.000131	99,542	13	99,535	7,065,378	71.0
16–17	0.000152	99,529	15	99,521	6,965,843	70.0
17–18	0.000176	99,513	18	99,505	6,866,322	69.0
18–19	0.000203	99,496	20	99,486	6,766,818	68.0
19–20	0.000231	99,476	23	99,464	6,667,332	67.0
20–21	0.000261	99,453	26	99,440	6,567,867	66.0
21–22	0.000288	99,427	29	99,413	6,468,428	65.1
22–23	0.000306	99,398	30	99,383	6,369,015	64.1
23–24	0.000311	99,368	31	99,352	6,269,632	63.1
24–25	0.000308	99,337	31	99,322	6,170,280	62.1
25–26	0.000305	99,306	30	99,291	6,070,958	61.1
26–27	0.000304	99,276	30	99,261	5,971,667	60.2
27–28	0.000303	99,246	30	99,231	5,872,406	59.2
28–29	0.000304	99,216	30	99,201	5,773,176	58.2
29–30	0.000306	99,186	30	99,170	5,673,975	57.2
30–31	0.000308	99,155	31	99,140	5,574,805	56.2
31–32	0.000313	99,125	31	99,109	5,475,665	55.2
32–33	0.000325	99,094	32	99,078	5,376,555	54.3
33–34	0.000348	99,061	34	99,044	5,277,478	53.3
34–35	0.000378	99,027	37	99,008	5,178,434	52.3
35–36	0.000414	98,990	41	98,969	5,079,425	51.3
36–37	0.000451	98,949	45	98,926	4,980,456	50.3
37–38	0.000486	98,904	48	98,880	4,881,530	49.4
38–39	0.000517	98,856	51	98,830	4,782,650	48.4
39–40	0.000547	98,805	54	98,778	4,683,819	47.4
40–41	0.000581	98,751	57	98,722	4,585,042	46.4
41–42	0.000623	98,694	62	98,663	4,486,319	45.5
42–43	0.000677	98,632	67	98,599	4,387,657	44.5
43–44	0.000742	98,565	73	98,529	4,289,058	43.5
44–45	0.000818	98,492	81	98,452	4,190,529	42.5
45–46	0.000898	98,412	88	98,367	4,092,077	41.6
46–47	0.000983	98,323	97	98,275	3,993,710	40.6
47–48	0.001080	98,227	106	98,174	3,895,435	39.7
48–49	0.001195	98,120	117	98,062	3,797,262	38.7
49–50	0.001324	98,003	130	97,938	3,699,200	37.7
50–51	0.001475	97,873	144	97,801	3,601,261	36.8
51–52	0.001633	97,729	160	97,649	3,503,460	35.8
52–53	0.001775	97,570	173	97,483	3,405,811	34.9
53–54	0.001891	97,396	184	97,304	3,308,328	34.0
54–55	0.001992	97,212	194	97,115	3,211,024	33.0
55–56	0.002100	97,018	204	96,917	3,113,908	32.1
56–57	0.002240	96,815	217	96,706	3,016,992	31.2
57–58	0.002418	96,598	234	96,481	2,920,286	30.2
58–59	0.002646	96,364	255	96,237	2,823,804	29.3
59–60	0.002921	96,109	281	95,969	2,727,568	28.4

See footnotes at end of table.

Table 12. Life table for Asian, non-Hispanic females: United States, 2021—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table12.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.003221	95,829	309	95,674	2,631,599	27.5
61–62	0.003552	95,520	339	95,350	2,535,925	26.5
62–63	0.003952	95,181	376	94,993	2,440,574	25.6
63–64	0.004436	94,804	421	94,594	2,345,582	24.7
64–65	0.004995	94,384	471	94,148	2,250,988	23.8
65–66	0.005596	93,912	526	93,650	2,156,839	23.0
66–67	0.006231	93,387	582	93,096	2,063,190	22.1
67–68	0.006928	92,805	643	92,484	1,970,094	21.2
68–69	0.007693	92,162	709	91,808	1,877,610	20.4
69–70	0.008526	91,453	780	91,063	1,785,802	19.5
70–71	0.009446	90,673	857	90,245	1,694,739	18.7
71–72	0.010430	89,817	937	89,348	1,604,494	17.9
72–73	0.011458	88,880	1,018	88,371	1,515,146	17.0
73–74	0.012562	87,862	1,104	87,310	1,426,775	16.2
74–75	0.013827	86,758	1,200	86,158	1,339,465	15.4
75–76	0.015364	85,558	1,315	84,901	1,253,307	14.6
76–77	0.017329	84,244	1,460	83,514	1,168,406	13.9
77–78	0.019760	82,784	1,636	81,966	1,084,892	13.1
78–79	0.022361	81,148	1,815	80,241	1,002,926	12.4
79–80	0.025368	79,334	2,013	78,327	922,685	11.6
80–81	0.028741	77,321	2,222	76,210	844,358	10.9
81–82	0.032491	75,099	2,440	73,879	768,148	10.2
82–83	0.037016	72,659	2,690	71,314	694,269	9.6
83–84	0.042196	69,969	2,952	68,493	622,955	8.9
84–85	0.048660	67,017	3,261	65,386	554,462	8.3
85–86	0.056076	63,756	3,575	61,968	489,076	7.7
86–87	0.063613	60,181	3,828	58,266	427,107	7.1
87–88	0.073583	56,352	4,147	54,279	368,841	6.5
88–89	0.084882	52,206	4,431	49,990	314,562	6.0
89–90	0.097614	47,774	4,663	45,443	264,572	5.5
90–91	0.111871	43,111	4,823	40,700	219,129	5.1
91–92	0.127727	38,288	4,890	35,843	178,430	4.7
92–93	0.145225	33,398	4,850	30,973	142,587	4.3
93–94	0.164376	28,547	4,693	26,201	111,614	3.9
94–95	0.185147	23,855	4,417	21,647	85,413	3.6
95–96	0.207458	19,438	4,033	17,422	63,766	3.3
96–97	0.231180	15,406	3,561	13,625	46,344	3.0
97–98	0.256129	11,844	3,034	10,327	32,719	2.8
98–99	0.282079	8,811	2,485	7,568	22,392	2.5
99–100	0.308759	6,325	1,953	5,349	14,824	2.3
100 and older	1.000000	4,372	4,372	9,475	9,475	2.2

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 13. Life table for the Black, non-Hispanic population: United States, 2021

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table13.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.010514	100,000	1,051	99,100	7,124,446	71.2
1–2	0.000854	98,949	85	98,906	7,025,346	71.0
2–3	0.000483	98,864	48	98,840	6,926,439	70.1
3–4	0.000380	98,816	38	98,798	6,827,599	69.1
4–5	0.000350	98,779	35	98,761	6,728,802	68.1
5–6	0.000293	98,744	29	98,730	6,630,040	67.1
6–7	0.000272	98,715	27	98,702	6,531,311	66.2
7–8	0.000249	98,688	25	98,676	6,432,609	65.2
8–9	0.000216	98,664	21	98,653	6,333,933	64.2
9–10	0.000176	98,642	17	98,634	6,235,280	63.2
10–11	0.000145	98,625	14	98,618	6,136,646	62.2
11–12	0.000151	98,611	15	98,603	6,038,028	61.2
12–13	0.000222	98,596	22	98,585	5,939,424	60.2
13–14	0.000377	98,574	37	98,555	5,840,839	59.3
14–15	0.000597	98,537	59	98,507	5,742,284	58.3
15–16	0.000849	98,478	84	98,436	5,643,776	57.3
16–17	0.001098	98,394	108	98,340	5,545,340	56.4
17–18	0.001335	98,286	131	98,221	5,447,000	55.4
18–19	0.001541	98,155	151	98,080	5,348,779	54.5
19–20	0.001718	98,004	168	97,920	5,250,699	53.6
20–21	0.001897	97,836	186	97,743	5,152,779	52.7
21–22	0.002077	97,650	203	97,549	5,055,036	51.8
22–23	0.002226	97,447	217	97,339	4,957,488	50.9
23–24	0.002336	97,230	227	97,117	4,860,149	50.0
24–25	0.002415	97,003	234	96,886	4,763,032	49.1
25–26	0.002480	96,769	240	96,649	4,666,146	48.2
26–27	0.002548	96,529	246	96,406	4,569,497	47.3
27–28	0.002626	96,283	253	96,157	4,473,091	46.5
28–29	0.002721	96,030	261	95,899	4,376,935	45.6
29–30	0.002832	95,769	271	95,633	4,281,035	44.7
30–31	0.002946	95,498	281	95,357	4,185,402	43.8
31–32	0.003060	95,216	291	95,071	4,090,045	43.0
32–33	0.003185	94,925	302	94,774	3,994,974	42.1
33–34	0.003328	94,623	315	94,465	3,900,200	41.2
34–35	0.003491	94,308	329	94,143	3,805,735	40.4
35–36	0.003678	93,979	346	93,806	3,711,592	39.5
36–37	0.003885	93,633	364	93,451	3,617,786	38.6
37–38	0.004104	93,269	383	93,078	3,524,335	37.8
38–39	0.004324	92,886	402	92,685	3,431,258	36.9
39–40	0.004541	92,485	420	92,275	3,338,572	36.1
40–41	0.004776	92,065	440	91,845	3,246,297	35.3
41–42	0.005030	91,625	461	91,395	3,154,453	34.4
42–43	0.005282	91,164	482	90,923	3,063,058	33.6
43–44	0.005535	90,683	502	90,432	2,972,135	32.8
44–45	0.005806	90,181	524	89,919	2,881,703	32.0
45–46	0.006113	89,657	548	89,383	2,791,784	31.1
46–47	0.006469	89,109	576	88,821	2,702,401	30.3
47–48	0.006871	88,533	608	88,228	2,613,580	29.5
48–49	0.007312	87,924	643	87,603	2,525,352	28.7
49–50	0.007786	87,281	680	86,942	2,437,749	27.9
50–51	0.008277	86,602	717	86,243	2,350,807	27.1
51–52	0.008814	85,885	757	85,507	2,264,564	26.4
52–53	0.009434	85,128	803	84,727	2,179,057	25.6
53–54	0.010160	84,325	857	83,897	2,094,331	24.8
54–55	0.010976	83,468	916	83,010	2,010,434	24.1
55–56	0.011806	82,552	975	82,065	1,927,424	23.3
56–57	0.012659	81,578	1,033	81,061	1,845,359	22.6
57–58	0.013627	80,545	1,098	79,996	1,764,298	21.9
58–59	0.014740	79,447	1,171	78,862	1,684,302	21.2
59–60	0.015966	78,276	1,250	77,651	1,605,440	20.5

See footnotes at end of table.

Table 13. Life table for the Black, non-Hispanic population: United States, 2021—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table13.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.017255	77,026	1,329	76,362	1,527,789	19.8
61–62	0.018548	75,697	1,404	74,995	1,451,427	19.2
62–63	0.019849	74,293	1,475	73,556	1,376,432	18.5
63–64	0.021164	72,819	1,541	72,048	1,302,876	17.9
64–65	0.022532	71,278	1,606	70,475	1,230,827	17.3
65–66	0.024022	69,672	1,674	68,835	1,160,353	16.7
66–67	0.025626	67,998	1,743	67,127	1,091,518	16.1
67–68	0.027188	66,255	1,801	65,355	1,024,391	15.5
68–69	0.028766	64,454	1,854	63,527	959,037	14.9
69–70	0.030315	62,600	1,898	61,651	895,510	14.3
70–71	0.031771	60,702	1,929	59,738	833,859	13.7
71–72	0.033710	58,774	1,981	57,783	774,121	13.2
72–73	0.035640	56,792	2,024	55,780	716,338	12.6
73–74	0.037658	54,768	2,062	53,737	660,557	12.1
74–75	0.040010	52,706	2,109	51,651	606,820	11.5
75–76	0.043349	50,597	2,193	49,500	555,169	11.0
76–77	0.046176	48,404	2,235	47,286	505,668	10.4
77–78	0.050980	46,169	2,354	44,992	458,382	9.9
78–79	0.054689	43,815	2,396	42,617	413,390	9.4
79–80	0.059597	41,419	2,468	40,185	370,773	9.0
80–81	0.063739	38,950	2,483	37,709	330,589	8.5
81–82	0.069773	36,468	2,544	35,195	292,880	8.0
82–83	0.074481	33,923	2,527	32,660	257,684	7.6
83–84	0.080832	31,397	2,538	30,128	225,025	7.2
84–85	0.088261	28,859	2,547	27,585	194,897	6.8
85–86	0.096531	26,312	2,540	25,042	167,312	6.4
86–87	0.105296	23,772	2,503	22,520	142,270	6.0
87–88	0.114696	21,269	2,439	20,049	119,750	5.6
88–89	0.124750	18,829	2,349	17,655	99,701	5.3
89–90	0.135468	16,480	2,233	15,364	82,046	5.0
90–91	0.146858	14,248	2,092	13,202	66,682	4.7
91–92	0.158919	12,155	1,932	11,189	53,481	4.4
92–93	0.171643	10,224	1,755	9,346	42,291	4.1
93–94	0.185015	8,469	1,567	7,685	32,945	3.9
94–95	0.199010	6,902	1,374	6,215	25,259	3.7
95–96	0.213594	5,528	1,181	4,938	19,044	3.4
96–97	0.228725	4,348	994	3,850	14,106	3.2
97–98	0.244348	3,353	819	2,943	10,256	3.1
98–99	0.260405	2,534	660	2,204	7,312	2.9
99–100	0.276825	1,874	519	1,615	5,109	2.7
100 and older	1.000000	1,355	1,355	3,494	3,494	2.6

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 14. Life table for Black, non-Hispanic males: United States, 2021

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table14.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.011512	100,000	1,151	99,017	6,758,074	67.6
1–2	0.000739	98,849	73	98,812	6,659,057	67.4
2–3	0.000514	98,776	51	98,750	6,560,245	66.4
3–4	0.000415	98,725	41	98,705	6,461,494	65.4
4–5	0.000330	98,684	33	98,668	6,362,790	64.5
5–6	0.000306	98,652	30	98,636	6,264,122	63.5
6–7	0.000298	98,621	29	98,607	6,165,486	62.5
7–8	0.000278	98,592	27	98,578	6,066,879	61.5
8–9	0.000227	98,565	22	98,553	5,968,301	60.6
9–10	0.000155	98,542	15	98,535	5,869,747	59.6
10–11	0.000093	98,527	9	98,522	5,771,213	58.6
11–12	0.000091	98,518	9	98,513	5,672,691	57.6
12–13	0.000203	98,509	20	98,499	5,574,177	56.6
13–14	0.000464	98,489	46	98,466	5,475,679	55.6
14–15	0.000840	98,443	83	98,402	5,377,213	54.6
15–16	0.001270	98,360	125	98,298	5,278,811	53.7
16–17	0.001686	98,235	166	98,153	5,180,514	52.7
17–18	0.002067	98,070	203	97,968	5,082,361	51.8
18–19	0.002374	97,867	232	97,751	4,984,393	50.9
19–20	0.002617	97,635	256	97,507	4,886,642	50.1
20–21	0.002855	97,379	278	97,240	4,789,135	49.2
21–22	0.003097	97,101	301	96,951	4,691,894	48.3
22–23	0.003291	96,801	319	96,641	4,594,943	47.5
23–24	0.003427	96,482	331	96,317	4,498,302	46.6
24–25	0.003518	96,151	338	95,982	4,401,986	45.8
25–26	0.003586	95,813	344	95,641	4,306,003	44.9
26–27	0.003655	95,469	349	95,295	4,210,362	44.1
27–28	0.003734	95,121	355	94,943	4,115,067	43.3
28–29	0.003836	94,765	363	94,584	4,020,124	42.4
29–30	0.003956	94,402	373	94,215	3,925,541	41.6
30–31	0.004079	94,028	383	93,837	3,831,325	40.7
31–32	0.004201	93,645	393	93,448	3,737,489	39.9
32–33	0.004345	93,251	405	93,049	3,644,041	39.1
33–34	0.004522	92,846	420	92,636	3,550,992	38.2
34–35	0.004733	92,426	437	92,208	3,458,355	37.4
35–36	0.004979	91,989	458	91,760	3,366,148	36.6
36–37	0.005247	91,531	480	91,291	3,274,388	35.8
37–38	0.005515	91,051	502	90,800	3,183,097	35.0
38–39	0.005759	90,549	521	90,288	3,092,297	34.2
39–40	0.005982	90,027	539	89,758	3,002,009	33.3
40–41	0.006222	89,489	557	89,210	2,912,251	32.5
41–42	0.006493	88,932	577	88,643	2,823,041	31.7
42–43	0.006775	88,354	599	88,055	2,734,398	30.9
43–44	0.007078	87,756	621	87,445	2,646,343	30.2
44–45	0.007417	87,135	646	86,812	2,558,897	29.4
45–46	0.007804	86,488	675	86,151	2,472,086	28.6
46–47	0.008249	85,813	708	85,460	2,385,935	27.8
47–48	0.008757	85,106	745	84,733	2,300,475	27.0
48–49	0.009317	84,360	786	83,967	2,215,742	26.3
49–50	0.009917	83,574	829	83,160	2,131,775	25.5
50–51	0.010540	82,746	872	82,309	2,048,615	24.8
51–52	0.011213	81,873	918	81,414	1,966,305	24.0
52–53	0.011974	80,955	969	80,471	1,884,891	23.3
53–54	0.012847	79,986	1,028	79,472	1,804,420	22.6
54–55	0.013824	78,958	1,091	78,413	1,724,948	21.8
55–56	0.014813	77,867	1,153	77,290	1,646,536	21.1
56–57	0.015840	76,713	1,215	76,106	1,569,246	20.5
57–58	0.017029	75,498	1,286	74,855	1,493,140	19.8
58–59	0.018425	74,213	1,367	73,529	1,418,284	19.1
59–60	0.019985	72,845	1,456	72,117	1,344,755	18.5

See footnotes at end of table.

Table 14. Life table for Black, non-Hispanic males: United States, 2021—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table14.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.021624	71,389	1,544	70,618	1,272,638	17.8
61–62	0.023267	69,846	1,625	69,033	1,202,020	17.2
62–63	0.024939	68,221	1,701	67,370	1,132,987	16.6
63–64	0.026661	66,519	1,774	65,633	1,065,617	16.0
64–65	0.028483	64,746	1,844	63,824	999,985	15.4
65–66	0.030509	62,902	1,919	61,942	936,161	14.9
66–67	0.032676	60,983	1,993	59,986	874,219	14.3
67–68	0.034743	58,990	2,049	57,965	814,232	13.8
68–69	0.036749	56,940	2,093	55,894	756,267	13.3
69–70	0.038621	54,848	2,118	53,789	700,373	12.8
70–71	0.040243	52,730	2,122	51,669	646,584	12.3
71–72	0.042670	50,608	2,159	49,528	594,916	11.8
72–73	0.044877	48,448	2,174	47,361	545,388	11.3
73–74	0.047144	46,274	2,182	45,183	498,027	10.8
74–75	0.049960	44,092	2,203	42,991	452,844	10.3
75–76	0.053920	41,890	2,259	40,760	409,852	9.8
76–77	0.057001	39,631	2,259	38,501	369,092	9.3
77–78	0.062479	37,372	2,335	36,204	330,591	8.8
78–79	0.067019	35,037	2,348	33,863	294,386	8.4
79–80	0.072595	32,689	2,373	31,502	260,524	8.0
80–81	0.077055	30,316	2,336	29,148	229,021	7.6
81–82	0.083101	27,980	2,325	26,817	199,874	7.1
82–83	0.087958	25,655	2,257	24,526	173,056	6.7
83–84	0.096312	23,398	2,254	22,271	148,530	6.3
84–85	0.106636	21,145	2,255	20,017	126,259	6.0
85–86	0.115873	18,890	2,189	17,795	106,242	5.6
86–87	0.125730	16,701	2,100	15,651	88,446	5.3
87–88	0.136218	14,601	1,989	13,607	72,795	5.0
88–89	0.147343	12,612	1,858	11,683	59,189	4.7
89–90	0.159104	10,754	1,711	9,898	47,506	4.4
90–91	0.171494	9,043	1,551	8,267	37,607	4.2
91–92	0.184497	7,492	1,382	6,801	29,340	3.9
92–93	0.198093	6,110	1,210	5,505	22,539	3.7
93–94	0.212249	4,900	1,040	4,380	17,034	3.5
94–95	0.226926	3,860	876	3,422	12,654	3.3
95–96	0.242079	2,984	722	2,623	9,233	3.1
96–97	0.257650	2,261	583	1,970	6,610	2.9
97–98	0.273577	1,679	459	1,449	4,640	2.8
98–99	0.289791	1,220	353	1,043	3,191	2.6
99–100	0.306218	866	265	733	2,148	2.5
100 and older	1.000000	601	601	1,415	1,415	2.4

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 15. Life table for Black, non-Hispanic females: United States, 2021

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table15.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.009486	100,000	949	99,186	7,496,018	75.0
1–2	0.000878	99,051	87	99,008	7,396,832	74.7
2–3	0.000391	98,964	39	98,945	7,297,824	73.7
3–4	0.000295	98,926	29	98,911	7,198,879	72.8
4–5	0.000330	98,896	33	98,880	7,099,968	71.8
5–6	0.000246	98,864	24	98,852	7,001,088	70.8
6–7	0.000217	98,839	21	98,829	6,902,236	69.8
7–8	0.000194	98,818	19	98,808	6,803,407	68.8
8–9	0.000176	98,799	17	98,790	6,704,599	67.9
9–10	0.000164	98,781	16	98,773	6,605,809	66.9
10–11	0.000159	98,765	16	98,757	6,507,035	65.9
11–12	0.000169	98,749	17	98,741	6,408,278	64.9
12–13	0.000197	98,733	19	98,723	6,309,537	63.9
13–14	0.000248	98,713	24	98,701	6,210,814	62.9
14–15	0.000318	98,689	31	98,673	6,112,113	61.9
15–16	0.000400	98,658	39	98,638	6,013,439	61.0
16–17	0.000488	98,618	48	98,594	5,914,802	60.0
17–18	0.000586	98,570	58	98,541	5,816,207	59.0
18–19	0.000692	98,512	68	98,478	5,717,666	58.0
19–20	0.000802	98,444	79	98,405	5,619,188	57.1
20–21	0.000919	98,365	90	98,320	5,520,784	56.1
21–22	0.001037	98,275	102	98,224	5,422,464	55.2
22–23	0.001140	98,173	112	98,117	5,324,240	54.2
23–24	0.001221	98,061	120	98,001	5,226,123	53.3
24–25	0.001286	97,941	126	97,878	5,128,122	52.4
25–26	0.001345	97,815	132	97,749	5,030,244	51.4
26–27	0.001411	97,684	138	97,615	4,932,494	50.5
27–28	0.001489	97,546	145	97,473	4,834,879	49.6
28–29	0.001585	97,401	154	97,323	4,737,406	48.6
29–30	0.001696	97,246	165	97,164	4,640,083	47.7
30–31	0.001814	97,081	176	96,993	4,542,919	46.8
31–32	0.001932	96,905	187	96,812	4,445,926	45.9
32–33	0.002049	96,718	198	96,619	4,349,114	45.0
33–34	0.002168	96,520	209	96,415	4,252,495	44.1
34–35	0.002295	96,311	221	96,200	4,156,080	43.2
35–36	0.002435	96,090	234	95,973	4,059,880	42.3
36–37	0.002595	95,856	249	95,731	3,963,907	41.4
37–38	0.002779	95,607	266	95,474	3,868,176	40.5
38–39	0.002986	95,341	285	95,199	3,772,702	39.6
39–40	0.003205	95,057	305	94,904	3,677,503	38.7
40–41	0.003443	94,752	326	94,589	3,582,599	37.8
41–42	0.003688	94,426	348	94,252	3,488,010	36.9
42–43	0.003919	94,077	369	93,893	3,393,758	36.1
43–44	0.004134	93,709	387	93,515	3,299,865	35.2
44–45	0.004348	93,321	406	93,119	3,206,350	34.4
45–46	0.004589	92,916	426	92,702	3,113,232	33.5
46–47	0.004870	92,489	450	92,264	3,020,529	32.7
47–48	0.005182	92,039	477	91,800	2,928,265	31.8
48–49	0.005517	91,562	505	91,309	2,836,465	31.0
49–50	0.005876	91,057	535	90,789	2,745,155	30.1
50–51	0.006246	90,522	565	90,239	2,654,366	29.3
51–52	0.006656	89,956	599	89,657	2,564,127	28.5
52–53	0.007149	89,358	639	89,038	2,474,470	27.7
53–54	0.007745	88,719	687	88,375	2,385,432	26.9
54–55	0.008424	88,032	742	87,661	2,297,056	26.1
55–56	0.009120	87,290	796	86,892	2,209,396	25.3
56–57	0.009829	86,494	850	86,069	2,122,503	24.5
57–58	0.010611	85,644	909	85,190	2,036,434	23.8
58–59	0.011485	84,735	973	84,249	1,951,245	23.0
59–60	0.012433	83,762	1,041	83,241	1,866,996	22.3

See footnotes at end of table.

Table 15. Life table for Black, non-Hispanic females: United States, 2021—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table15.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.013431	82,721	1,111	82,165	1,783,755	21.6
61–62	0.014441	81,609	1,178	81,020	1,701,590	20.9
62–63	0.015455	80,431	1,243	79,809	1,620,570	20.1
63–64	0.016478	79,188	1,305	78,535	1,540,760	19.5
64–65	0.017539	77,883	1,366	77,200	1,462,225	18.8
65–66	0.018681	76,517	1,429	75,802	1,385,025	18.1
66–67	0.019926	75,088	1,496	74,340	1,309,223	17.4
67–68	0.021186	73,591	1,559	72,812	1,234,883	16.8
68–69	0.022513	72,032	1,622	71,221	1,162,071	16.1
69–70	0.023885	70,411	1,682	69,570	1,090,850	15.5
70–71	0.025301	68,729	1,739	67,859	1,021,280	14.9
71–72	0.026949	66,990	1,805	66,087	953,421	14.2
72–73	0.028770	65,185	1,875	64,247	887,333	13.6
73–74	0.030679	63,309	1,942	62,338	823,086	13.0
74–75	0.032790	61,367	2,012	60,361	760,748	12.4
75–76	0.035795	59,355	2,125	58,292	700,387	11.8
76–77	0.038604	57,230	2,209	56,125	642,095	11.2
77–78	0.043057	55,021	2,369	53,836	585,969	10.6
78–79	0.046379	52,652	2,442	51,431	532,133	10.1
79–80	0.051011	50,210	2,561	48,929	480,702	9.6
80–81	0.055215	47,649	2,631	46,333	431,773	9.1
81–82	0.061438	45,018	2,766	43,635	385,440	8.6
82–83	0.066199	42,252	2,797	40,853	341,805	8.1
83–84	0.071620	39,455	2,826	38,042	300,952	7.6
84–85	0.078598	36,629	2,879	35,190	262,910	7.2
85–86	0.085155	33,750	2,874	32,313	227,720	6.7
86–87	0.093816	30,876	2,897	29,428	195,407	6.3
87–88	0.103201	27,979	2,888	26,536	165,979	5.9
88–89	0.113339	25,092	2,844	23,670	139,443	5.6
89–90	0.124254	22,248	2,764	20,866	115,773	5.2
90–91	0.135962	19,484	2,649	18,159	94,907	4.9
91–92	0.148471	16,835	2,499	15,585	76,748	4.6
92–93	0.161779	14,335	2,319	13,176	61,163	4.3
93–94	0.175876	12,016	2,113	10,959	47,988	4.0
94–95	0.190738	9,903	1,889	8,958	37,028	3.7
95–96	0.206327	8,014	1,653	7,187	28,070	3.5
96–97	0.222594	6,360	1,416	5,653	20,883	3.3
97–98	0.239476	4,945	1,184	4,353	15,231	3.1
98–99	0.256899	3,760	966	3,277	10,878	2.9
99–100	0.274773	2,794	768	2,411	7,601	2.7
100 and older	1.000000	2027	2027	5190	5190	2.6

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 16. Life table for the White, non-Hispanic population: United States, 2021

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table16.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.004376	100,000	438	99,615	7,665,146	76.7
1–2	0.000352	99,562	35	99,545	7,565,532	76.0
2–3	0.000224	99,527	22	99,516	7,465,987	75.0
3–4	0.000173	99,505	17	99,497	7,366,470	74.0
4–5	0.000131	99,488	13	99,481	7,266,974	73.0
5–6	0.000124	99,475	12	99,469	7,167,492	72.1
6–7	0.000113	99,463	11	99,457	7,068,024	71.1
7–8	0.000103	99,451	10	99,446	6,968,567	70.1
8–9	0.000094	99,441	9	99,436	6,869,120	69.1
9–10	0.000086	99,432	9	99,427	6,769,684	68.1
10–11	0.000084	99,423	8	99,419	6,670,257	67.1
11–12	0.000094	99,415	9	99,410	6,570,838	66.1
12–13	0.000125	99,406	12	99,399	6,471,427	65.1
13–14	0.000182	99,393	18	99,384	6,372,028	64.1
14–15	0.000257	99,375	26	99,362	6,272,644	63.1
15–16	0.000342	99,349	34	99,332	6,173,282	62.1
16–17	0.000429	99,315	43	99,294	6,073,949	61.2
17–18	0.000518	99,273	51	99,247	5,974,655	60.2
18–19	0.000606	99,221	60	99,191	5,875,408	59.2
19–20	0.000695	99,161	69	99,127	5,776,217	58.3
20–21	0.000790	99,092	78	99,053	5,677,090	57.3
21–22	0.000890	99,014	88	98,970	5,578,037	56.3
22–23	0.000988	98,926	98	98,877	5,479,067	55.4
23–24	0.001081	98,828	107	98,775	5,380,190	54.4
24–25	0.001171	98,721	116	98,663	5,281,415	53.5
25–26	0.001259	98,606	124	98,544	5,182,752	52.6
26–27	0.001350	98,482	133	98,415	5,084,208	51.6
27–28	0.001449	98,349	143	98,277	4,985,793	50.7
28–29	0.001558	98,206	153	98,130	4,887,516	49.8
29–30	0.001672	98,053	164	97,971	4,789,386	48.8
30–31	0.001788	97,889	175	97,802	4,691,415	47.9
31–32	0.001900	97,714	186	97,621	4,593,613	47.0
32–33	0.002006	97,528	196	97,430	4,495,992	46.1
33–34	0.002105	97,333	205	97,230	4,398,562	45.2
34–35	0.002201	97,128	214	97,021	4,301,331	44.3
35–36	0.002301	96,914	223	96,803	4,204,310	43.4
36–37	0.002408	96,691	233	96,575	4,107,508	42.5
37–38	0.002520	96,458	243	96,337	4,010,933	41.6
38–39	0.002635	96,215	254	96,088	3,914,596	40.7
39–40	0.002757	95,962	265	95,829	3,818,508	39.8
40–41	0.002899	95,697	277	95,558	3,722,679	38.9
41–42	0.003056	95,420	292	95,274	3,627,120	38.0
42–43	0.003215	95,128	306	94,975	3,531,847	37.1
43–44	0.003374	94,822	320	94,662	3,436,872	36.2
44–45	0.003545	94,502	335	94,335	3,342,210	35.4
45–46	0.003748	94,167	353	93,991	3,247,875	34.5
46–47	0.003997	93,814	375	93,627	3,153,884	33.6
47–48	0.004280	93,439	400	93,239	3,060,258	32.8
48–49	0.004587	93,039	427	92,826	2,967,018	31.9
49–50	0.004910	92,613	455	92,385	2,874,192	31.0
50–51	0.005239	92,158	483	91,916	2,781,807	30.2
51–52	0.005599	91,675	513	91,418	2,689,891	29.3
52–53	0.006014	91,162	548	90,888	2,598,473	28.5
53–54	0.006504	90,613	589	90,319	2,507,585	27.7
54–55	0.007061	90,024	636	89,706	2,417,266	26.9
55–56	0.007630	89,388	682	89,047	2,327,560	26.0
56–57	0.008215	88,706	729	88,342	2,238,512	25.2
57–58	0.008869	87,978	780	87,588	2,150,170	24.4
58–59	0.009599	87,197	837	86,779	2,062,583	23.7
59–60	0.010380	86,360	896	85,912	1,975,804	22.9

See footnotes at end of table.

Table 16. Life table for the White, non-Hispanic population: United States, 2021—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table16.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.011206	85,464	958	84,985	1,889,891	22.1
61–62	0.012031	84,506	1,017	83,998	1,804,906	21.4
62–63	0.012819	83,490	1,070	82,955	1,720,908	20.6
63–64	0.013566	82,419	1,118	81,860	1,637,954	19.9
64–65	0.014323	81,301	1,164	80,719	1,556,093	19.1
65–66	0.015127	80,137	1,212	79,531	1,475,374	18.4
66–67	0.016144	78,925	1,274	78,288	1,395,844	17.7
67–68	0.017264	77,650	1,341	76,980	1,317,556	17.0
68–69	0.018573	76,310	1,417	75,601	1,240,576	16.3
69–70	0.020031	74,893	1,500	74,142	1,164,975	15.6
70–71	0.021501	73,392	1,578	72,603	1,090,832	14.9
71–72	0.023169	71,814	1,664	70,982	1,018,229	14.2
72–73	0.025089	70,151	1,760	69,271	947,246	13.5
73–74	0.027461	68,390	1,878	67,451	877,976	12.8
74–75	0.029784	66,512	1,981	65,522	810,524	12.2
75–76	0.033839	64,531	2,184	63,440	745,003	11.5
76–77	0.037193	62,348	2,319	61,188	681,563	10.9
77–78	0.041351	60,029	2,482	58,788	620,375	10.3
78–79	0.045160	57,547	2,599	56,247	561,587	9.8
79–80	0.050063	54,948	2,751	53,572	505,340	9.2
80–81	0.054779	52,197	2,859	50,767	451,768	8.7
81–82	0.060136	49,338	2,967	47,854	401,000	8.1
82–83	0.066359	46,371	3,077	44,832	353,146	7.6
83–84	0.073373	43,294	3,177	41,705	308,314	7.1
84–85	0.081888	40,117	3,285	38,474	266,609	6.6
85–86	0.090253	36,832	3,324	35,170	228,135	6.2
86–87	0.101008	33,508	3,385	31,815	192,965	5.8
87–88	0.112794	30,123	3,398	28,424	161,149	5.3
88–89	0.125651	26,725	3,358	25,046	132,725	5.0
89–90	0.139603	23,367	3,262	21,736	107,679	4.6
90–91	0.154661	20,105	3,109	18,550	85,942	4.3
91–92	0.170818	16,996	2,903	15,544	67,392	4.0
92–93	0.188042	14,093	2,650	12,768	51,848	3.7
93–94	0.206281	11,443	2,360	10,262	39,080	3.4
94–95	0.225455	9,082	2,048	8,058	28,818	3.2
95–96	0.245462	7,035	1,727	6,171	20,760	3.0
96–97	0.266172	5,308	1,413	4,601	14,588	2.7
97–98	0.287438	3,895	1,120	3,335	9,987	2.6
98–99	0.309091	2,775	858	2,347	6,652	2.4
99–100	0.330952	1,918	635	1,600	4,305	2.2
100 and older	1.000000	1,283	1,283	2,705	2,705	2.1

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 17. Life table for White, non-Hispanic males: United States, 2021

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table17.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.004675	100,000	468	99,589	7,400,310	74.0
1–2	0.000401	99,532	40	99,513	7,300,721	73.4
2–3	0.000273	99,493	27	99,479	7,201,209	72.4
3–4	0.000228	99,466	23	99,454	7,101,730	71.4
4–5	0.000166	99,443	17	99,435	7,002,276	70.4
5–6	0.000156	99,426	15	99,419	6,902,841	69.4
6–7	0.000140	99,411	14	99,404	6,803,422	68.4
7–8	0.000127	99,397	13	99,391	6,704,019	67.4
8–9	0.000114	99,384	11	99,379	6,604,628	66.5
9–10	0.000102	99,373	10	99,368	6,505,249	65.5
10–11	0.000098	99,363	10	99,358	6,405,882	64.5
11–12	0.000112	99,353	11	99,348	6,306,524	63.5
12–13	0.000154	99,342	15	99,334	6,207,176	62.5
13–14	0.000232	99,327	23	99,315	6,107,842	61.5
14–15	0.000337	99,304	33	99,287	6,008,526	60.5
15–16	0.000454	99,270	45	99,248	5,909,240	59.5
16–17	0.000575	99,225	57	99,197	5,809,992	58.6
17–18	0.000700	99,168	69	99,133	5,710,795	57.6
18–19	0.000829	99,099	82	99,058	5,611,662	56.6
19–20	0.000962	99,016	95	98,969	5,512,605	55.7
20–21	0.001102	98,921	109	98,867	5,413,636	54.7
21–22	0.001248	98,812	123	98,750	5,314,769	53.8
22–23	0.001390	98,689	137	98,620	5,216,019	52.9
23–24	0.001522	98,552	150	98,477	5,117,399	51.9
24–25	0.001648	98,402	162	98,321	5,018,922	51.0
25–26	0.001770	98,239	174	98,152	4,920,601	50.1
26–27	0.001894	98,066	186	97,973	4,822,449	49.2
27–28	0.002025	97,880	198	97,781	4,724,476	48.3
28–29	0.002163	97,682	211	97,576	4,626,696	47.4
29–30	0.002305	97,470	225	97,358	4,529,120	46.5
30–31	0.002447	97,246	238	97,127	4,431,762	45.6
31–32	0.002584	97,008	251	96,882	4,334,635	44.7
32–33	0.002708	96,757	262	96,626	4,237,753	43.8
33–34	0.002818	96,495	272	96,359	4,141,126	42.9
34–35	0.002921	96,223	281	96,083	4,044,767	42.0
35–36	0.003027	95,942	290	95,797	3,948,685	41.2
36–37	0.003140	95,652	300	95,501	3,852,888	40.3
37–38	0.003259	95,351	311	95,196	3,757,386	39.4
38–39	0.003385	95,041	322	94,880	3,662,190	38.5
39–40	0.003522	94,719	334	94,552	3,567,311	37.7
40–41	0.003683	94,385	348	94,211	3,472,759	36.8
41–42	0.003861	94,038	363	93,856	3,378,547	35.9
42–43	0.004042	93,675	379	93,485	3,284,691	35.1
43–44	0.004221	93,296	394	93,099	3,191,206	34.2
44–45	0.004414	92,902	410	92,697	3,098,107	33.3
45–46	0.004647	92,492	430	92,277	3,005,410	32.5
46–47	0.004936	92,062	454	91,835	2,913,133	31.6
47–48	0.005276	91,608	483	91,366	2,821,298	30.8
48–49	0.005654	91,124	515	90,867	2,729,931	30.0
49–50	0.006057	90,609	549	90,335	2,639,065	29.1
50–51	0.006467	90,060	582	89,769	2,548,730	28.3
51–52	0.006912	89,478	618	89,169	2,458,960	27.5
52–53	0.007429	88,860	660	88,530	2,369,792	26.7
53–54	0.008045	88,199	710	87,845	2,281,262	25.9
54–55	0.008748	87,490	765	87,107	2,193,417	25.1
55–56	0.009472	86,725	821	86,314	2,106,310	24.3
56–57	0.010213	85,903	877	85,464	2,019,996	23.5
57–58	0.011033	85,026	938	84,557	1,934,532	22.8
58–59	0.011935	84,088	1,004	83,586	1,849,975	22.0
59–60	0.012891	83,084	1,071	82,549	1,766,389	21.3

See footnotes at end of table.

Table 17. Life table for White, non-Hispanic males: United States, 2021—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table17.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.013890	82,013	1,139	81,444	1,683,840	20.5
61–62	0.014889	80,874	1,204	80,272	1,602,397	19.8
62–63	0.015853	79,670	1,263	79,038	1,522,125	19.1
63–64	0.016788	78,407	1,316	77,749	1,443,087	18.4
64–65	0.017746	77,091	1,368	76,406	1,365,338	17.7
65–66	0.018771	75,722	1,421	75,012	1,288,932	17.0
66–67	0.020074	74,301	1,492	73,555	1,213,920	16.3
67–68	0.021440	72,810	1,561	72,029	1,140,364	15.7
68–69	0.022987	71,249	1,638	70,430	1,068,335	15.0
69–70	0.024626	69,611	1,714	68,754	997,906	14.3
70–71	0.026262	67,896	1,783	67,005	929,152	13.7
71–72	0.028129	66,113	1,860	65,184	862,147	13.0
72–73	0.030344	64,254	1,950	63,279	796,964	12.4
73–74	0.033075	62,304	2,061	61,274	733,685	11.8
74–75	0.035690	60,243	2,150	59,168	672,411	11.2
75–76	0.040445	58,093	2,350	56,918	613,243	10.6
76–77	0.044157	55,744	2,461	54,513	556,325	10.0
77–78	0.049028	53,282	2,612	51,976	501,812	9.4
78–79	0.053414	50,670	2,706	49,317	449,836	8.9
79–80	0.059387	47,963	2,848	46,539	400,520	8.4
80–81	0.064619	45,115	2,915	43,657	353,980	7.8
81–82	0.071103	42,200	3,001	40,699	310,323	7.4
82–83	0.078135	39,199	3,063	37,668	269,624	6.9
83–84	0.086198	36,136	3,115	34,579	231,956	6.4
84–85	0.096029	33,021	3,171	31,436	197,377	6.0
85–86	0.104962	29,850	3,133	28,284	165,941	5.6
86–87	0.117575	26,717	3,141	25,147	137,658	5.2
87–88	0.131350	23,576	3,097	22,028	112,511	4.8
88–89	0.146308	20,479	2,996	18,981	90,483	4.4
89–90	0.162453	17,483	2,840	16,063	71,502	4.1
90–91	0.179764	14,643	2,632	13,327	55,439	3.8
91–92	0.198194	12,011	2,380	10,820	42,113	3.5
92–93	0.217669	9,630	2,096	8,582	31,292	3.2
93–94	0.238086	7,534	1,794	6,637	22,710	3.0
94–95	0.259311	5,740	1,489	4,996	16,073	2.8
95–96	0.281187	4,252	1,196	3,654	11,077	2.6
96–97	0.303534	3,056	928	2,592	7,423	2.4
97–98	0.326154	2,129	694	1,781	4,831	2.3
98–99	0.348840	1,434	500	1,184	3,050	2.1
99–100	0.371383	934	347	761	1,865	2.0
100 and older	1.000000	587	587	1,105	1,105	1.9

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 18. Life table for White, non-Hispanic females: United States, 2021

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table18.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
0–1	0.004060	100,000	406	99,642	7,945,833	79.5
1–2	0.000295	99,594	29	99,579	7,846,191	78.8
2–3	0.000172	99,565	17	99,556	7,746,612	77.8
3–4	0.000117	99,547	12	99,542	7,647,056	76.8
4–5	0.000095	99,536	9	99,531	7,547,514	75.8
5–6	0.000092	99,526	9	99,522	7,447,983	74.8
6–7	0.000084	99,517	8	99,513	7,348,462	73.8
7–8	0.000078	99,509	8	99,505	7,248,949	72.8
8–9	0.000073	99,501	7	99,497	7,149,444	71.9
9–10	0.000069	99,494	7	99,490	7,049,946	70.9
10–11	0.000069	99,487	7	99,483	6,950,456	69.9
11–12	0.000077	99,480	8	99,476	6,850,972	68.9
12–13	0.000096	99,472	10	99,468	6,751,496	67.9
13–14	0.000129	99,463	13	99,456	6,652,029	66.9
14–15	0.000174	99,450	17	99,441	6,552,572	65.9
15–16	0.000224	99,433	22	99,422	6,453,131	64.9
16–17	0.000275	99,410	27	99,397	6,353,709	63.9
17–18	0.000324	99,383	32	99,367	6,254,313	62.9
18–19	0.000370	99,351	37	99,333	6,154,946	62.0
19–20	0.000414	99,314	41	99,294	6,055,613	61.0
20–21	0.000462	99,273	46	99,250	5,956,320	60.0
21–22	0.000514	99,227	51	99,202	5,857,069	59.0
22–23	0.000567	99,176	56	99,148	5,757,868	58.1
23–24	0.000619	99,120	61	99,089	5,658,720	57.1
24–25	0.000672	99,059	67	99,025	5,559,631	56.1
25–26	0.000724	98,992	72	98,956	5,460,605	55.2
26–27	0.000782	98,920	77	98,882	5,361,649	54.2
27–28	0.000850	98,843	84	98,801	5,262,768	53.2
28–29	0.000931	98,759	92	98,713	5,163,967	52.3
29–30	0.001020	98,667	101	98,617	5,065,254	51.3
30–31	0.001111	98,566	110	98,512	4,966,637	50.4
31–32	0.001201	98,457	118	98,398	4,868,125	49.4
32–33	0.001289	98,339	127	98,275	4,769,728	48.5
33–34	0.001376	98,212	135	98,144	4,671,452	47.6
34–35	0.001463	98,077	144	98,005	4,573,308	46.6
35–36	0.001557	97,933	152	97,857	4,475,303	45.7
36–37	0.001657	97,781	162	97,700	4,377,446	44.8
37–38	0.001759	97,619	172	97,533	4,279,746	43.8
38–39	0.001863	97,447	182	97,356	4,182,213	42.9
39–40	0.001971	97,265	192	97,170	4,084,857	42.0
40–41	0.002093	97,074	203	96,972	3,987,688	41.1
41–42	0.002228	96,871	216	96,763	3,890,716	40.2
42–43	0.002366	96,655	229	96,540	3,793,953	39.3
43–44	0.002504	96,426	241	96,305	3,697,413	38.3
44–45	0.002652	96,185	255	96,057	3,601,107	37.4
45–46	0.002827	95,929	271	95,794	3,505,050	36.5
46–47	0.003034	95,658	290	95,513	3,409,256	35.6
47–48	0.003261	95,368	311	95,213	3,313,743	34.7
48–49	0.003495	95,057	332	94,891	3,218,531	33.9
49–50	0.003734	94,725	354	94,548	3,123,640	33.0
50–51	0.003980	94,371	376	94,183	3,029,092	32.1
51–52	0.004251	93,996	400	93,796	2,934,908	31.2
52–53	0.004565	93,596	427	93,382	2,841,113	30.4
53–54	0.004934	93,169	460	92,939	2,747,730	29.5
54–55	0.005352	92,709	496	92,461	2,654,791	28.6
55–56	0.005779	92,213	533	91,946	2,562,331	27.8
56–57	0.006220	91,680	570	91,395	2,470,384	26.9
57–58	0.006721	91,110	612	90,803	2,378,989	26.1
58–59	0.007291	90,497	660	90,167	2,288,186	25.3
59–60	0.007906	89,837	710	89,482	2,198,019	24.5

See footnotes at end of table.

Table 18. Life table for White, non-Hispanic females: United States, 2021—Con.

Spreadsheet version available from: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Publications/NVSR/72-12/Table18.xlsx.

Age (years)	Probability of dying between ages x and $x+1$	Number surviving to age x	Number dying between ages x and $x+1$	Person-years lived between ages x and $x+1$	Total number of person-years lived above age x	Expectation of life at age x
	q_x	l_x	d_x	L_x	T_x	e_x
60–61	0.008568	89,127	764	88,745	2,108,536	23.7
61–62	0.009233	88,364	816	87,956	2,019,791	22.9
62–63	0.009861	87,548	863	87,116	1,931,835	22.1
63–64	0.010445	86,684	905	86,232	1,844,719	21.3
64–65	0.011033	85,779	946	85,306	1,758,488	20.5
65–66	0.011654	84,833	989	84,338	1,673,182	19.7
66–67	0.012446	83,844	1,043	83,322	1,588,844	19.0
67–68	0.013373	82,800	1,107	82,247	1,505,522	18.2
68–69	0.014496	81,693	1,184	81,101	1,423,275	17.4
69–70	0.015818	80,509	1,273	79,872	1,342,174	16.7
70–71	0.017156	79,235	1,359	78,556	1,262,302	15.9
71–72	0.018683	77,876	1,455	77,149	1,183,747	15.2
72–73	0.020390	76,421	1,558	75,642	1,106,598	14.5
73–74	0.022486	74,863	1,683	74,021	1,030,956	13.8
74–75	0.024578	73,179	1,799	72,280	956,935	13.1
75–76	0.028072	71,381	2,004	70,379	884,655	12.4
76–77	0.031177	69,377	2,163	68,296	814,276	11.7
77–78	0.034821	67,214	2,340	66,044	745,980	11.1
78–79	0.038238	64,874	2,481	63,633	679,937	10.5
79–80	0.042388	62,393	2,645	61,071	616,303	9.9
80–81	0.046834	59,748	2,798	58,349	555,233	9.3
81–82	0.051479	56,950	2,932	55,484	496,884	8.7
82–83	0.057258	54,018	3,093	52,472	441,399	8.2
83–84	0.063707	50,925	3,244	49,303	388,928	7.6
84–85	0.071541	47,681	3,411	45,975	339,625	7.1
85–86	0.080280	44,270	3,554	42,493	293,649	6.6
86–87	0.088925	40,716	3,621	38,906	251,156	6.2
87–88	0.100054	37,095	3,712	35,239	212,251	5.7
88–89	0.112305	33,384	3,749	31,509	177,011	5.3
89–90	0.125724	29,635	3,726	27,772	145,502	4.9
90–91	0.140340	25,909	3,636	24,091	117,731	4.5
91–92	0.156164	22,273	3,478	20,534	93,640	4.2
92–93	0.173186	18,795	3,255	17,167	73,106	3.9
93–94	0.191367	15,540	2,974	14,053	55,939	3.6
94–95	0.210642	12,566	2,647	11,242	41,886	3.3
95–96	0.230916	9,919	2,290	8,774	30,644	3.1
96–97	0.252063	7,628	1,923	6,667	21,870	2.9
97–98	0.273928	5,706	1,563	4,924	15,203	2.7
98–99	0.296335	4,143	1,228	3,529	10,279	2.5
99–100	0.319085	2,915	930	2,450	6,750	2.3
100 and older	1.000000	1,985	1,985	4,300	4,300	2.2

NOTE: This life table is based on death rates that have been adjusted for Hispanic-origin and race misclassification on death certificates; see Technical Notes in this report.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Table 19. Estimated life expectancy at birth, in years, by Hispanic origin and race and sex: Death-registration states, 1900–1928, and United States, 1929–2021

[For selected years, life table values shown are estimates; see Technical Notes in this report. Beginning in 1970, excludes death of nonresidents of the United States; see Technical Notes]

Area and year	All races and origins			Hispanic[1]			Non-Hispanic											
							American Indian and Alaska Native[1]			Asian[1]			Black[1,2]			White[1]		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
United States[3]									Single race[4]									
2021[5]	76.4	73.5	79.3	77.8	74.6	81.1	65.6	62.2	69.2	83.5	81.2	85.6	71.2	67.6	75.0	76.7	74.0	79.5
2020[5]	77.0	74.2	79.9	77.9	74.6	81.3	67.1	63.8	70.7	83.6	81.1	85.9	71.5	67.8	75.4	77.4	74.8	80.1
2019[5]	78.8	76.3	81.4	81.9	79.1	84.4	71.8	68.6	75.0	85.6	83.5	87.4	74.8	71.3	78.1	78.8	76.3	81.3
2018[5]	78.7	76.2	81.2	81.8	79.1	84.3	---	---	---	---	---	---	74.7	71.3	78.0	78.6	76.2	81.1
									Bridged race[4]									
2020[5]	…	…	…	…	…	…	---	---	---	---	---	---	71.9	68.1	75.6	77.5	74.9	80.2
2019[5]	…	…	…	…	…	…	---	---	---	---	---	---	75.0	71.6	78.2	78.8	76.4	81.3
2018[5]	…	…	…	…	…	…	---	---	---	---	---	---	74.9	71.5	78.1	78.7	76.2	81.1
2017[5]	78.6	76.1	81.1	81.8	79.1	84.3	---	---	---	---	---	---	74.9	71.5	78.1	78.5	76.1	81.0
2016[5]	78.7	76.2	81.1	81.8	79.1	84.3	---	---	---	---	---	---	74.9	71.6	78.0	78.6	76.2	81.0
2015[5]	78.7	76.3	81.1	81.9	79.3	84.3	---	---	---	---	---	---	75.1	71.9	78.1	78.7	76.3	81.0
2014[5]	78.9	76.5	81.3	82.1	79.4	84.5	---	---	---	---	---	---	75.3	72.2	78.2	78.8	76.5	81.2
2013[5]	78.8	76.4	81.2	81.9	79.2	84.2	---	---	---	---	---	---	75.1	71.9	78.1	78.8	76.5	81.2
2012[5]	78.8	76.4	81.2	81.9	79.3	84.3	---	---	---	---	---	---	75.1	71.9	78.1	78.9	76.5	81.2
2011[5]	78.7	76.3	81.1	81.8	79.2	84.2	---	---	---	---	---	---	75.0	71.8	77.8	78.7	76.4	81.1
2010[5]	78.7	76.2	81.0	81.7	78.8	84.3	---	---	---	---	---	---	74.7	71.5	77.7	78.8	76.4	81.1
2009[5,6]	78.5	76.0	80.9	81.1	78.4	83.5	---	---	---	---	---	---	74.4	71.0	77.4	78.7	76.3	81.0
2008[5,6]	78.2	75.6	80.6	80.8	78.0	83.3	---	---	---	---	---	---	73.9	70.5	77.0	78.4	76.0	80.7
2007[5,6]	78.1	75.5	80.6	80.7	77.8	83.2	---	---	---	---	---	---	73.5	69.9	76.7	78.4	75.9	80.8
2006[5,6]	77.8	75.2	80.3	80.3	77.5	82.9	---	---	---	---	---	---	73.1	69.5	76.4	78.2	75.7	80.6
2005[5,6]	77.6	75.0	80.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2004[5,6]	77.6	75.0	80.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2003[5,6]	77.2	74.5	79.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2002[5,6]	77.0	74.4	79.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2001[5,6]	77.0	74.3	79.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2000	76.8	74.1	79.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1999	76.7	73.9	79.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1998	76.7	73.8	79.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1997	76.5	73.6	79.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1996	76.1	73.1	79.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1995	75.8	72.5	78.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1994	75.7	72.4	79.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1993	75.5	72.2	78.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1992	75.8	72.3	79.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1991	75.5	72.0	78.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1990	75.4	71.8	78.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1989	75.1	71.7	78.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1988	74.9	71.4	78.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1987	74.9	71.4	78.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1986	74.7	71.2	78.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1985	74.7	71.1	78.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1984	74.7	71.1	78.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1983	74.6	71.0	78.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1982	74.5	70.8	78.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1981	74.1	70.4	77.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1980	73.7	70.0	77.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1979	73.9	70.0	77.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1978	73.5	69.6	77.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1977	73.3	69.5	77.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1976	72.9	69.1	76.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1975	72.6	68.8	76.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1974	72.0	68.2	75.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1973	71.4	67.6	75.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1972[7]	71.2	67.4	75.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1971	71.1	67.4	75.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

See footnotes at end of table.

Table 19. Estimated life expectancy at birth, in years, by Hispanic origin and race and sex: Death-registration states, 1900–1928, and United States, 1929–2021—Con.

[For selected years, life table values shown are estimates; see Technical Notes in this report. Beginning in 1970, excludes death of nonresidents of the United States; see Technical Notes]

Area and year	All races and origins			Hispanic[1]			Non-Hispanic											
							American Indian and Alaska Native[1]			Asian[1]			Black[1,2]			White[1]		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
United States[3]—Con.							Bridged race[4]—Con.											
1970	70.8	67.1	74.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1969	70.5	66.8	74.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1968	70.2	66.6	74.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1967	70.5	67.0	74.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1966	70.2	66.7	73.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1965	70.2	66.8	73.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1964	70.2	66.8	73.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1963[8]	69.9	66.6	73.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1962[8]	70.1	66.9	73.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1961	70.2	67.1	73.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1960	69.7	66.6	73.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1959	69.9	66.8	73.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1958	69.6	66.6	72.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1957	69.5	66.4	72.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1956	69.7	66.7	72.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1955	69.6	66.7	72.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1954	69.6	66.7	72.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1953	68.8	66.0	72.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1952	68.6	65.8	71.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1951	68.4	65.6	71.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1950	68.2	65.6	71.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1949	68.0	65.2	70.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1948	67.2	64.6	69.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1947	66.8	64.4	69.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1946	66.7	64.4	69.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1945	65.9	63.6	67.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1944	65.2	63.6	66.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1943	63.3	62.4	64.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1942	66.2	64.7	67.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1941	64.8	63.1	66.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1940	62.9	60.8	65.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1939	63.7	62.1	65.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1938	63.5	61.9	65.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1937	60.0	58.0	62.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1936	58.5	56.6	60.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1935	61.7	59.9	63.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1934	61.1	59.3	63.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1933	63.3	61.7	65.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1932	62.1	61.0	63.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1931	61.1	59.4	63.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1930	59.7	58.1	61.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1929	57.1	55.8	58.7	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Death-registration states																		
1928	56.8	55.6	58.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1927	60.4	59.0	62.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1926	56.7	55.5	58.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1925	59.0	57.6	60.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1924	59.7	58.1	61.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1923	57.2	56.1	58.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1922	59.6	58.4	61.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1921	60.8	60.0	61.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1920	54.1	53.6	54.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1919	54.7	53.5	56.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1918	39.1	36.6	42.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

See footnotes at end of table.

Table 19. Estimated life expectancy at birth, in years, by Hispanic origin and race and sex: Death-registration states, 1900–1928, and United States, 1929–2021—Con.

[For selected years, life table values shown are estimates; see Technical Notes in this report. Beginning in 1970, excludes death of nonresidents of the United States; see Technical Notes]

Area and year	All races and origins			Hispanic[1]			Non-Hispanic											
							American Indian and Alaska Native[1]			Asian[1]			Black[1,2]			White[1]		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Death-registration states—Con.							Bridged race[4]—Con.											
1917	50.9	48.4	54.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1916	51.7	49.6	54.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1915	54.5	52.5	56.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1914	54.2	52.0	56.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1913	52.5	50.3	55.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1912	53.5	51.5	55.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1911	52.6	50.9	54.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1910	50.0	48.4	51.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1909	52.1	50.5	53.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1908	51.1	49.5	52.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1907	47.6	45.6	49.9	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1906	48.7	46.9	50.8	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1905	48.7	47.3	50.2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1904	47.6	46.2	49.1	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1903	50.5	49.1	52.0	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1902	51.5	49.8	53.4	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1901	49.1	47.6	50.6	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1900	47.3	46.3	48.3	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

--- Data not available.
… Category not applicable.
[1]Life tables are based on death rates that have been adjusted for race and Hispanic-origin misclassification on death certificates; see Technical Notes.
[2]Before 1970, data for the Black population are not available. Data shown for 1900–1969 are for the non-White population. See Technical Notes.
[3]Includes Alaska in 1959 and Hawaii in 1960.
[4]Life expectancies by single-race categories are not completely comparable with life expectancies by bridged-race categories and should be interpreted accounting for the change from bridged- to single-race categories.
[5]Life expectancies for 2001–2021 were calculated using a revised methodology described in Technical Notes.
[6]Life expectancies for 2001–2009 have been re-estimated using new intercensal population estimates and may differ from data previously published; see Technical Notes.
[7]Deaths based on a 50% sample.
[8]Figures by race exclude data for residents of New Jersey; see Technical Notes.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Technical Notes

The life table program

The National Center for Health Statistics prepares complete period life tables for the U.S. population annually. Annual final life tables are based on a complete count of all reported deaths and postcensal population estimates. Beginning with the first decennial census (1900) to the 2010 census, decennial life tables were produced for every decade. These were complete period life tables based on decennial census data and final deaths for a 3-year period around the census year. From 1900 through 1945, the decennial series was the only set of official life tables produced. This series also included state-level complete life tables for the decennial periods 1939–1941 to 1999–2001. The decennial life tables series was discontinued due to the development of new methodologies that improved estimation of mortality at the older ages in the annual life tables series and the addition of an annual series of complete state-level life tables (16). The annual complete state-level life tables series was begun with data year 2018 (17).

Available since 1945, the annual life tables are based on deaths occurring during the calendar year and on midyear postcensal population estimates provided by the U.S. Census Bureau. From 1945 to 1996, the annual life tables were abridged life tables, closed at age 85 and older, and were constructed by reference to a standard table (4). Beginning with 1997 mortality data, the annual abridged life tables were replaced with complete life tables expanded to age 100 and older based on a methodology similar to that of the 1989–1991 decennial life tables. The methodology was revised for data years 2000–2007 using a methodology similar to that of the 1999–2001 decennial life tables (18). Beginning with data year 2008, the life table methodology was revised with a new smoothing technique applied to death rates in the oldest ages (19).

The methodology used to estimate the 2008–2021 life tables is different from that used to estimate the 2000–2007 life tables with respect to the technique used to estimate the probabilities of death for ages older than 65. The methodology used to produce the life tables for 2008–2021 does not model the probabilities of death beginning at age 66, as was done for data years 2000–2007, but rather at ages above 85 or so (the exact ages at which smoothing techniques are used depends on the specific racial and ethnic population). Research into the methodology developed and used for the 1999–2001 decennial life tables and applied to the annual life tables has revealed that it is not necessary to model (or smooth) the probabilities of death beginning at age 66. The observed blended vital statistics and Medicare data for ages 66–85 are robust enough and do not require additional smoothing (18). A full description of the methodology used to estimate the 2021 life tables is provided below. See "United States Life Tables, 2005" (18) for a detailed description of the methodology used for data years 2000–2007.

Beginning with 2006 mortality data, life tables by Hispanic origin and race, including Hispanic (irrespective of race), Black non-Hispanic, and White non-Hispanic, were added to the annual life table program. Before this time, concerns over data limitations such as racial and ethnic misclassification on U.S. death certificates, and lack of Medicare data for older populations other than the White and Black populations (regardless of Hispanic origin), prevented the estimation of life tables for the Hispanic-origin population. Research that identified and quantified these data limitations resulted in reliable methodological strategies to address these data problems (8–10,19). Beginning with 2019 mortality data, the annual life table program was expanded to include the American Indian and Alaska Native non-Hispanic and Asian non-Hispanic populations.

Revised intercensal life table values

Life table values for 1960–1969, 1970–1979, and 1980–1989 were constructed using the U.S. decennial life tables for 1959–1961, 1969–1971, and 1979–1981, respectively, as the standard tables. The life table values for years before 1989 appearing in this report are based on revised intercensal estimates of the populations for those years. As a result, the life table values for these years may differ from the life table values for those years published in Vital Statistics of the United States for 1989 and earlier years (https://www.cdc.gov/nchs/products/vsus.htm).

Life table values for 1991–1999 presented in this report are based on postcensal population estimates enumerated in the 1990 decennial census. Life table values for 2001–2009 presented in this report are based on revised intercensal population estimates based on the 2010 decennial census and the revised methodology used to estimate the 2008–2021 life tables. As a result, the values may differ from those previously published in annual final mortality and life table reports. The revised intercensal life tables for 2001–2009 can be accessed by links provided under each of the annual life table reports at: https://www.cdc.gov/nchs/products/life_tables.htm.

Geographic coverage

The geographic areas covered in life tables before 1929–1931 were limited to death-registration areas. Life tables for 1900–1902 and 1909–1911 were constructed using mortality data from the 1900 death-registration states (10 states and the District of Columbia), and tables for 1919–1921 used mortality data from the 1920 death-registration states (34 states and the District of Columbia). The tables for 1929–1931 through 1958 cover the coterminous United States. Decennial life table values for the 3-year period 1959–1961 were calculated from data that include both Alaska and Hawaii for each year. Data for each year shown in Table 19 include Alaska beginning in 1959 and Hawaii beginning in 1960. However, the inclusion of these two states does not materially affect life table values.

New Jersey data, 1962–1964

The life tables for 1962 and 1963 for the six population groups involving race (White and Black, regardless of Hispanic origin) do not include data from New Jersey, which omitted the item on race from its certificates of live birth, death, and fetal death in use at the beginning of 1962. The item was restored during the latter part of 1962. However, the certificate revision

without this item was used for most of 1962, as well as for 1963. For computing vital rates, populations by age, race, and sex (excluding New Jersey) were estimated to obtain comparable denominators. About 7% of the New Jersey death records for 1964 did not contain the race designation. When the records were being electronically processed for this state, the "race not stated" deaths were allocated proportionally to either White or Black (regardless of Hispanic origin).

Nonresidents

Beginning in 1970, the deaths of nonresidents of the United States have been excluded from the life table statistics.

Data for calculating life table functions

The data used to prepare the U.S. life tables include final death counts from the National Vital Statistics System, population estimates from the U.S. Census Bureau, and death and population counts for Medicare beneficiaries ages 66–99 from the Centers for Medicare & Medicaid Services.

Vital statistics data

Death counts used for computing the life tables presented in this report are final numbers of deaths for 2021 collected from death certificates filed in state vital statistics offices and reported to the National Center for Health Statistics as part of the National Vital Statistics System. Hispanic origin and race are reported separately on the death certificate.

Beginning with the 2018 data year, all 50 states and the District of Columbia reported deaths based on the 2003 revision of the U.S. Standard Certificate of Death for the entire year (20). The revision is based on the 1997 Office of Management and Budget standards (5). The 1997 standards allow people to report more than one race and increased the race choices from four to five by separating the Asian and Pacific Islander groups. The Hispanic category did not change, remaining consistent with previous reports.

The Hispanic-origin and race groups in this report follow the 1997 standards and differ from the race categories used in previous reports. The new categories are Hispanic, American Indian and Alaska Native non-Hispanic single race, Asian non-Hispanic single race, Black non-Hispanic single race, and White non-Hispanic single race. From 2003 through 2017, some deaths were reported using the 1989 certificate revision that allowed the reporting of only one race (6). During those years, multiple-race data were bridged to single-race categories. Use of the bridged-race process was discontinued in 2018 when all states collected data on race according to 1997 Office of Management and Budget guidelines for the full data year. The Hispanic-origin category was not affected by the revised standards.

Census population data

The population data used to estimate the life tables shown in this report are postcensal population estimates based on the Blended Base created by the U.S. Census Bureau to produce post-2020 census population estimates. The Blended Base consists of the blend of Vintage 2020 postcensal population estimates, based on the April 1, 2010, decennial census; 2020 Demographic Analysis Estimates; and the 2020 Census PL 94-171 Redistricting File (see https://www2.census.gov/programs-surveys/popest/technical-documentation/methodology/2020-2021/methods-statement-v2021.pdf).

To produce death rates for 2000–2017, the reported population data for multiple-race people had to be bridged back to single-race categories. Additionally, the 2010 census counts were modified for consistency with the 1977 Office of Management and Budget race categories, that is, to report the data for Asian people and Native Hawaiian or Other Pacific Islander people as a combined category (Asian or Pacific Islander) and to reflect age as of the census reference date (6). The procedures used to produce the bridged-race populations are described elsewhere (21).

Medicare data

Medicare data are considered more accurate than vital statistics and census data at the oldest ages because Medicare enrollees must have proof of age to enroll (22,23). However, the reliability of Medicare data beyond age 100 declines because of the small percentage of people who enrolled in the early years of the Medicare program and for whom it was not possible to verify exact age (22,23). Further, the Medicare race and ethnicity classification system makes it impossible to correctly identify the Hispanic (irrespective of race), American Indian and Alaska Native, Asian, or Native Hawaiian and Other Pacific Islander populations (regardless of Hispanic origin) (23). It is, however, possible to use Medicare data to estimate old-age mortality for both the White and Black race groups, regardless of Hispanic origin, as has been done traditionally, and to estimate old-age mortality for the non-Hispanic segments of these populations (16). As a result, data from the Medicare program are used to supplement vital statistics and census data for ages 66–99 for the total population and the Black non-Hispanic and White non-Hispanic populations presented here (16).

To estimate death rates for the Medicare total, Black non-Hispanic, and White non-Hispanic populations in 2021, age-specific numbers of deaths and population counts by sex and race for the population ages 66–99 from the 2021 Medicare file were used. The Centers for Medicare & Medicaid Services creates this data file for the Social Security Administration, which shares the data with the National Center for Health Statistics under a special agreement. The 2021 file contains 2021 midyear Medicare population counts (June 30, 2021) and calendar-year Medicare death counts (January 1 through December 31, 2021). Age for both deaths and midyear population counts is calculated as age at last birthday.

Preliminary adjustment of the data

Adjustments for unknown age

An adjustment is made to account for the small proportion of deaths each year for which age is not reported on the death certificate. The number of deaths in each age category is adjusted proportionally to account for those with not-stated

ages. The following factor (F) is used to make the adjustment. F is calculated for the total and for each sex group within a racial and ethnic population for which life tables are constructed:

$$F = \frac{D}{D^a} \quad [1]$$

where D is the total number of deaths and D^a is the total number of deaths for which age is stated. F is then applied by multiplying it by the number of deaths in each age group. Table I shows values for F by sex used to adjust mortality data for the total, Hispanic, American Indian and Alaska Native non-Hispanic, Asian non-Hispanic, Black non-Hispanic, and White non-Hispanic populations in 2021.

Adjustment for misclassification of Hispanic origin and race on death certificates

Two data sources were used to adjust for Hispanic origin and race misclassification on death certificates. For the Hispanic, Asian non-Hispanic, Black non-Hispanic, and White non-Hispanic populations, the National Longitudinal Mortality Study was used to produce classification ratios (or correction factors) to adjust observed sex and age-specific death rates for misclassification on death certificates (8). The National Longitudinal Mortality Study consists of a series of Current Population Surveys (1979–2011) linked to vital statistics mortality data through the National Death Index (8). For the American Indian and Alaska Native non-Hispanic population, an extract of the 2010 Census Edited File–Census Unedited File Match File containing records for people classified by race as American Indian and Alaska Native alone or in combination with another race in the 2010 decennial census was linked to the National Death Index to identify decedents for the period April 1, 2010, to December 31, 2011. The resulting 34,366 Census Edited File–Census Unedited File Match American Indian and Alaska Native Extract—Mortality Linked Data decedent records were used to estimate classification ratios to correct for race and Hispanic-origin misclassification on death certificates for the American Indian and Alaska Native non-Hispanic population (10).

Table I. Values for F used to adjust for not-stated age based on 2021 mortality data

Hispanic origin and race and sex	Total deaths	Total deaths for which age was not stated	F
Total	3,464,231	93	1.00002685
Male	1,838,108	70	1.00003808
Female	1,626,123	23	1.00001414
Hispanic	315,664	4	1.00001267
Male	181,195	4	1.00002208
Female	134,469	–	1.00000000
Non-Hispanic:			
American Indian and Alaska Native	26,972	1	1.00003708
Male	14,724	1	1.00006792
Female	12,248	–	1.00000000
Asian	92,432	1	1.00001082
Male	48,386	1	1.00002067
Female	44,046	–	1.00000000
Black	449,764	9	1.00002001
Male	238,599	6	1.00002515
Female	211,165	3	1.00001421
White	2,548,809	36	1.00001412
Male	1,337,385	26	1.00001944
Female	1,211,424	10	1.00000825

– Quantity zero.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

The classification ratios consist of a comparison of self-reported Hispanic origin and race on Current Population Surveys or the decennial census, with Hispanic origin and race reported on the death certificates of the samples of decedents in the National Longitudinal Mortality Study who died during 1999–2011 and decedents in the Census Edited File–Census Unedited File Match American Indian and Alaska Native Extract who died between April 1, 2010, and December 31, 2011 (8,10). Linked records are used to estimate sex-age-specific ratios of survey or census Hispanic-origin and race counts to death certificate counts (8,10).

The survey or census death certificate ratio, or "classification ratio," is the ratio of the count (weighted in the case of Current Population Surveys) of self-reported race and ethnicity on the survey or census to the count (weighted in the case of Current Population Surveys) of the same racial or ethnic category on the death certificates of the sample of the National Longitudinal Mortality Study (Census Edited File–Census Unedited File Match American Indian and Alaska Native Extract) decedents described previously. It can be interpreted as the net difference in assignment of a specific Hispanic-origin and race category between the two classification systems and can be used as a correction factor for Hispanic-origin and race misclassification (8,10). It is assumed that the race and ethnicity reported by a survey or census respondent is more reliable than proxy reporting of race and ethnicity by a funeral director who has little personal knowledge of the decedent. Also, the 1997 Office of Management and Budget standards mandate that self-identification should be the standard used for the collection and recording of race and ethnicity information (5).

Classification ratios discussed previously are used to adjust the age-specific number of deaths for ages 1–95 and older for the total Hispanic, American Indian and Alaska Native non-Hispanic, Asian non-Hispanic, Black non-Hispanic, and White non-Hispanic populations, and by sex for each group, as follows:

$$_nD_x = {}_nD_x^F \bullet {}_nCR_x \quad [2]$$

where ${}_nD_x^F$ is the age-specific number of deaths adjusted for unknown age as described previously, ${}_nCR_x$ are the sex- and age-specific classification ratios used to correct for the misclassification of Hispanic origin and race on death certificates, and ${}_nD_x$ are the final age-specific counts of death adjusted for age and Hispanic-origin and race misclassification. Table II shows values of the sex- and age-specific classification ratios, ${}_nCR_x$, by Hispanic origin and race.

Because classification ratios for infant deaths are unreliable due to small sample sizes or counts, corrections for racial and ethnic misclassification of infant deaths are addressed by using

infant death counts and live birth counts from the 2020 and 2021 linked birth/infant death data files rather than the traditional birth and death data files (24,25). In the linked file, each infant death record is linked to its corresponding birth record so that the race and ethnicity of the mother reported on the birth record can be ascribed to the infant death record. As a result, race- and ethnicity-specific infant mortality rates estimated with the linked file do not have racial and ethnic discrepancies between the numerator and denominator of the rate. A ratio of infant mortality rates based on the traditional birth and death data files to infant mortality rates based on the linked birth/infant death data file shows that using the traditional files overestimates the infant mortality rate by 5.0% for Hispanic infants and 4.0% for Black non-Hispanic infants and underestimates the infant mortality rate by 20.3% for Asian non-Hispanic infants and 3.7% for White non-Hispanic infants (see ratios for age 0 in Table II). Because the probability of death at age 0 used to calculate the life table uses live births in the denominator (procedure described in the following section, "Calculation of q_x at age 0"), it is preferable to use the linked birth/infant death data file.

Interpolation of P_x and D_x

Anomalies—both random and those associated with reporting age at death—can be problematic when using vital statistics and census data by single years of age to estimate the probability of death (1,3). Graduation techniques are often used to eliminate these anomalies and to derive a smooth curve by age. Beers' ordinary minimized fifth difference formula is used to obtain smoothed values of population counts (P_x) and death counts (D_x) from 5-year age groupings of ${}_nP_x$ from age 0 to 99 and ${}_nD_x$ from age 5 to 99, and where ${}_nD_x$ has first been adjusted for not-reported age and Hispanic-origin and race misclassification on the death certificate (see reference 26 for details on the application of Beers' method).

Calculation of the probability of dying (q_x)

The first step in calculating a complete period life table is the estimation of the age-specific probability of dying, q_x, which is derived from the age-specific death rate, m_x (3,16). In the life table cohort,

$$m_x = \frac{d_x}{L_x}$$

where d_x is the number of deaths occurring between ages x and $x+1$, and L_x is the number of person-years lived by the life table cohort between ages x and $x+1$. The conversion of the age-specific death rate, m_x, to the age-specific probability of death, q_x, is as follows:

$$q_x = \frac{m_x}{1+(1-a_x)m_x} \qquad [3]$$

where a_x is the fraction of the number of person-years lived in the age interval by members of the life table cohort who died in the interval. When the age interval is 1 year, except at infancy, $a_x = 1/2$; in other words, deaths occur on average midway through the age interval. As a result,

$$q_x = \frac{m_x}{1+\frac{1}{2}m_x} \qquad [4]$$

Table II. Classification ratios, by Hispanic origin and race, age, and sex

				Non-Hispanic											
	Hispanic[1]			American Indian and Alaska Native[1]			Asian[1,2]			Black[1]			White[1]		
Age (years)	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
All ages	1.0329	1.0362	1.0294	1.3354	1.3488	1.3197	1.0331	1.0480	1.0117	1.0047	1.0041	1.0053	0.9995	0.9993	0.9997
0[3]	1.0501	1.0509	1.0447	1.0000	1.0396	0.9475	0.7967	0.7960	0.7988	1.0398	1.0390	1.0421	0.9633	0.9571	0.9679
1–14	0.9905	0.9659	*1.0299	1.1243	1.1546	1.0833	*0.8655	*0.8426	*1.0000	1.0266	0.9379	*1.1751	0.9918	1.0755	0.8770
15–24	0.9668	0.9325	1.0604	1.1462	1.1201	1.2190	1.2285	*1.4276	*0.9721	1.0248	1.0215	1.0343	0.9976	1.0019	0.9869
25–34	1.0354	1.0401	1.0232	1.1375	1.1557	1.1033	1.1527	1.0967	*1.2648	0.9855	0.9770	1.0008	1.0021	1.0034	0.9994
35–44	1.0434	1.0645	1.0066	1.1799	1.1815	1.1772	1.0338	1.0459	1.0125	1.0062	1.0073	1.0048	0.9980	0.9997	0.9951
45–54	1.0584	1.0372	1.0953	1.3915	1.3913	1.3916	1.0699	1.1123	1.0113	1.0002	1.0019	0.9982	0.9969	0.9965	0.9976
55–64	1.0571	1.0517	1.0659	1.4281	1.4547	1.3917	1.0274	1.0694	0.9784	1.0003	0.9965	1.0046	0.9994	0.9992	0.9997
65–74	1.0295	1.0485	1.0072	1.3654	1.4244	1.2980	1.0845	1.0841	1.0850	1.0062	1.0055	1.0070	0.9967	0.9967	0.9966
75–84	1.0192	1.0188	1.0196	1.3099	1.3367	1.2852	1.0305	1.0328	1.0281	1.0057	1.0057	1.0058	1.0004	1.0003	1.0004
85–94	1.0208	1.0313	1.0137	1.3845	1.3807	1.3870	0.9962	0.9983	0.9944	1.0110	1.0155	1.0086	1.0008	1.0007	1.0009
95 and over	1.0732	1.0509	1.0842	1.3951	1.3043	1.4240	0.9755	1.0238	0.9405	0.9980	0.9872	0.9954	1.0005	0.9995	1.0008

* Ratio is unreliable because either the unweighted number of Current Population Survey deaths, the unweighted number of death certificate deaths, or both are based on fewer than 20 deaths.
[1]Classification ratios for the Hispanic, Asian non-Hispanic, Black non-Hispanic, and White non-Hispanic populations are based on the National Longitudinal Mortality Study data (see https://www.cdc.gov/nchs/data/series/sr_02/sr02_172.pdf). Classification ratios for the American Indian and Alaska Native non-Hispanic population are based on the census American Indian and Alaska Native-Extract Mortality Linked Data (see https://www.cdc.gov/nchs/data/nvsr/nvsr70/NVSR70-12.pdf).
[2]Classification ratios for the Asian non-Hispanic population were estimated based on data for the Asian non-Hispanic and Pacific Islander non-Hispanic populations combined due to data availability. However, the ratios reflect misclassification predominantly among the Asian non-Hispanic population because it makes up more than 95% of the Asian non-Hispanic and Pacific Islander non-Hispanic populations combined.
[3]Ratios for age 0 are estimated as the ratio of infant mortality rates based on the traditional death and birth files to the infant mortality rates based on the 2021 linked birth/infant death data file. They are only shown for illustrative purposes; see report text for details.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Because the complete period life table is based on the age-specific death rates of a current population observed for a specific calendar year, the life table death rate is equivalent to the observed death rates of the current population:

$$m_x = \frac{d_x}{L_x} = M_x = \frac{D_x}{P_x}$$

where D_x is the Beers' smoothed number of deaths adjusted for not-stated age and Hispanic-origin and race misclassification on the death certificate (for the Hispanic, American Indian and Alaska Native non-Hispanic, Asian non-Hispanic, Black non-Hispanic, and White non-Hispanic populations), and P_x is the Beers' smoothed population at risk of dying between ages x and $x + 1$. Then,

$$q_x = \frac{M_x}{1+\frac{1}{2}M_x} = \frac{D_x}{P_x+\frac{1}{2}D_x} \quad [5]$$

This procedure is used to estimate vital statistics age-specific probabilities of death for ages 1–99.

Calculation of q_x at age 0

The higher mortality observed in infancy is associated with a high concentration of deaths occurring at the beginning of the age interval rather than in the middle. As a result, it is best to assign deaths to the appropriate birth cohorts whenever possible. Consequently, the probability of death at birth, q_0, is calculated using a birth cohort method that uses a separation factor (f) defined as the proportion of infant deaths in year t occurring to infants born in the previous year ($t - 1$). The value f is estimated by categorizing infant deaths by date of birth. The probability of death is then calculated as:

$$q_0 = \frac{D_0(1-f)}{B^t} + \frac{D_0(f)}{B^{t-1}} \quad [6]$$

where D_0 is the number of infant deaths adjusted for not-stated age in 2021, B^t is the number of live births in 2021, and B^{t-1} is the number of live births in 2020. Table III shows separation factors and numbers of births for 2020 and 2021.

Probabilities of dying at the oldest ages for the total, Black non-Hispanic, and White non-Hispanic populations

Medicare data are used to supplement vital statistics data for the estimation of q_x at the oldest ages. These data are more accurate because proof of age is required for enrollment in the Medicare program. Medicare data are used here to estimate the probability of dying for ages 66 and older for the total, Black non-Hispanic, and White non-Hispanic populations.

The method to estimate this probability is as follows: First, vital statistics and Medicare death rates are blended for the age range 66–99. Second, a logistic model is used to smooth the blended death rates in the 85–99 age range and predict death rates for ages 100–120. Third, final resulting death rates, M_x, are converted to q_x.

For ages 66–94, vital statistics death rates, M_x^V, and Medicare death rates, M_x^M, are blended with a weighting process that gives gradually declining weight to vital statistics data and gradually increasing weight to Medicare data. For ages 95–99, M_x^M is used exclusively. The blended M_x is obtained as follows:

$$M_x = \frac{1}{30}[(95-x)M_x^V + (x-65)M_x^M] \quad [7]$$

when $x = 66,...,94$ and

$$\text{and } M_x = M_x^M$$

when $x = 95,...,99$. M_x^M is estimated as:

$$M_x^M = \frac{D_x^M}{P_x^M}$$

where D_x^M is the age-specific Medicare death count, and P_x^M is the age-specific Medicare midyear population count.

A logistic model proposed by Kannisto is then used to smooth M_x in the age range 85–99 and predict M_x in the age range 100–120 (27). The start of the modeled age range varies by race- and ethnicity-specific population because it is a function of the age at which the rate of change in the age-specific death rates peaks. Currently, the rate of change in the age-specific death rate rises steadily up to about ages 80–85 and then begins to decline. As a result, it is difficult to model a large age span, such as 65–100, with one simple model without over smoothing and consequently altering the underlying mortality pattern observed in the population of interest (28). Further, the observed data for the age range 65–85 or so is reliable and robust, as indicated by the very close similarity between vital statistics and Medicare death rates, so it is unnecessary to model (smooth) the entire age span (65–100).

The Kannisto model is a simple form of a logistic model in which the logit of u_x (or the natural log of the odds of u_x) is a linear function of age, x (27). It is expressed as:

$$\ln\left[\frac{u_x}{1-u_x}\right] = \ln(\alpha) + \beta x \quad [8]$$

where u_x, the force of mortality (or the instantaneous death rate), is defined as:

$$u_x = \frac{\alpha e^{\beta x}}{1+\alpha e^{\beta x}}$$

Because u_x is not directly observed but is closely approximated by m_x, and $m_x = M_x$, then the logit of M_x is modeled instead. A maximum-likelihood generalized linear-model estimation procedure is used to fit the following model in the age range 85–99:

$$\ln\left[\frac{M_x}{1-M_x}\right] = \ln(\alpha) + \beta x \quad [9]$$

Then, the estimated parameters are used to predict $\bar{M}_x$ as follows:

$$\bar{M}_x = \frac{e^a e^{bx}}{1+e^a e^{bx}} \text{ or, equivalently, } \bar{M}_x = \frac{e^{a+bx}}{1+e^{a+bx}} \quad [10]$$

Table III. Births in 2020 and 2021, deaths in 2021 of infants born in 2020 and 2021, and separation factors, by Hispanic origin and race and sex: United States

Births, deaths, and separation factors	Total			Hispanic			Non-Hispanic											
							American Indian and Alaska Native			Asian			Black			White		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Births																		
2020	3,613,647	1,848,092	1,765,555	866,713	441,401	425,312	26,813	13,779	13,034	219,068	112,795	106,273	529,811	269,341	260,470	1,843,432	945,464	897,968
2021	3,664,292	1,873,416	1,790,876	885,916	450,807	435,109	26,124	13,343	12,781	213,813	110,083	103,730	517,889	262,679	255,210	1,887,656	968,370	919,286
Deaths in 2021																		
Infants born in 2020	2,438	1,351	1,087	471	255	216	30	17	13	56	34	22	818	460	358	949	524	425
Infants born in 2021	17,481	9,557	7,924	3,982	2,166	1,816	165	88	77	572	318	254	4,864	2,693	2,171	6,971	3,792	3,179
Separation factor, *f*	0.122	0.124	0.121	0.106	0.105	0.106	0.154	0.162	0.144	0.089	0.097	0.080	0.144	0.146	0.142	0.120	0.121	0.118

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

where a and b are the predicted values of parameters ln(α) and ß, respectively, given by fitting model [9]. Estimated parameters and the starting age for the modeled age span by population in 2021 are presented in Table IV.

Finally, the predicted probability of death, $\bar{q}_x$, for ages 85–120 is estimated by converting $\bar{M}_x$ as:

$$\bar{q}_x = \frac{\bar{M}_x}{1+\frac{1}{2}\bar{M}_x} \qquad [11]$$

The probability of death is extrapolated to age 120 to estimate the life table population until no survivors remain. This information is then used to estimate L_x for ages 100–120, which is used to close the table with the age category 100 and older, combined (discussed in the following section).

Probabilities of dying at the oldest ages for the Hispanic, American Indian and Alaska Native non-Hispanic, and Asian non-Hispanic populations

As previously noted, Medicare data are unreliable for the Hispanic (regardless of race) and American Indian and Alaska Native and Asian (regardless of Hispanic origin) populations due to inconsistencies in the Medicare race and ethnicity classification system. As a result, other methods had to be used to estimate mortality at the oldest ages for these populations. Beyond age 80, mortality estimates based strictly on vital statistics for these three populations are too low, despite correction for ethnicity and race misclassification on the death certificate.

A consistent finding across diverse studies has been that Hispanic mortality in the adult and advanced ages varies between about 80% and 89% relative to that of the White non-Hispanic population (19,29,30). The Brass relational logit model takes advantage of the relationship between Hispanic and White non-Hispanic mortality previously identified and has been widely and successfully used to predict the mortality of one population relative to another at the older ages (31,32). Using the age-specific mortality pattern of the White non-Hispanic population as the "standard," the Brass relational logit model is used to predict Hispanic mortality in the older ages. The standard is fit to Hispanic data in the age interval 45–80, and the predicted parameters are used to estimate the probabilities of death for ages 76–100. This method allows the relationship between the two populations in the younger ages to be extended to the older ages (19,31,32).

Although similar information is not available for the American Indian and Alaska Native non-Hispanic and Asian non-Hispanic populations, with a slight modification, the Brass relational logit model was successfully used to produce reliable complete period life tables for the American Indian and Alaska Native non-Hispanic population in Indian Health Service Contract Health Service Delivery Area counties (33). The choice of the White non-Hispanic population as the standard population is based on several factors. First, it is the most widely used comparison population in the study of racial and ethnic disparities given its social and economic privilege. Second, it is the largest population in the United States and has the most reliable mortality data. Third, the relationship between the age-specific mortality patterns of the American Indian and Alaska Native non-Hispanic and Asian non-Hispanic populations and the White non-Hispanic population remains constant throughout the age span 45–80 (45–84 for the American Indian and Alaska Native non-Hispanic population). The assumption that this pattern continues to the oldest ages is reasonable because the final results are consistent with expected age-specific mortality patterns at the oldest ages (Figures I and II).

The Brass relational logit model expresses the age-specific mortality pattern of a population of interest as a function of the age-specific mortality pattern of a standard population and is expressed as:

$$\bar{Y}_x = \alpha + \beta Y_x^S \qquad [12]$$

where $\bar{Y}_x$ is the predicted logit of the probability of death, q_x, in the population of interest, that is,

$$\text{logit}\,[q_x] = \ln\left[\frac{q_x}{1-q_x}\right]$$

Y_x^S is the logit of the probability of death in the standard population, q_x^S, that is,

$$\text{logit}\,[q_x^S] = \ln\left[\frac{q_x^S}{1-q_x^S}\right]$$

α is the predicted parameter that measures the level of mortality of the population of interest relative to the standard population, and ß is the predicted parameter that measures the slope of the mortality function of the population of interest relative to the standard population (3,16,32). Table V shows values of predicted α and ß and their standard errors.

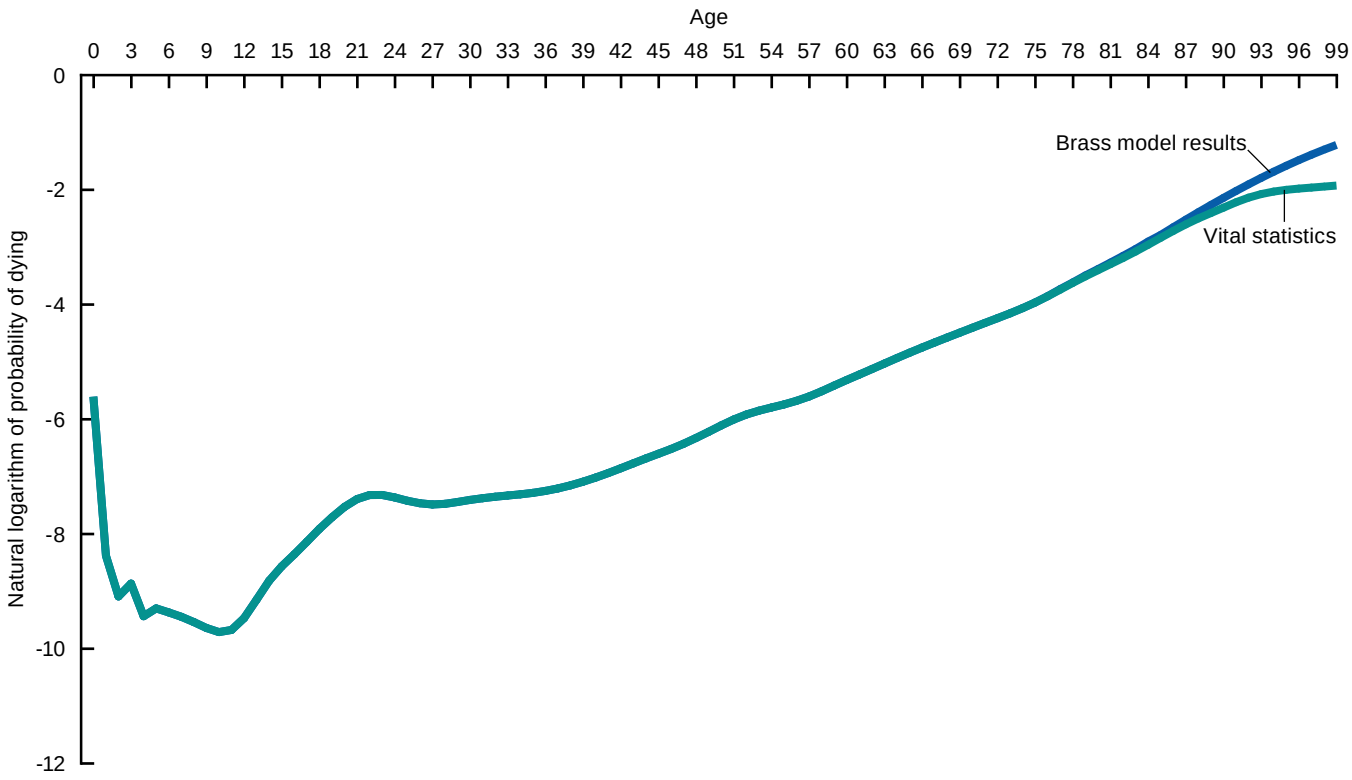
A maximum-likelihood generalized linear-model estimation procedure was used to fit equation [12] in the age range 45–80

Table IV. Estimated parameters α and β used for predicting m_x and starting age of modeled age span: U.S. Life Tables, 2021

Parameter	Total			Black, non-Hispanic			White, non-Hispanic		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
Starting age	85	85	86	85	84	85	85	85	86
ln(α) (standard error)	-13.24527 (0.054)	-13.27525 (0.119)	-13.92228 (0.073)	-10.88583 (0.093)	-10.43890 (0.209)	-11.83517 (0.129)	-13.43067 (0.750)	-13.65909 (0.102)	-14.09049 (0.095)
β (standard error)	0.1290736 (0.001)	0.1315896 (0.001)	0.1352526 (0.001)	0.1024042 (0.001)	0.0997008 (0.002)	0.1118653 (0.001)	0.1314234 (0.001)	0.1361912 (0.001)	0.1373686 (0.001)

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Figure I. Age pattern of mortality for the Asian, non-Hispanic population: United States, 2021



SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

(45–84 for the American Indian and Alaska Native non-Hispanic population). The resulting predicted parameters α and ß were then used to estimate the predicted probability of death for ages 76–120 (80–120 for the American Indian and Alaska Native non-Hispanic population). The value q_x was predicted to age 120 to estimate the life table population until no survivors remain, as was done for the other population groups. This information was then used to estimate L_x for ages 100–120, which was used to close the table with the age category 100 and older, combined (discussed in the next section).

Predicted $\bar{q}_x$ is estimated by transforming its logit, $\bar{Y}_x$, back as follows:

$$\bar{q}_x = \frac{\exp[\bar{Y}_x]}{1+\exp[\bar{Y}_x]} = \frac{\exp[\alpha+\beta Y_x^s]}{1+\exp[\alpha+\beta Y_x^s]} \qquad [13]$$

To ensure a smooth transition from vital q_x^v and predicted $\bar{q}_x$, the two were blended from ages 76 to 80 (80 to 84 for the American Indian and Alaska Native non-Hispanic population) with a graduating process as follows:

$$q_x = \frac{1}{6}[(81-x)q_x^v + (x-75)\bar{q}_x] \qquad [14]$$

when $x = 76,...,80$, and

$$q_x = \frac{1}{6}[(85-x)q_x^v + (x-79)\bar{q}_x]$$

when $x = 80,...,84$.

Finally, to close the table at age 100 and older (combined), ${}_\infty q_{100}$ is set equal to 1.0 because all survivors to this age will die at some point in the open-ended age interval. Once q_x is obtained for each single year of age, the other life table functions are easily calculated.

Calculation of remaining life table functions for all groups

Survivor function (l_x)

The life table radix, l_0, is set at 100,000. For ages greater than 0, the number of survivors remaining at exact age x is calculated as:

$$l_x = l_{x-1}(1-q_{x-1}) \qquad [15]$$

Decrement function (d_x)

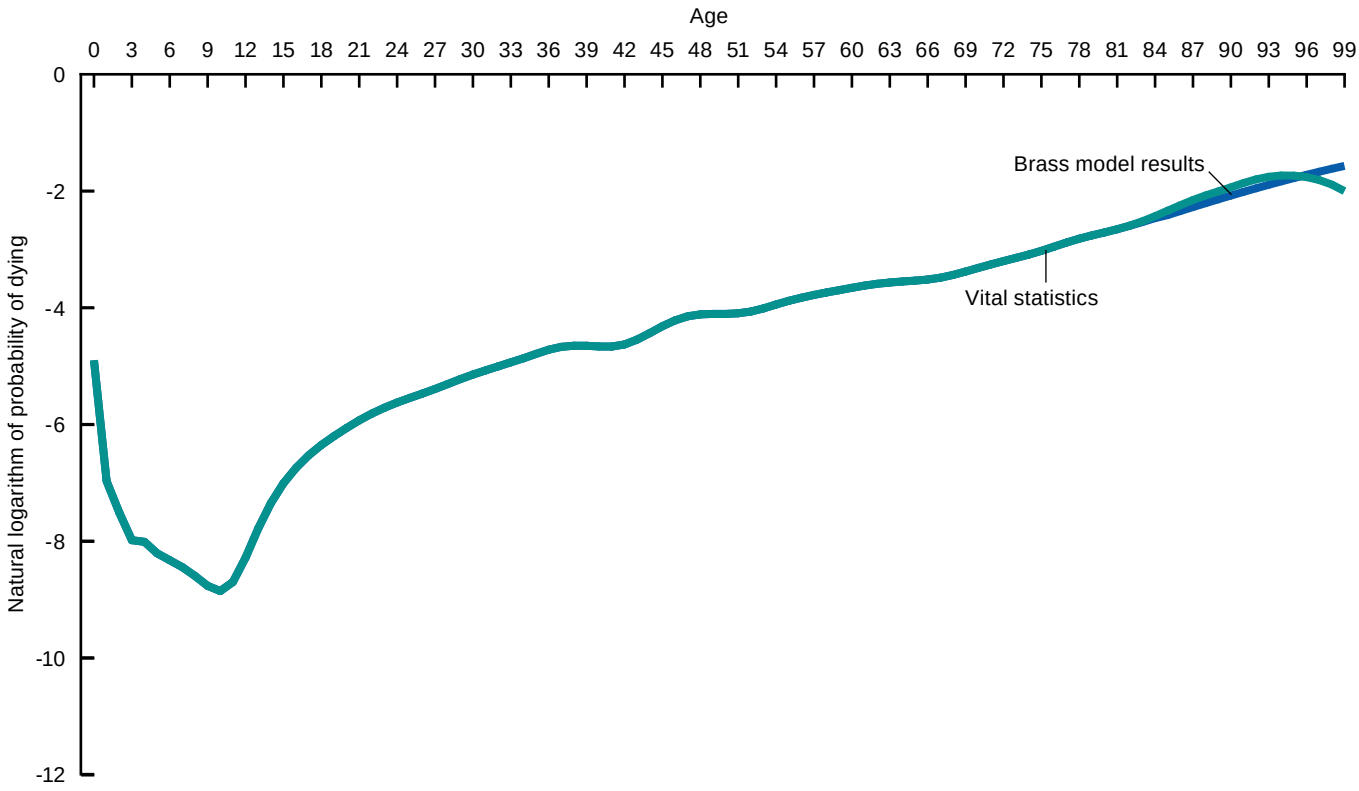
The number of deaths occurring between ages x and $x+1$ is calculated from the survivor function:

$$d_x = l_x - l_{x+1} = l_x q_x \qquad [16]$$

Note that

$${}_\infty d_{100} = {}_\infty l_{100} \text{ because } {}_\infty q_{100} = 1.0.$$

Figure II. Age pattern of mortality for the American Indian and Alaska Native, non-Hispanic population: United States, 2021



SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Person-years lived (L_x)

Person-years lived for ages 1–99 is calculated assuming that the survivor function declines linearly between ages x and $x+1$. This gives the formula:

$$L_x = \frac{1}{2}(l_x + l_{x+1}) = l_x - \frac{1}{2}d_x \qquad [17]$$

For $x = 0$, the separation factor f is used to calculate L_0:

$$L_0 = fl_0 + (1-f)l_1 \qquad [18]$$

Finally, ${}_{\infty}L_{100}$ is estimated as the sum of the extrapolated L_x values for ages 100–120.

Person-years lived at and above age x (T_x)

T_x is calculated by summing L_x values at and above age x:

$$T_x = \sum_{x=0}^{\infty} L_x \qquad [19]$$

Life expectancy at age x (e_x)

Life expectancy at exact age x is calculated as:

$$e_x = \frac{T_x}{l_x} \qquad [20]$$

Causes of death contributing to changes in life expectancy

To measure changes in mortality, a discrete method, developed by Arriaga (34–36), was used to estimate the contribution of mortality change by causes of death based on changes in life expectancy, which is described as a procedure that "estimates the number of years added to or removed from life expectation because of the decrease or increase (respectively) of the central mortality rates of life tables" (35). With this method one can partition the change in life expectancy over time or between two separate groups of populations. In this report, Arriaga's technique is used to partition by cause of death changes in life expectancy at birth in the United States from 2020 to 2021.

The method partitions changes into component additive parts and identifies the causes of death having the greatest influence, positive or negative, on changes in life expectancy based on rankable causes of death (34–36). This method is used by the National Center for Health Statistics annually to analyze changes in life expectancy (13).

Abridging the complete life table

An abridged or collapsed version of the complete life table can be calculated in which life table functions are shown for 5-year rather than single-year age intervals. It is often desirable

Table V. Estimated Brass relational logit model parameters α and β for the Hispanic, American Indian and Alaska Native, and Asian populations: U.S. Life Tables, 2021

Parameter	Hispanic			Non-Hispanic					
				American Indian and Alaska Native			Asian		
	Both sexes	Male	Female	Both sexes	Male	Female	Both sexes	Male	Female
α (standard error)	-0.2309524 (0.036)	-0.2335958 (0.039)	-0.1024503 (0.039)	-0.9080195 (0.025)	-0.9931060 (0.018)	-0.7947916 (0.030)	-0.0518879 (0.036)	-0.1885180 (0.033)	0.1039675 (0.053)
β (standard error)	0.9664515 (0.009)	0.9529551 (0.010)	1.0113570 (0.009)	0.6112784 (0.007)	0.5743968 (0.006)	0.6500818 (0.008)	1.1557070 (0.010)	1.1087700 (0.009)	1.2004230 (0.014)

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

to summarize the life table and save space when publishing life table data by single years of age. The abridgement of the complete life table is simplified by an important property of three of the six life table functions. The l_x, T_x, and e_x functions describe exact age x, that is, the beginning of the age interval x to $x + n$ (where n denotes the length of the age interval; for 5-year age intervals, $n = 5$). Life expectancy at age 20 (e_{20}), for example, has the same value regardless of whether the age interval is 20–21 or 20–25. Consequently, the values l_x, T_x, and e_x can be extracted at 5-year intervals from the complete life table and placed into the abridged life table (compare l_x, T_x, and e_x in Table VI with the same functions in Table 1). It is also illustrative to compare values for e_x and l_x in Tables A and B with their corresponding values presented in Tables 1–18.

The q_x, d_x, and L_x functions, in contrast, describe the age interval x to $x + n$. In fact, for abridged life tables, the notation for these functions is different ($_nq_x$, $_nd_x$, and $_nL_x$, respectively). As a result, $_5q_{20}$ is the probability of dying between ages 20 and 25 and will be somewhat larger than q_{20}, the probability of dying between ages 20 and 21. Considering this, $_nq_x$, $_nd_x$, and $_nL_x$ must be recalculated in the abridged life table. It is simplest to begin with $_nd_x$. The calculations are made for all but the final age interval as:

$$_nd_x = l_x - l_{x+n}$$

$$_nq_x = \frac{_nd_x}{l_x}$$

$$_nL_x = T_x - T_{x+n}$$

Note that for the open-ended interval, ages 100 and older, $_\infty d_{100} = l_{100}$, $_\infty q_{100} = 1.0$, and $_\infty L_{100} = T_{100}$. Table VI shows each of the life table functions for the 2021 U.S. total population abridged from Table 1.

Table VI. Life table for the total population: United States, 2021

Age (years)	Probability of dying between ages x and $x+n$	Number surviving to age x	Number dying between ages x and $x+n$	Person-years lived between ages x and $x+n$	Total number of person-years lived above age x	Expectation of life at age x
	$_nq_x$	l_x	$_nd_x$	$_nL_x$	T_x	e_x
0–1	0.005446	100,000	545	99,522	7,637,023	76.4
1–5	0.001010	99,455	100	397,582	7,537,501	75.8
5–10	0.000594	99,355	59	496,616	7,139,919	71.9
10–15	0.000829	99,296	82	496,326	6,643,303	66.9
15–20	0.003105	99,214	308	495,405	6,146,977	62.0
20–25	0.005764	98,906	570	493,197	5,651,572	57.1
25–30	0.007820	98,336	769	489,837	5,158,376	52.5
30–35	0.010138	97,566	989	485,444	4,668,539	47.8
35–40	0.012579	96,577	1,215	479,954	4,183,095	43.3
40–45	0.016130	95,363	1,538	473,116	3,703,141	38.8
45–50	0.021540	93,824	2,021	464,324	3,230,025	34.4
50–55	0.030536	91,803	2,803	452,400	2,765,701	30.1
55–60	0.044758	89,000	3,983	435,593	2,313,301	26.0
60–65	0.064049	85,017	5,445	412,019	1,877,709	22.1
65–70	0.086724	79,571	6,901	381,294	1,465,690	18.4
70–75	0.121931	72,671	8,861	342,142	1,084,396	14.9
75–80	0.189749	63,810	12,108	290,135	742,254	11.6
80–85	0.290795	51,702	15,035	221,952	452,119	8.7
85–90	0.448486	36,667	16,445	142,083	230,167	6.3
90–95	0.641008	20,223	12,963	66,156	88,084	4.4
95–100	0.808564	7,260	5,870	18,924	21,928	3.0
100 and over	1.000000	1,390	1,390	3,004	3,004	2.2

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

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Contents

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APPENDIX 20

National Center for Health Statistics, National Vital Statistics Reports, Infant Mortality, 2021

National Vital Statistics Reports

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Infant Mortality in the United States, 2021: Data From the Period Linked Birth/Infant Death File

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Abstract

Objectives—This report presents 2021 infant mortality statistics by age at death, maternal race and Hispanic origin, maternal age, gestational age, leading causes of death, and maternal state of residence. Trends in infant mortality are also examined.

Methods—Descriptive tabulations of data are presented and interpreted for infant deaths and infant mortality rates using the 2021 period linked birth/infant death file. The linked birth/infant death file is based on birth and death certificates registered in all 50 states and the District of Columbia.

Results—A total of 19,928 infant deaths were reported in the United States in 2021, up 2% from 2020. The U.S. infant mortality rate was 5.44 infant deaths per 1,000 live births, essentially unchanged from the rate of 5.42 in 2020. The neonatal mortality rate was essentially unchanged from 3.56 in 2020 to 3.49 in 2021, but the postneonatal mortality rate increased from 1.86 to 1.95. The overall infant mortality rate increased for infants of Asian non-Hispanic women and declined for infants of Dominican women in 2021 compared with 2020; changes in rates for the other race and Hispanic-origin groups were not significant. Infants of Black non-Hispanic women had the highest mortality rate (10.55) in 2021, followed by infants of Native Hawaiian or Pacific Islander non-Hispanic and American Indian or Alaska Native non-Hispanic (7.76 and 7.46, respectively), Hispanic (4.79), White non-Hispanic (4.36), and Asian non-Hispanic (3.69) women. By gestational age, infants born very preterm (less than 28 weeks of gestation) had the highest mortality rate (353.76), 170 times as high as that for infants born at term (37–41 weeks of gestation) (2.08). The five leading causes of infant death in 2021 were the same as in 2020. Infant mortality rates by state for 2021 ranged from a low of 2.77 in North Dakota to a high of 9.39 in Mississippi.

Keywords: maternal and infant characteristics • vital statistics • National Vital Statistics System

Introduction

This report presents infant mortality statistics based on data from the 2021 period linked birth/infant death file. Infant mortality and mortality rates are described by age at death, maternal race and Hispanic origin, maternal age, gestational age, leading causes of death, and maternal state of residence. Infant mortality trends are also presented by selected characteristics. In the linked file, information from the death certificate is linked to information from the birth certificate for each infant under age 1 year who died in the 50 states, District of Columbia, Puerto Rico, or Guam during 2021 (1). The purpose of the linkage is to use variables available from the birth certificate to conduct more detailed analyses of infant mortality patterns (2,3). The linked birth/infant death data set also is the preferred source for examining infant mortality by race and Hispanic origin. Infant mortality rates by race and Hispanic origin are more accurately measured from the birth certificate compared with the death certificate.

For 2021, linked birth/infant death data are not available for American Samoa, Commonwealth of the Northern Marianas, and U.S. Virgin Islands. Some rates calculated from the mortality file differ from those published using the linked file. More details can be found elsewhere (1).

Methods

Data shown in this report are based on birth and infant death certificates registered in all states, the District of Columbia, Puerto Rico, and Guam. As part of the Vital Statistics Cooperative Program, each state provides matching birth and death certificate numbers for each infant under age 1 year who died during 2021 to the National Center for Health Statistics. Further discussion of the process of linking births and deaths occurring in different states and file production can be found in the Methodology section of the "User Guide to the 2021 Period/2020 Cohort Linked Birth/Infant Death Public Use File" (1).

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The period linked file for 2017 marked the first data year for which the linked birth data for infant deaths for all 50 states and the District of Columbia. were based on the 2003 revision of the U.S. Standard Certificate of Live Birth (4) and, accordingly, the first year for which national data on race and Hispanic-origin categories based on 1997 Office of Management and Budget standards became available (5).

In 2021, 98.9% of all infant death records were successfully linked to their corresponding birth records. These records were weighted to adjust for the 1.1% of infant death records that were not linked to their corresponding birth certificates (1) (Technical Notes).

Information for age and race of mother is imputed if it is not reported on the birth certificate. In 2021, race of mother was imputed for 7.0% of births; mother's age was imputed for 0.01% of births (2,3).

All race and Hispanic-origin data are based on single-race reporting and are consistent with the 1997 Office of Management and Budget standards and differ from the bridged-race categories shown in previous reports (5). Maternal race and Hispanic-origin categories presented are American Indian or Alaska Native non-Hispanic (subsequently, American Indian or Alaska Native), Asian non-Hispanic (subsequently, Asian), Black non-Hispanic (subsequently, Black), Native Hawaiian or Other Pacific Islander non-Hispanic (subsequently, Native Hawaiian or Other Pacific Islander), White non-Hispanic (subsequently, White), and Hispanic. Race and Hispanic origin are reported separately on the birth certificate. Data are shown in most cases for five specified Hispanic groups: Central and South American, Cuban, Dominican, Mexican, and Puerto Rican. Additional details on Hispanic origin are available elsewhere (3). Comparisons between 2021 and 2020 by race and Hispanic origin are made in this report. The 2003 revision of the U.S. Standard Certificate of Live Birth allows the reporting of five race categories for each parent (6)—either alone, as in single race, or in combination, as in more than one race or multiple races—in accordance with the 1997 revised Office of Management and Budget standards (5). Further details on race reporting are available elsewhere (3).

Cause-of-death statistics are classified in accordance with the *International Statistical Classification of Diseases and Related Health Problems, 10th Revision* (ICD–10) (7) (Technical Notes).

Data by maternal and infant characteristics

This report presents descriptive tabulations of infant mortality data by a variety of maternal and infant characteristics. These tabulations are useful for understanding the basic relationships between risk factors and infant mortality, unadjusted for the possible effects of other variables. However, women with one risk factor often have other risk factors. For example, teen mothers are more likely to be unmarried and of a low-income status, while mothers who do not receive prenatal care are more likely to be of a low-income status and uninsured. The preferred method for disentangling the multiple interrelationships among risk factors is multivariate analysis; however, an understanding of the basic relationships between risk factors and infant mortality is the first step before more sophisticated types of analyses and may help identify high-risk subgroups for prevention efforts. This report presents several key risk factors for infant mortality: age at death, maternal race and Hispanic origin, maternal age, gestational age, leading causes of infant death, and maternal state of residence. For brevity, additional selected risk factors (sex, birthweight, plurality, and nativity [mother's place of birth]) are presented in tables but not discussed in this report.

Race and Hispanic origin—Infant mortality rates are presented by race and Hispanic origin of the mother. The linked file is useful for computing accurate infant mortality rates by these characteristics because the race and Hispanic origin of the mother from the birth certificate are used in both the numerator and denominator of the infant mortality rate. In contrast, for rates based on the vital statistics mortality file, race information for the denominator is the race of the mother as reported on the birth certificate, while race information for the numerator is the race of the decedent as reported on the death certificate (2,3,8). More detail on the reliability of race and Hispanic-origin data from the linked file compared with the mortality file is available elsewhere (8).

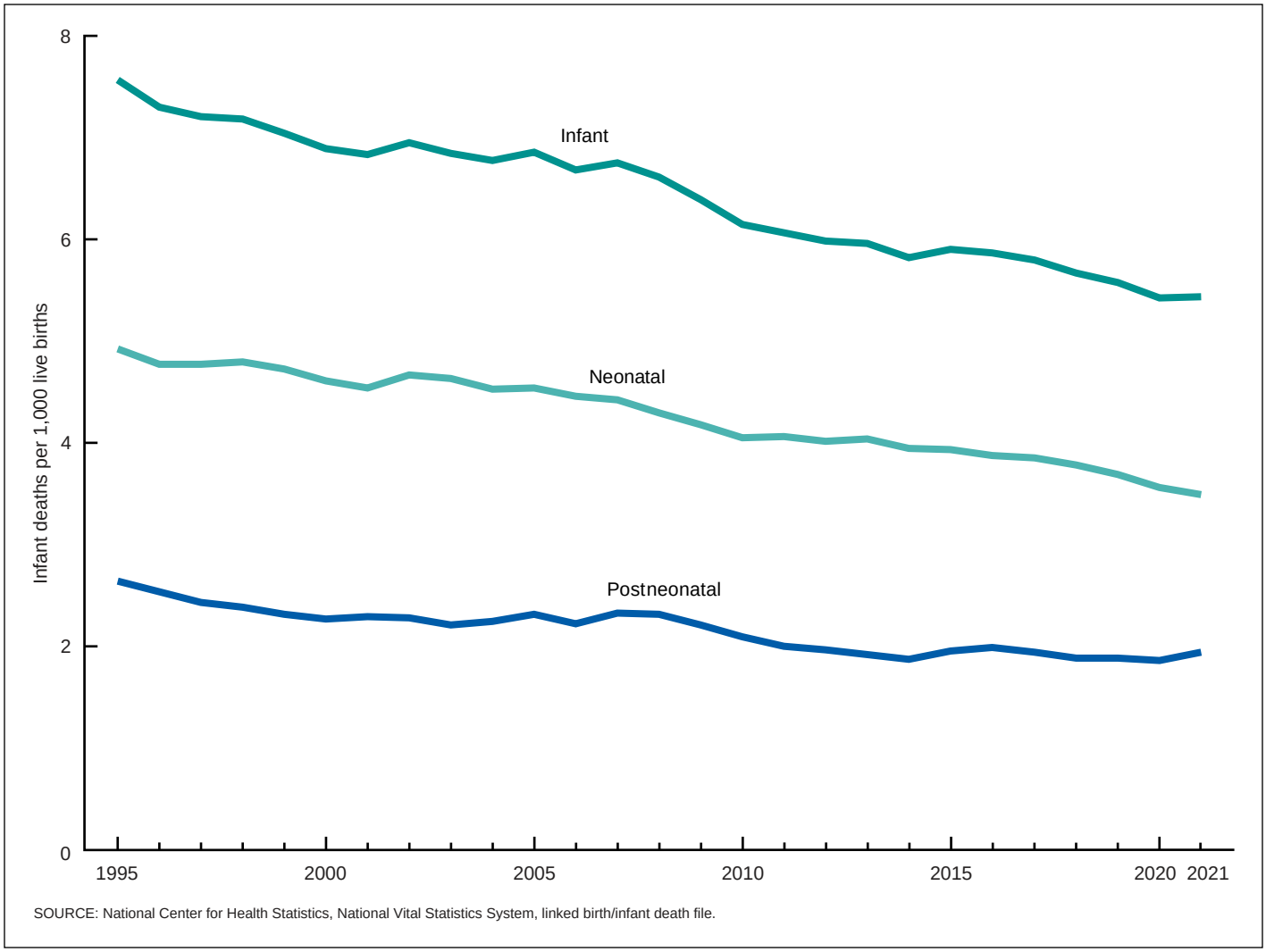
Statistical significance—Statements in the text have been tested for statistical significance, and a statement that a given infant mortality rate is higher or lower than another rate indicates that the rates are significantly different using a two-tailed *z* test at the alpha level of 0.05. Comparisons between state rates and the U.S. rate take into account each state's contribution to the U.S. rate. As a result, each state rate is compared with a unique U.S. rate independent of the state's contribution to the total U.S. rate. Information on the methods used to test for statistical significance, as well as information on differences between period and cohort data, the weighting of the linked file, maternal age, period of gestation, birthweight, and cause-of-death classification, is also available (1) (Technical Notes).

Results

Trends in infant mortality and infant age at death

- In 2021, 19,928 infant deaths were reported in the United States, an increase of 2% from 2020 (19,578). The infant mortality rate was 5.44 deaths per 1,000 live births in 2021, essentially unchanged from the 2020 rate of 5.42 (Figure 1, Table 1).
- The U.S. infant mortality rate has generally trended downward since 1995 (the first year that the period linked birth/infant death file was available) and has declined 21% since 2005, the most recent high (6.86).
- The 2021 neonatal mortality rate (infant deaths at less than 28 days) of 3.49 was essentially unchanged from 2020 (3.56). The neonatal mortality rate has generally declined since 1995 and is down 23% since 2005 (4.54).
- The 2021 postneonatal mortality rate (infant deaths at 28 days or more) increased 5% to 1.95 from 1.86 in 2020. The postneonatal mortality rate has also generally declined since 1995 and is down 16% since 2005 (2.32).

Figure 1. Infant, neonatal, and postneonatal mortality rates: United States, 1995–2021

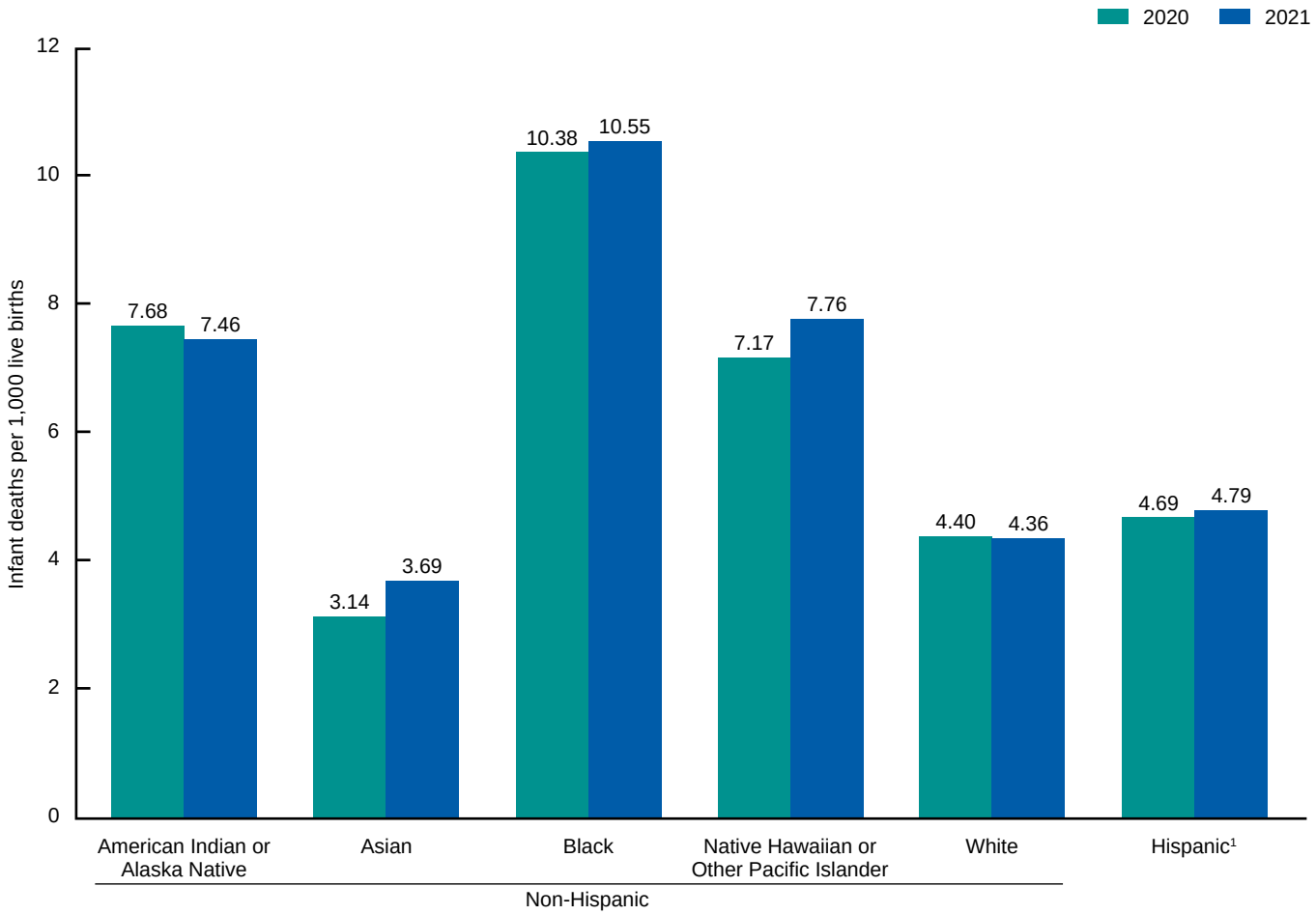


SOURCE: National Center for Health Statistics, National Vital Statistics System, linked birth/infant death file.

Race and Hispanic origin

- The mortality rate for infants of Asian women increased 17% from 2020 to 2021 (from 3.14 to 3.69 infant deaths per 1,000 births). Increases in rates for infants born to Black (10.38 to 10.55), Hispanic (4.69 to 4.79), and Native Hawaiian or Other Pacific Islander (7.17 to 7.76) women were not significant. Declines in rates for infants born to American Indian or Alaska Native (7.68 to 7.46) and White (4.40 to 4.36) women were not significant (Tables 1 and 2, Figure 2).
- Among Hispanic-origin subgroups, the mortality rate for infants of Dominican women decreased 28% from 2020 to 2021 (4.53 to 3.27); declines in mortality rates for infants of Cuban (4.23 to 3.56) and Puerto Rican (6.26 to 6.05) women were not significant. Increases in the mortality rates for infants of Central and South American (3.88 to 4.20) and Mexican (4.71 to 4.91) women from 2020 to 2021 were not significant.
- In 2021, infant mortality continued to vary by race: Infants of Black women had the highest mortality rate (10.55), followed by infants of Native Hawaiian or Other Pacific Islander and American Indian or Alaska Native (7.76 and 7.46, respectively), Hispanic (4.79), White (4.36), and Asian (3.69) women.
- Infants of Black women also had the highest neonatal mortality rate in 2021 (6.35) compared with infants of the other race and Hispanic-origin groups; the lowest mortality rate was for infants of Asian and White women (both 2.78).
- In 2021, postneonatal mortality rates were higher for infants of Black (4.19), American Indian or Alaska Native (3.67), and Native Hawaiian or Other Pacific Islander (3.36) women than for infants of White (1.58), Hispanic (1.52), and Asian (0.90) women.
- Among Hispanic-origin subgroups in 2021, the mortality rate for infants of Puerto Rican women (6.05) was higher than that for infants of Mexican (4.91), Central and South American (4.20), Cuban (3.56), and Dominican (3.27) women.

Figure 2. Infant mortality rate, by maternal race and Hispanic origin: United States, 2020 and 2021



[1]People of Hispanic origin may be of any race.
SOURCE: National Center for Health Statistics, National Vital Statistics System, linked birth/infant death file.

Maternal age

- Changes in infant mortality rates from 2020 to 2021 in each of the maternal age groups were not significant. Rates declined from 15.30 to 14.92 for infants of females under age 15, 5.29 to 5.15 for infants of women aged 25–29, and 4.50 to 4.48 for infants of women aged 30–34. Rates increased for infants of females aged 15–19 (8.57 to 9.15), women aged 20–24 (6.62 to 6.87), women aged 35–39 (4.79 to 4.92), and women aged 40 and over (6.65 to 6.74) (Figure 3, Table 2).
- In 2021, mortality rates were highest for infants of females under age 15 (14.92 infant deaths per 1,000 births), decreased to a low of 4.48 for infants of women aged 30–34, and then increased to 6.74 for infants of women aged 40 and over.

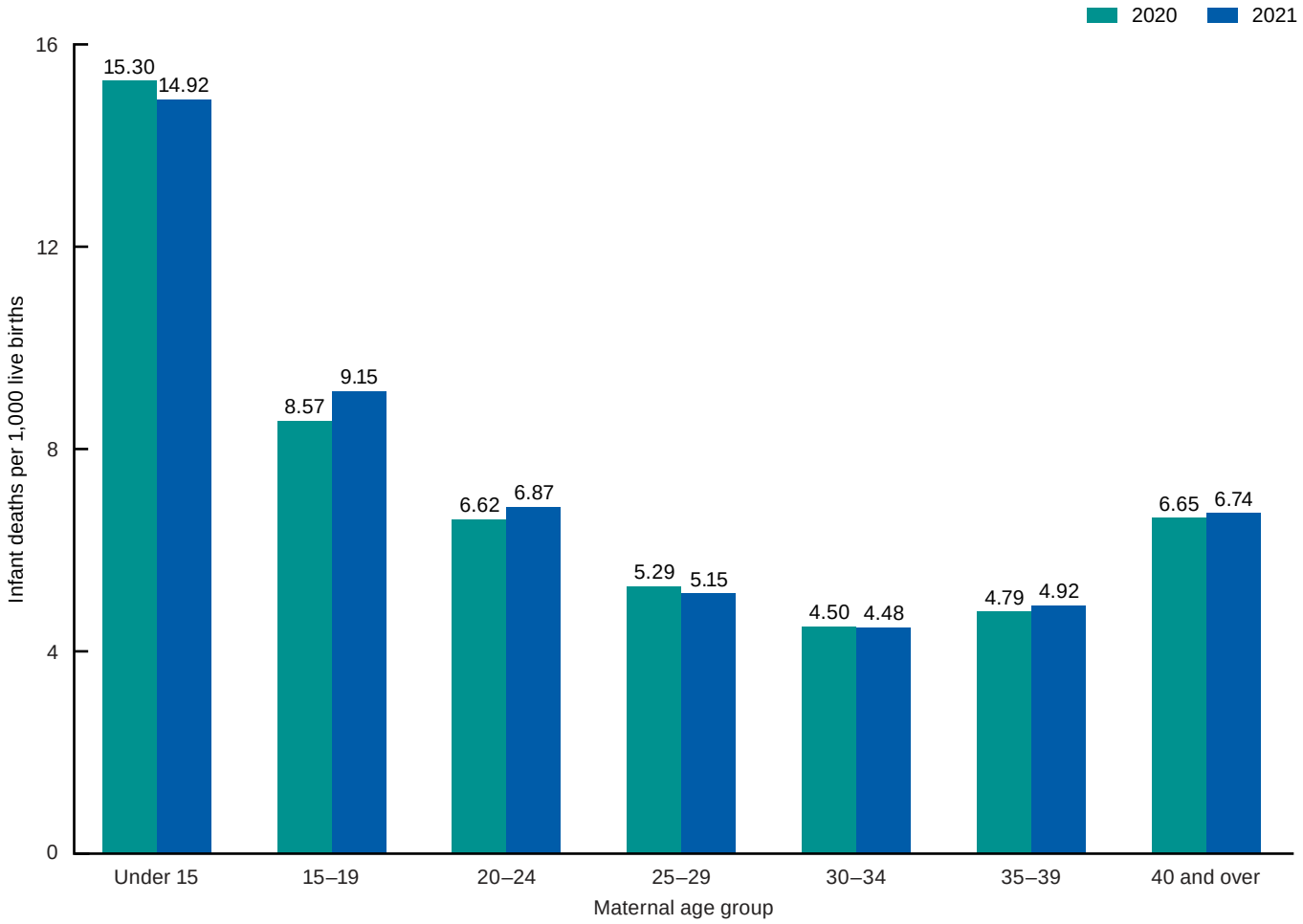
Gestational age

- The infant mortality rate for infants born at less than 32 weeks of gestation declined from 175.88 in 2020 to 167.39 in 2021. From 2020 to 2021, nonsignificant declines in the mortality rate for infants born at 32–33 weeks (20.11 to 19.35) and 42 weeks or more (4.17 to 3.79) were seen. Nonsignificant increases in the mortality rate for infants born at 34–36 weeks (7.92 to 8.11) and 37–41 weeks (2.04 to 2.08) were observed (Table, Table 2) (4).
- In 2021, 65% of infant deaths occurred among infants born preterm (less than 37 weeks of gestation), essentially unchanged from the 2020 level of 66%.

Leading causes of infant death

- In 2021, the five leading causes of all infant deaths were the same as those in 2020: congenital malformations (20% of infant deaths), disorders related to short gestation and low birth weight (15%), sudden infant death syndrome (SIDS) (7%), unintentional injuries (7%), and maternal complications (6%) (Table 3).
- From 2020 to 2021, the infant mortality rate declined for disorders related to short gestation and low birth weight (87.2 to 80.7). Declines in rates for congenital malformations (112.0 to 108.9) and maternal complications (30.9 to 30.4)

Figure 3. Infant mortality rate, by maternal age: United States, 2020 and 2021



SOURCE: National Center for Health Statistics, National Vital Statistics System, linked birth/infant death file.

Table. Infant mortality rate, by gestational age: United States, 2015–2021

Year	Less than 32 weeks	32–33 weeks	34–36 weeks	37–41 weeks	42 weeks or more
	Deaths per 1,000 live births				
2021	167.39	19.35	8.11	2.08	3.79
2020	175.88	20.11	7.92	2.04	4.17
2019	180.40	19.21	8.21	2.03	5.72
2018	185.79	21.95	8.21	2.05	5.39
2017	187.56	20.50	8.50	2.10	3.98
2016	190.15	20.12	8.65	2.19	4.31
2015	193.54	20.79	8.76	2.17	4.20

SOURCE: National Center for Health Statistics, National Vital Statistics System, linked birth/infant death file.

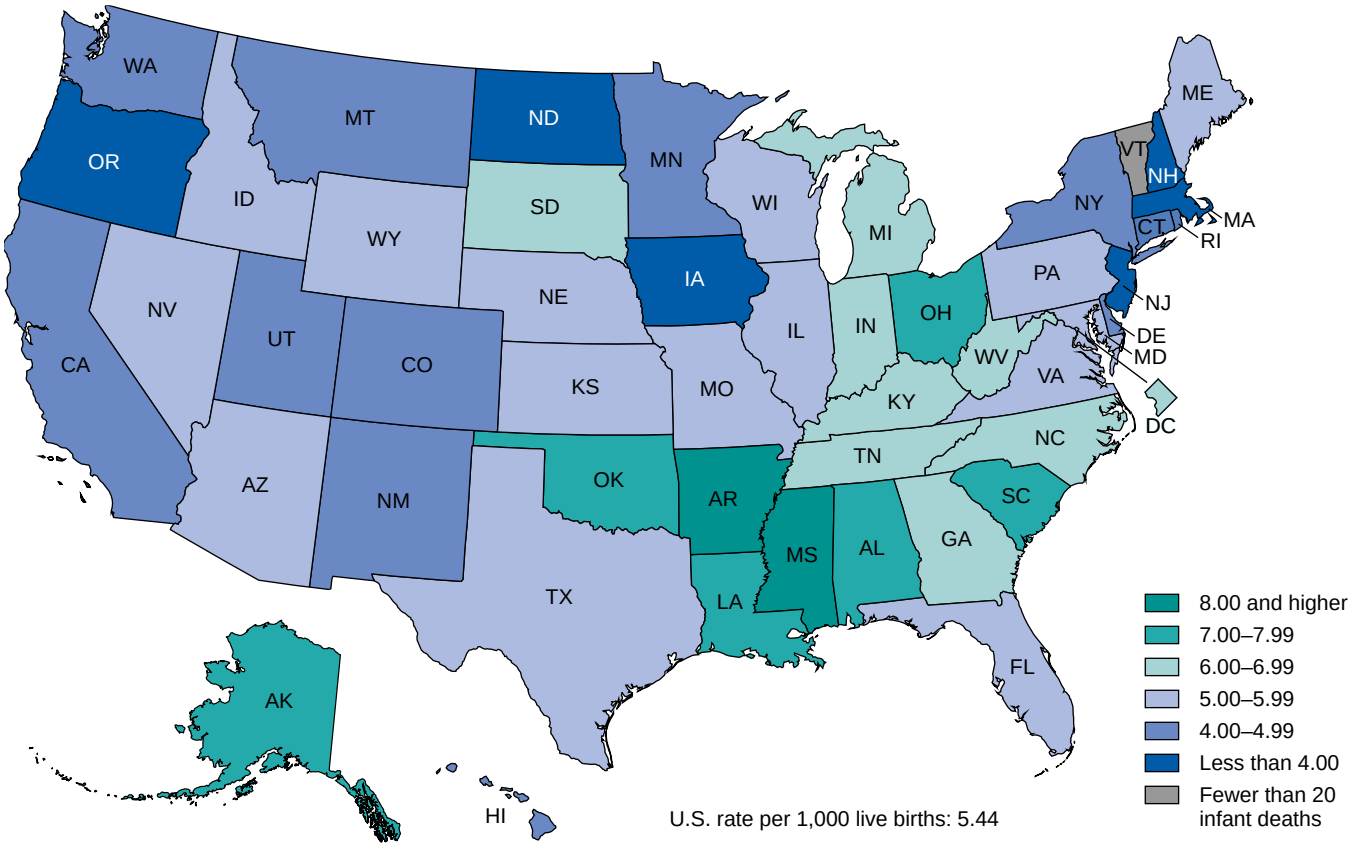
and increases for SIDS (38.4 to 39.8) and unintentional injuries (33.0 to 35.5) were not significant (Table 4).

- Congenital malformations was the leading cause of death for infants born to American Indian or Alaska Native (134.0) and White (102.2) women in 2021 (Table 4).
- In 2021, disorders related to short gestation and low birth weight was the leading cause of death for infants of Asian (69.7) and Black (196.4) women.

Infant mortality by state

- By state, infant mortality ranged from a low of 2.77 infant deaths per 1,000 births in North Dakota to a high of 9.39 in Mississippi (Figure 4, Table 5).
- Twelve states had infant mortality rates significantly lower than the national infant mortality rate: California, Connecticut, Iowa, Massachusetts, Minnesota, New Hampshire, New Jersey, New York, North Dakota, Oregon, Utah, and Washington.
- Seventeen states had infant mortality rates significantly higher than the U.S. infant mortality rate: Alabama, Alaska, Arkansas, Florida, Georgia, Indiana, Kentucky, Louisiana, Michigan, Mississippi, North Carolina, Ohio, Oklahoma, South Carolina, Tennessee, Virginia, and West Virginia.

Figure 4. Infant mortality rate, by state: United States, 2021



SOURCE: National Center for Health Statistics, National Vital Statistics System, linked birth/infant death file.

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List of Detailed Tables

Table 1. Live births, infant, neonatal, and postneonatal deaths, and mortality rates: United States, 1995–2021, and by maternal race and Hispanic origin, 2017–2021

Year and race and Hispanic origin	Number				Deaths per 1,000 live births		
	Live births	Infant deaths	Neonatal deaths	Postneonatal deaths	Infant	Neonatal	Postneonatal
All race and Hispanic-origin groups							
2021	3,664,292	19,928	12,797	7,131	5.44	3.49	1.95
2020	3,613,647	19,578	12,866	6,712	5.42	3.56	1.86
2019	3,747,540	20,927	13,834	7,093	5.58	3.69	1.89
2018	3,791,712	21,498	14,329	7,169	5.67	3.78	1.89
2017	3,855,500	22,341	14,844	7,497	5.79	3.85	1.94
2016	3,945,875	23,157	15,303	7,854	5.87	3.88	1.99
2015	3,978,497	23,458	15,672	7,786	5.90	3.94	1.96
2014	3,988,076	23,211	15,737	7,474	5.82	3.95	1.87
2013	3,932,181	23,446	15,893	7,553	5.96	4.04	1.92
2012	3,952,841	23,654	15,887	7,767	5.98	4.02	1.96
2011	3,953,590	24,001	16,065	7,936	6.07	4.06	2.01
2010	3,999,386	24,572	16,193	8,379	6.14	4.05	2.10
2009	4,130,665	26,408	17,261	9,148	6.39	4.18	2.21
2008	4,247,726	28,075	18,238	9,837	6.61	4.29	2.32
2007	4,316,233	29,153	19,094	10,059	6.75	4.42	2.33
2006	4,265,593	28,509	19,041	9,468	6.68	4.46	2.22
2005	4,138,573	28,384	18,782	9,602	6.86	4.54	2.32
2004	4,112,055	27,860	18,602	9,258	6.78	4.52	2.25
2003	4,090,007	27,995	18,935	9,060	6.84	4.63	2.22
2002	4,021,825	27,970	18,791	9,179	6.95	4.67	2.28
2001	4,026,036	27,523	18,275	9,248	6.84	4.54	2.30
2000	4,058,882	27,961	18,733	9,227	6.89	4.62	2.27
1999	3,959,417	27,865	18,701	9,164	7.04	4.72	2.31
1998	3,941,553	28,325	18,915	9,410	7.19	4.80	2.39
1997	3,880,894	27,968	18,507	9,461	7.21	4.77	2.44
1996	3,891,494	28,419	18,556	9,863	7.30	4.77	2.53
1995	3,899,589	29,505	19,186	10,319	7.57	4.92	2.65
Non-Hispanic, single race							
American Indian or Alaska Native:							
2021	26,124	195	100	96	7.46	3.83	3.67
2020	26,813	206	102	104	7.68	3.80	3.88
2019	28,450	224	114	110	7.87	4.01	3.87
2018	29,092	237	120	117	8.15	4.12	4.02
2017	29,957	276	143	132	9.21	4.77	4.41
Asian:							
2021	213,813	788	594	193	3.69	2.78	0.90
2020	219,068	688	503	185	3.14	2.30	0.84
2019	238,769	806	602	204	3.38	2.52	0.85
2018	240,798	874	643	231	3.63	2.67	0.96
2017	249,250	943	675	268	3.78	2.71	1.08
Black:							
2021	517,889	5,463	3,291	2,172	10.55	6.35	4.19
2020	529,811	5,501	3,472	2,028	10.38	6.55	3.83
2019	548,075	5,821	3,754	2,067	10.62	6.85	3.77
2018	552,029	5,933	3,897	2,037	10.75	7.06	3.69
2017	560,715	6,152	4,012	2,140	10.97	7.16	3.82
Native Hawaiian or Other Pacific Islander:							
2021	9,531	74	41	32	7.76	4.30	3.36
2020	9,626	69	41	27	7.17	4.26	2.80
2019	9,770	80	49	31	8.19	5.02	3.17
2018	9,476	89	51	38	9.39	5.38	4.01
2017	9,426	72	36	36	7.64	3.82	3.82
White:							
2021	1,887,656	8,236	5,251	2,984	4.36	2.78	1.58
2020	1,843,432	8,115	5,290	2,825	4.40	2.87	1.53
2019	1,915,912	8,603	5,589	3,014	4.49	2.92	1.57
2018	1,956,413	9,059	5,873	3,186	4.63	3.00	1.63
2017	1,992,461	9,306	6,061	3,246	4.67	3.04	1.63

See footnotes at end of table.

Table 1. Live births, infant, neonatal, and postneonatal deaths, and mortality rates: United States, 1995–2021, and by maternal race and Hispanic origin, 2017–2021—Con.

Year and race and Hispanic origin	Number				Deaths per 1,000 live births		
	Live births	Infant deaths	Neonatal deaths	Postneonatal deaths	Infant	Neonatal	Postneonatal
Hispanic[1]							
2021	885,916	4,246	2,899	1,347	4.79	3.27	1.52
2020	866,713	4,063	2,828	1,235	4.69	3.26	1.42
2019	886,467	4,462	3,091	1,371	5.03	3.49	1.55
2018	886,210	4,303	3,036	1,267	4.86	3.43	1.43
2017	898,764	4,583	3,198	1,383	5.10	3.56	1.54
Central and South American:							
2021	178,067	748	521	227	4.20	2.93	1.27
2020	169,811	659	470	189	3.88	2.77	1.11
2019	165,229	749	535	214	4.53	3.24	1.30
2018	147,430	592	438	154	4.02	2.97	1.04
2017	145,614	653	465	188	4.48	3.19	1.29
Cuban:							
2021	24,437	87	68	19	3.56	2.78	*
2020	23,188	98	63	34	4.23	2.72	1.47
2019	23,668	98	65	33	4.14	2.75	1.39
2018	23,471	90	64	26	3.83	2.73	1.11
2017	23,362	93	69	24	3.98	2.95	1.03
Dominican:							
2021	33,373	109	68	41	3.27	2.04	1.23
2020	31,596	143	101	42	4.53	3.20	1.33
2019	32,483	153	111	42	4.71	3.42	1.29
Mexican:							
2021	485,127	2,380	1,633	747	4.91	3.37	1.54
2020	480,531	2,264	1,586	678	4.71	3.30	1.41
2019	496,716	2,462	1,693	769	4.96	3.41	1.55
2018	495,831	2,426	1,690	736	4.89	3.41	1.48
2017	512,126	2,588	1,795	792	5.05	3.50	1.55
Puerto Rican:							
2021	70,729	428	278	151	6.05	3.93	2.13
2020	69,763	437	308	129	6.26	4.41	1.85
2019	70,950	438	294	144	6.17	4.14	2.03
2018	71,614	402	290	112	5.61	4.05	1.56
2017	70,813	459	307	151	6.48	4.34	2.13

* Estimate does not meet National Center for Health Statistics standards of reliability.
[1]People of Hispanic origin may be of any race.

NOTES: Infant deaths are weighted to adjust for the 1.1% of infant death records that were not linked to their corresponding birth certificates; the neonatal and postneonatal mortality rates combined may not exactly add to totals due to rounding. Data for infants of Dominican women are available starting with the 2019 period linked birth/infant death data files.

SOURCE: National Center for Health Statistics, National Vital Statistics System, linked birth/infant death file.

Table 2. Infant mortality rates, live births, and infant deaths, by selected characteristics and by maternal race and Hispanic origin: United States, 2021

Characteristic	Total	Non-Hispanic					Hispanic[1]					
		American Indian or Alaska Native[2]	Asian	Black	Native Hawaiian or Other Pacific Islander	White	Total[3]	Central and South American	Cuban	Dominican	Mexican	Puerto Rican
	Infant deaths per 1,000 live births in specified group											
Total	5.44	7.46	3.69	10.55	7.76	4.36	4.79	4.20	3.56	3.27	4.91	6.05
Age at death												
Total neonatal	3.49	3.83	2.78	6.35	4.30	2.78	3.27	2.93	2.78	2.04	3.37	3.93
Early neonatal (under 7 days)	2.75	2.56	2.17	4.99	3.36	2.18	2.60	2.34	1.84	1.68	2.69	3.12
Late neonatal (7–27 days)	0.74	1.22	0.61	1.37	*	0.60	0.67	0.59	0.90	*	0.67	0.81
Postneonatal	1.95	3.67	0.90	4.19	3.36	1.58	1.52	1.27	*	1.23	1.54	2.13
Sex												
Male	5.83	7.57	4.02	11.55	8.83	4.66	5.11	4.68	3.95	3.40	5.06	6.78
Female	5.02	7.43	3.33	9.51	6.44	4.05	4.47	3.71	3.07	3.07	4.75	5.32
Period of gestation (weeks)												
Less than 34	103.08	81.05	101.99	124.37	106.51	89.69	100.93	91.25	83.58	65.64	105.21	106.20
Less than 28	353.76	290.12	394.17	349.23	341.77	352.55	342.97	335.53	268.57	231.09	352.74	341.89
28–31	41.14	*	33.06	43.17	*	43.21	38.40	34.53	*	*	40.28	32.59
32–33	19.35	*	14.59	22.60	*	18.52	17.69	17.93	*	*	20.30	*
34–36	8.11	13.78	4.41	10.99	*	7.77	7.18	7.09	*	*	7.69	6.54
37–41	2.08	4.12	1.06	3.74	3.50	1.87	1.70	1.59	1.05	0.97	1.73	2.23
37–38	3.14	5.83	1.50	4.98	*	3.00	2.47	2.15	*	*	2.52	3.01
39–40	1.59	2.95	0.85	3.00	4.20	1.40	1.31	1.30	*	*	1.31	1.83
41	1.51	*	*	2.88	–	1.28	1.49	*	*	*	1.70	*
42 or more	3.79	*	*	*	*	*	*	*	–	–	*	–
Birthweight (grams)												
Less than 2,500	41.78	39.60	29.80	50.60	44.99	37.39	41.91	38.16	35.28	26.76	44.26	44.19
Less than 1,500	187.90	168.67	189.55	193.98	182.93	178.07	189.75	177.82	155.62	113.50	201.35	183.46
1,500–2,499	12.97	15.09	6.03	14.35	*	13.23	12.39	12.97	*	*	13.00	13.04
2,500 or more	2.00	4.67	0.99	3.53	3.70	1.84	1.61	1.47	0.97	1.05	1.66	1.88
2,500–4,499	2.00	4.66	0.99	3.52	3.67	1.84	1.59	1.46	0.94	1.06	1.65	1.85
4,500 or more	2.61	*	*	*	*	1.89	3.09	*	*	–	*	*
Plurality												
Single births	4.92	6.93	3.32	9.54	6.78	3.94	4.37	3.87	3.29	2.94	4.50	5.42
Twin births	20.64	*	18.25	33.31	*	16.20	20.47	18.06	*	*	20.75	21.94
Triplet and higher-order births	45.01	–	*	66.04	–	32.92	61.37	*	–	–	*	*
Age of mother												
Under 15	14.92	–	–	*	–	*	*	*	–	–	*	–
15–19	9.15	*	*	12.97	*	9.30	6.70	5.86	*	*	6.66	10.91
20–24	6.87	5.76	4.92	11.86	10.70	5.98	5.01	4.59	*	3.61	4.96	6.21
25–29	5.15	7.83	3.45	10.12	*	4.25	4.08	3.16	3.77	3.45	4.07	5.60
30–34	4.48	8.52	3.38	9.46	10.49	3.53	4.24	3.70	2.35	*	4.58	5.09
35–39	4.92	8.21	3.91	9.89	*	3.83	5.17	4.67	6.06	*	5.36	5.39
40–54	6.74	*	4.37	11.41	*	5.03	8.18	7.09	*	*	9.11	10.18

See footnotes at end of table.

Table 2. Infant mortality rates, live births, and infant deaths, by selected characteristics and by maternal race and Hispanic origin: United States, 2021—Con.

Characteristic	Total	Non-Hispanic					Hispanic[1]					
		American Indian or Alaska Native[2]	Asian	Black	Native Hawaiian or Other Pacific Islander	White	Total[3]	Central and South American	Cuban	Dominican	Mexican	Puerto Rican
Mother's place of birth	Infant deaths per 1,000 live births in specified group—Con.											
Born in the 50 states or District of Columbia	5.64	7.54	3.74	11.16	6.10	4.43	4.94	4.16	2.97	3.46	4.88	5.91
Born elsewhere	4.47	*	3.63	7.03	8.40	3.04	4.57	4.21	3.95	3.19	4.89	6.46
	Live births											
Total	3,664,292	26,124	213,813	517,889	9,531	1,887,656	885,916	178,067	24,437	33,373	485,127	70,729
Sex												
Male	1,873,416	13,343	110,083	262,679	4,872	968,370	450,807	90,458	12,392	17,073	246,881	35,973
Female	1,790,876	12,781	103,730	255,210	4,659	919,286	435,109	87,609	12,045	16,300	238,246	34,756
Period of gestation (weeks)												
Less than 34	103,004	802	4,981	25,641	338	43,671	23,620	4,285	670	975	12,660	2,354
Less than 28	23,527	162	1,063	7,445	79	8,223	5,534	912	175	238	2,971	623
28–31	34,731	249	1,724	8,640	111	14,603	8,021	1,477	211	288	4,369	767
32–33	44,746	391	2,194	9,556	148	20,845	10,065	1,896	284	449	5,320	964
34–36	280,975	2,394	14,738	50,693	869	135,452	66,993	13,119	1,756	2,455	36,156	5,812
37–41	3,268,342	22,813	193,854	440,079	8,275	1,701,379	793,509	160,233	21,984	29,895	435,400	62,423
37–38	1,052,935	8,230	66,074	167,006	2,863	510,021	264,132	52,485	6,784	9,487	145,058	21,233
39–40	2,046,786	13,581	120,653	255,016	4,995	1,092,775	492,466	99,882	14,352	18,944	270,299	38,226
41	168,621	1,002	7,127	18,057	417	98,583	36,911	7,866	848	1,464	20,043	2,964
42 or more	8,979	65	174	1,085	28	5,939	1,298	297	22	35	712	94
Not stated	2,992	50	66	391	21	1,215	496	133	5	13	199	46
Birthweight (grams)												
Less than 2,500	313,152	2,121	19,798	76,202	889	132,995	69,511	13,103	1,814	2,877	36,712	6,947
Less than 1,500	51,575	332	2,564	15,378	164	19,492	11,568	2,002	347	511	6,094	1,270
1,500–2,499	261,577	1,789	17,234	60,824	725	113,503	57,943	11,101	1,467	2,366	30,618	5,677
2,500 or more	3,349,955	23,999	193,983	441,561	8,640	1,754,370	816,228	164,901	22,622	30,489	448,384	63,767
2,500–4,499	3,314,354	23,598	193,049	438,687	8,453	1,732,099	808,466	163,527	22,404	30,203	443,751	63,297
4,500 or more	35,601	401	934	2,874	187	22,271	7,762	1,374	218	286	4,633	470
Not stated	1,185	4	32	126	2	291	177	63	1	7	31	15
Plurality												
Single births	3,547,198	25,408	208,738	496,418	9,293	1,824,456	863,961	174,117	23,703	32,344	473,586	68,492
Twin births	114,161	713	4,985	21,047	238	61,438	21,401	3,877	707	990	11,230	2,188
Triplet and higher-order births	2,933	3	90	424	–	1,762	554	73	27	39	311	49

See footnotes at end of table.

Table 2. Infant mortality rates, live births, and infant deaths, by selected characteristics and by maternal race and Hispanic origin: United States, 2021—Con.

Characteristic	Total	Non-Hispanic					Hispanic[1]					
		American Indian or Alaska Native[2]	Asian	Black	Native Hawaiian or Other Pacific Islander	White	Total[3]	Central and South American	Cuban	Dominican	Mexican	Puerto Rican
Age of mother						Live births—Con.						
Under 15	1,877	26	12	506	5	449	770	239	6	9	373	44
15–19	146,973	2,117	971	31,231	447	50,203	55,263	11,264	565	1,351	31,391	4,218
20–24	648,484	6,939	10,166	117,698	2,337	286,140	199,773	33,801	3,653	6,378	115,837	17,871
25–29	1,023,989	7,537	42,848	148,309	2,810	532,001	256,844	46,490	6,623	9,855	145,546	21,081
30–34	1,115,055	5,987	88,988	130,788	2,383	633,212	220,530	47,794	8,495	9,479	114,584	17,285
35–39	592,179	2,925	57,569	70,073	1,218	321,036	120,329	29,736	4,290	4,925	61,159	8,168
40–54	135,735	593	13,259	19,284	331	64,615	32,407	8,743	805	1,376	16,237	2,062
Mother's place of birth												
Born in the 50 states or District of Columbia	2,876,302	25,732	51,007	431,805	3,444	1,764,989	493,747	37,716	10,758	10,692	312,594	50,799
Born elsewhere	780,007	362	162,126	84,213	5,953	119,903	390,938	140,176	13,668	22,599	172,082	19,653
Not stated	7,983	30	680	1,871	134	2,764	1,231	175	11	82	451	277
						Infant deaths						
Total	19,928	195	788	5,463	74	8,236	4,246	748	87	109	2,380	428
Age at death												
Total neonatal	12,797	100	594	3,291	41	5,251	2,899	521	68	68	1,633	278
Early neonatal (under 7 days)	10,082	67	463	2,583	32	4,111	2,303	416	45	56	1,305	221
Late neonatal (7–27 days)	2,715	32	131	708	9	1,140	596	105	22	12	327	57
Postneonatal	7,131	96	193	2,172	32	2,984	1,347	227	19	41	747	151
Sex												
Male	10,930	101	443	3,035	43	4,514	2,303	423	49	58	1,248	244
Female	8,998	95	345	2,428	30	3,722	1,943	325	37	50	1,132	185
Period of gestation (weeks)												
Less than 34	10,618	65	508	3,189	36	3,917	2,384	391	56	64	1,332	250
Less than 28	8,323	47	419	2,600	27	2,899	1,898	306	47	55	1,048	213
28–31	1,429	10	57	373	4	631	308	51	8	3	176	25
32–33	866	8	32	216	5	386	178	34	1	6	108	12
34–36	2,278	33	65	557	4	1,052	481	93	6	16	278	38
37–41	6,812	94	205	1,648	29	3,189	1,352	254	23	29	754	139
37–38	3,310	48	99	831	8	1,531	652	113	12	15	365	64
39–40	3,248	40	103	764	21	1,533	645	130	10	12	355	70
41	254	5	3	52	–	126	55	11	1	2	34	4
42 or more	34	2	2	4	1	18	3	1	–	–	2	–
Not stated	186	1	8	64	3	60	25	8	1	–	13	1

See footnotes at end of table.

Table 2. Infant mortality rates, live births, and infant deaths, by selected characteristics and by maternal race and Hispanic origin: United States, 2021—Con.

Characteristic	Total	Non-Hispanic					Hispanic[1]					
		American Indian or Alaska Native[2]	Asian	Black	Native Hawaiian or Other Pacific Islander	White	Total[3]	Central and South American	Cuban	Dominican	Mexican	Puerto Rican
Birthweight (grams)						Infant deaths—Con.						
Less than 2,500	13,084	84	590	3,856	40	4,973	2,913	500	64	77	1,625	307
Less than 1,500	9,691	56	486	2,983	30	3,471	2,195	356	54	58	1,227	233
1,500–2,499	3,393	27	104	873	10	1,502	718	144	9	19	398	74
2,500 or more	6,710	112	192	1,558	32	3,226	1,312	242	22	32	744	120
2,500–4,499	6,617	110	191	1,542	31	3,184	1,288	238	21	32	732	117
4,500 or more	93	2	1	16	1	42	24	4	1	–	12	3
Not stated	134	–	6	49	1	36	21	6	1	–	10	2
Plurality												
Single births	17,439	176	694	4,734	63	7,182	3,774	674	78	95	2,129	371
Twin births	2,356	19	91	701	10	995	438	70	8	14	233	48
Triplet and higher-order births	132	–	3	28	–	58	34	4	–	–	18	9
Age of mother												
Under 15	28	–	–	10	–	7	8	3	–	–	4	–
15–19	1,345	13	6	405	2	467	370	66	2	9	209	46
20–24	4,455	40	50	1,396	25	1,711	1,000	155	10	23	574	111
25–29	5,275	59	148	1,501	12	2,263	1,047	147	25	34	592	118
30–34	4,999	51	301	1,237	25	2,235	934	177	20	19	525	88
35–39	2,911	24	225	693	7	1,228	622	139	26	16	328	44
40–54	915	7	58	220	2	325	265	62	3	7	148	21
Mother's place of birth												
Born in the 50 states or District of Columbia	16,223	194	191	4,820	21	7,818	2,438	157	32	37	1,527	300
Born elsewhere	3,484	1	588	592	50	364	1,787	590	54	72	841	127
Not stated	222	–	9	50	2	53	21	1	–	–	11	1

* Figure does not meet National Center for Health Statistics standards of reliability or precision; based on fewer than 20 deaths in the numerator.
– Quantity zero.
[1]People of Hispanic origin may be of any race.
[2]Includes Aleut and Eskimo infants.
[3]Includes other and unknown Hispanic origin not stated and not shown separately.

NOTES: Infant deaths are weighted so numbers may not add to totals due to rounding. Not-stated responses were included in totals but not distributed among groups for rate computations. Race and Hispanic origin are reported separately on birth certificates. Race categories are consistent with the 1997 Office of Management and Budget standards. People of Hispanic origin may be of any race.

SOURCE: National Center for Health Statistics, National Vital Statistics System, linked birth/infant death file.

Table 3. Infant deaths, percentage of deaths, and infant mortality rates, by five leading causes of infant death: United States, 2010–2021

Year	Congenital malformations (Q00–Q99)			Short gestation and low birth weight, not elsewhere classified (P07)			Sudden infant death syndrome (R95)			Accidents (unintentional injuries) (V01–X59)			Maternal complications of pregnancy (P01)		
	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate	Number	Percent	Rate
2021	3,990	20.0	108.9	2,957	14.8	80.7	1,458	7.3	39.8	1,300	6.5	35.5	1,113	5.6	30.4
2020	4,047	20.7	112.0	3,152	16.1	87.2	1,386	7.1	38.4	1,192	6.1	33.0	1,115	5.7	30.9
2019	4,313	20.6	115.1	3,460	16.5	92.3	1,251	6.0	33.4	1,264	6.0	33.7	1,250	6.0	33.4
2018	4,501	20.9	118.7	3,683	17.1	97.1	1,331	6.2	35.1	1,169	5.4	30.8	1,371	6.4	36.2
2017	4,596	20.6	119.2	3,757	16.8	97.4	1,360	6.1	35.3	1,313	5.9	34.1	1,436	6.4	37.2
2016	4,823	20.8	122.2	3,926	17.0	99.5	1,498	6.5	38.0	1,217	5.3	30.8	1,407	6.1	35.7
2015	4,847	20.7	121.8	4,087	17.4	102.7	1,567	6.7	39.4	1,289	5.5	32.4	1,527	6.5	38.4
2014	4,754	20.5	119.2	4,172	18.0	104.6	1,541	6.6	38.6	1,163	5.0	29.2	1,580	6.8	39.6
2013	4,778	20.4	121.5	4,213	18.0	107.1	1,561	6.7	39.7	1,150	4.9	29.2	1,597	6.8	40.6
2012	4,967	21.0	125.7	4,214	17.8	106.6	1,676	7.1	42.4	1,163	4.9	29.4	1,518	6.4	38.4
2011	5,016	20.9	126.9	4,115	17.1	104.1	1,905	7.9	48.2	1,167	4.9	29.5	1,598	6.7	40.4
2010	5,115	20.8	127.9	4,151	16.9	103.8	2,058	8.4	51.5	1,107	4.5	27.7	1,563	6.4	39.1

NOTES: The five leading causes of death were the same from 2010–2020, but ranking changed in 2020 compared with previous years. Rate is defined as infant deaths per 100,000 live births.

SOURCE: National Center for Health Statistics, National Vital Statistics System, linked birth/infant death file.

Table 4. Infant deaths and mortality rates for the five leading causes of infant death, by maternal race and Hispanic origin: United States, 2021

[Rates are per 100,000 live births in specified group]

Cause of death (based on *International Classification of Diseases, 10th Revision*)	All races			Non-Hispanic											
				American Indian or Alaska Native[1]			Asian[2]			Black			White		
	Rank	Number	Rate	Rank	Number	Rate	Rank	Number	Rate	Rank	Number	Rate	Rank	Number	Rate
All causes	…	19,928	543.8	…	195	746.4	…	788	368.5	…	5,463	1,054.9	…	8,236	436.3
Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	1	3,990	108.9	1	35	134.0	2	146	68.3	2	710	137.1	1	1,929	102.2
Disorders related to short gestation and low birth weight, not elsewhere classified (P07)	2	2,957	80.7	4	12	*	1	149	69.7	1	1,017	196.4	2	961	50.9
Sudden infant death syndrome (R95)	3	1,458	39.8	2	28	107.2	7	20	9.4	3	475	91.7	3	643	34.1
Accidents (unintentional injuries) (V01–X59)	4	1,300	35.5	3	20	76.6	6	22	10.3	4	408	78.8	4	595	31.5
Newborn affected by maternal complications of pregnancy (P01)	5	1,113	30.4	7	4	*	3	57	26.7	5	346	66.8	5	369	19.5

Cause of death (based on *International Classification of Diseases, 10th Revision*)	Total Hispanic[3]			Central and South American			Mexican			Puerto Rican		
	Rank	Number	Rate	Rank	Number	Rate	Rank	Number	Rate	Rank	Number	Rate
All causes	…	4,246	479.3	…	748	420.1	…	2,380	490.6	…	428	605.1
Congenital malformations, deformations and chromosomal abnormalities (Q00–Q99)	1	1,016	114.7	1	205	115.1	1	604	124.5	2	74	104.6
Disorders related to short gestation and low birth weight, not elsewhere classified (P07)	2	637	71.9	2	107	60.1	2	352	72.6	1	77	108.9
Sudden infant death syndrome (R95)	4	211	23.8	4	36	20.2	5	106	21.8	3	38	53.7
Accidents (unintentional injuries) (V01–X59)	5	196	22.1	5	23	12.9	4	113	23.3	5	20	28.3
Newborn affected by maternal complications of pregnancy (P01)	3	255	28.8	3	41	23.0	3	141	29.1	4	27	38.2

… Category not applicable.

* Figure does not meet National Center for Health Statistics standards of reliability or precision; based on fewer than 20 deaths in the numerator.

[1]For infants born to American Indian or Alaska Native non-Hispanic women, Newborn affected by complications of placenta, cord and membranes (P02) was the fifth leading cause of death, with seven deaths, and sepsis was the sixth leading cause of death, with six deaths.

[2]For infants born to Asian non-Hispanic women, Newborn affected by complications of placenta, cord and membranes (P02) was the fourth leading cause of death, with 39 deaths and a rate of 18.2, and sepsis was the fifth leading cause of death, with 34 deaths and a rate of 15.9.

[3]People of Hispanic origin may be of any race.

NOTES: Reliable cause-specific infant mortality rates cannot be computed for infants of Native Hawaiian or Other Pacific Islander non-Hispanic, Cuban, or Dominican women because of the small number of infant deaths. Race and Hispanic origin are reported separately on birth certificates. Race categories are consistent with the 1997 Office of Management and Budget standards. People of Hispanic origin may be of any race.

SOURCE: National Center for Health Statistics, National Vital Statistics System, linked birth/infant death file.

Table 5. Infant mortality rate: United States and each state, 2021

[By place of residence]

Area	Rate[1]	Infant deaths	Live births
United States[2]	5.44	19,928	3,664,292
Alabama	7.56	439	58,054
Alaska	7.37	69	9,367
Arizona	5.47	426	77,916
Arkansas	8.59	309	35,965
California	4.07	1,713	420,608
Colorado	4.99	314	62,949
Connecticut	4.65	166	35,670
Delaware	4.77	50	10,482
District of Columbia	6.81	59	8,660
Florida	5.90	1,275	216,260
Georgia	6.25	776	124,073
Hawaii	4.67	73	15,620
Idaho	5.13	115	22,427
Illinois	5.62	743	132,189
Indiana	6.75	540	79,946
Iowa	3.99	147	36,835
Kansas	5.30	184	34,705
Kentucky	6.15	321	52,214
Louisiana	7.24	416	57,437
Maine	5.00	60	12,006
Maryland	5.99	409	68,285
Massachusetts	3.23	223	69,137
Michigan	6.22	653	104,980
Minnesota	4.83	311	64,425
Mississippi	9.39	330	35,156
Missouri	5.85	406	69,453
Montana	4.90	55	11,231
Nebraska	5.49	135	24,609
Nevada	5.76	194	33,686
New Hampshire	3.96	50	12,625
New Jersey	3.57	362	101,497
New Mexico	4.77	102	21,391
New York	4.16	876	210,742
North Carolina	6.72	809	120,466
North Dakota	2.77	28	10,112
Ohio	7.06	916	129,791
Oklahoma	7.13	345	48,410
Oregon	3.79	155	40,914
Pennsylvania	5.37	712	132,622
Rhode Island	4.30	45	10,464
South Carolina	7.26	415	57,185
South Dakota	6.07	69	11,369
Tennessee	6.18	505	81,717
Texas	5.29	1,977	373,594
Utah	4.58	214	46,712
Vermont	*	17	5,384
Virginia	5.96	571	95,825
Washington	4.36	366	83,911
West Virginia	6.80	117	17,198
Wisconsin	5.36	331	61,781
Wyoming	5.45	34	6,237
Puerto Rico	6.94	134	19,304
Guam	15.64	41	2,622

* Estimate does not meet National Center for Health Statistics standards of reliability.
[1]Defined as infant deaths per 1,000 live births.
[2]Does not include Puerto Rico or Guam.

SOURCE: National Center for Health Statistics, National Vital Statistics System, linked birth/infant death file.

Technical Notes

Data source and 2003 revision

Information on the data source for the linked birth/infant death file is available elsewhere (1). Additionally, further information on the 2003 revision of the birth certificate is available (3); see also the U.S. Standard Certificate of Live Birth (9).

Weighting

In 2021, a record weight was added to the U.S. linked file to compensate for the 1.1% of infant death records that could not be linked to their corresponding birth certificates. The percentage of records linked varied by registration area, ranging from 95.4% through 100.0% (Table). The number of infant deaths in the linked file for the 50 states and District of Columbia was weighted to equal the sum of the linked plus unlinked infant deaths by state of occurrence of birth and age at death (under 7 days, 7–27 days, and 28 days to under 1 year). The addition of the weight reduced the potential for bias in comparing infant mortality rates by maternal and infant characteristics.

The 2021 linked file initially included 19,944 infant death records. Of these records, 19,728 were linked; 216 were unlinked because corresponding birth certificates could not be identified. The 19,944 linked and unlinked records contained 16 records of infants whose mothers' usual place of residence was outside of the United States; these records were excluded from linked file analyses for a weighted total of 19,928 infant deaths by place of residence for 2021.

Comparison of infant mortality data between linked file and vital statistics mortality file

The overall infant mortality rate of 5.44 from the 2021 period linked file is the same as that from the 2021 vital statistics mortality file (5.44) (10). The number of infant deaths in the linked file (19,728) differs slightly from the number in the mortality file (19,920) (10). Differences in numbers of infant deaths between the two data sources are primarily due to geographic coverage differences. For the vital statistics mortality file, all deaths occurring in the 50 states and the District of Columbia are included regardless of the place of birth of the infant. In contrast, to be included in the U.S. linked file, both the birth and death must occur in the 50 states or the District of Columbia (the territory linked file is a separate file). Weighting of the linked file also may contribute to small differences in numbers and rates by specific variables between these two data sets.

Period of gestation

Beginning with the 2014 data year, the National Center for Health Statistics (NCHS) transitioned to a new standard for estimating the gestational age of the newborn. The new measure—the obstetric estimate of gestation at delivery—replaces the measure based on the date of the last normal menses (11). Accordingly, gestational age data shown in this report are based on the obstetric estimate of gestation at delivery. National

Table. Percentage of infant deaths linked to their corresponding birth records, by state of occurrence of death: United States and each state, 2021

Area	Percent linked by state of occurrence of death
United States[1]	98.9
Alabama	100.0
Alaska	100.0
Arizona	99.3
Arkansas	99.7
California	97.9
Colorado	99.4
Connecticut	100.0
Delaware	95.6
District of Columbia	98.4
Florida	99.9
Georgia	100.0
Hawaii	98.6
Idaho	100.0
Illinois	99.9
Indiana	98.0
Iowa	100.0
Kansas	100.0
Kentucky	98.4
Louisiana	100.0
Maine	100.0
Maryland	100.0
Massachusetts	99.6
Michigan	99.8
Minnesota	100.0
Mississippi	100.0
Missouri	99.2
Montana	100.0
Nebraska	98.6
Nevada	98.9
New Hampshire	100.0
New Jersey	98.0
New Mexico	97.7
New York	98.9
New York City	99.5
North Carolina	98.8
North Dakota	100.0
Ohio	99.5
Oklahoma	100.0
Oregon	98.8
Pennsylvania	98.1
Rhode Island	100.0
South Carolina	99.7
South Dakota	100.0
Tennessee	100.0
Texas	95.4
Utah	100.0
Vermont	100.0
Virginia	98.9
Washington	100.0
West Virginia	97.4
Wisconsin	99.7
Wyoming	100.0

[1]Excludes data for Puerto Rico, U.S. Virgin Islands, and Guam.

SOURCE: National Center for Health Statistics, National Vital Statistics System, linked birth/infant death file.

data based on obstetric estimate of gestation at delivery data are available only from data year 2007 forward. Information on and discussion of the reasons for the change, as well as a detailed comparison of the two measures, are presented elsewhere (11).

Sex, birthweight, plurality, and nativity

Detailed definitions and more information on sex, birthweight, plurality, and nativity are available elsewhere (1,3).

Cause-of-death classification

The mortality statistics presented in this report were compiled in accordance with World Health Organization regulations, which specify that member nations classify and code causes of death according to the current revision of the *International Statistical Classification of Diseases* (ICD). ICD provides the basic guidance to code and classify causes of death, details disease classification, and supplies definitions, tabulation lists, the format of the death certificate, and the rules for coding cause of death. Cause-of-death data presented in this report were coded by procedures outlined in annual issues of the *NCHS Instruction Manual* (12,13).

In this report, tabulations of cause-of-death statistics are based solely on the underlying cause of death. Generally, more medical information is reported on death certificates than is directly reflected in the underlying cause of death. This is captured in NCHS multiple cause-of-death statistics (14,15).

Tabulation lists and cause-of-death ranking

The cause-of-death rankings for ICD–10 are based on the "List of 130 Selected Causes of Infant Death." The tabulation lists and rules for ranking leading causes of death are published in the *NCHS Instruction Manual, Part 9, ICD–10 Cause-of-death Lists for Tabulating Mortality Statistics* (16).

Computation of rates

Information on and discussion of computation of rates (1) is also available from the "User Guide to the 2010 Natality Public Use File" at: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Dataset_Documentation/DVS/natality/UserGuide2010.pdf.

Random variation in infant mortality rates

For information and discussion on random variation and significance testing for linked data (1), see also the "User Guide to the 2010 Natality Public Use File" at: https://ftp.cdc.gov/pub/Health_Statistics/NCHS/Dataset_Documentation/DVS/natality/UserGuide2010.pdf.

Availability of linked file

Linked file data are available for download from the Vital Statistics Online Data Portal: https://www.cdc.gov/nchs/data_access/vitalstatsonline.htm. Linked period file data may also be accessed via the Centers for Disease Control and Prevention's WONDER database, available from: https://wonder.cdc.gov/lbd.html. Beginning with 2005, the public-use file no longer includes geographic detail; such files are available upon special request (see the NCHS Division of Vital Statistics data release policy at: https://www.cdc.gov/nchs/nvss/nvss-restricted-data.htm). Data are also available in issues of *Vital and Health Statistics, Series 20; National Vital Statistics Reports*; and *NCHS Data Briefs* from the NCHS website: https://www.cdc.gov/nchs/products/index.htm.

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES

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For more NCHS NVSRs, visit:
https://www.cdc.gov/nchs/products/nvsr.htm.

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APPENDIX 21

U.S. Department of Justice, Bureau of Justice Statistics, Victims of Identity Theft, 2021

U.S. Department of Justice
Office of Justice Programs
Bureau of Justice Statistics

October 2023, NCJ 306474

Bulletin

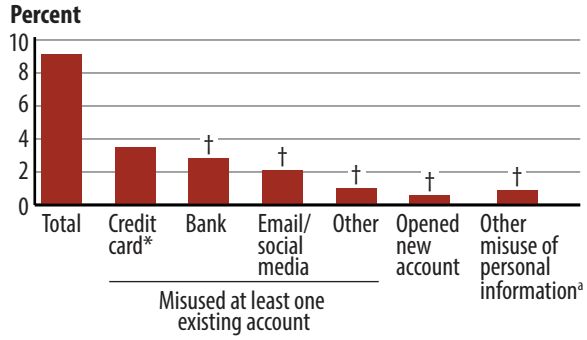
Victims of Identity Theft, 2021

Erika Harrell, PhD, and Alexandra Thompson, *BJS Statisticians*

In 2021, an estimated 23.9 million persons, or about 9% of all U.S. residents age 16 or older, reported that they had been victims of identity theft during the prior 12 months. Almost 4% of U.S. residents age 16 or older had experienced at least one incident involving the misuse of an existing credit card, and 3% had experienced the misuse of an existing bank account (figure 1). Two percent of persons reported experiencing the misuse of an existing email or social media account. Nearly 1% had experienced the misuse of their personal information for other fraudulent purposes, such as getting medical care or applying for a job or government benefits. Less than 1% reported the misuse of their personal information to open a new account.

This report uses data from the 2021 Identity Theft Supplement (ITS) to the National Crime Victimization Survey. From July 1 to December 31, 2021, the ITS collected data from persons about their experience with identity theft during the 12 months before the interview. The 2021 ITS featured a redesigned questionnaire. (For more information, see "Identity Theft in the National Crime Victimization Survey.")

FIGURE 1
Persons age 16 or older who experienced at least one identity-theft incident in the past 12 months, by type of theft, 2021



Note: Details do not sum to totals because persons could experience more than one type of identity theft. In 2021, there were 263 million persons age 16 or older living in noninstitutionalized, residential settings in the United States. See appendix table 1 for estimates and standard errors.

*Comparison group.

†Difference with comparison group is significant at the 95% confidence level.

[a]Includes misuse of personal information for fraudulent purposes other than opening a new account or the misuse of an existing account, such as filing a fraudulent income tax return, getting medical treatment, applying for a job, concealing the offender's identity from police or another government authority (e.g., a Department of Motor Vehicles), applying for government benefits, or carrying out some other fraud.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

HIGHLIGHTS

- In 2021, about 23.9 million people (9% of U.S. residents age 16 or older) had been victims of identity theft during the prior 12 months.
- For 76% of identity-theft victims in 2021, the most recent incident involved the misuse of only one type of existing account, such as a credit card or bank account.
- About 59% of identity-theft victims had financial losses of $1 or more; those losses totaled $16.4 billion in 2021.
- In 2021, about 2% of persons age 16 or older experienced the misuse of an existing email or social media account.
- Ten percent of identity-theft victims in 2021 were severely distressed as a result of the crime.
- In 2021, most identity-theft victims (56%) spent 1 day or less resolving associated financial or credit problems.
- About 7% of identity-theft victims in 2021 reported the incident to police, and 67% contacted a credit card company or bank.
- As of 2021, about 1 in 5 persons (22%) had experienced identity theft in their lifetime.

Identity theft in the National Crime Victimization Survey

Redesign of the Identity Theft Supplement questionnaire

The Bureau of Justice Statistics (BJS) first administered the Identity Theft Supplement (ITS) in 2008. The ITS is one of several rotating supplements to the National Crime Victimization Survey. The survey collects information on several types of identity theft, such as the misuse of an existing account, misuse of personal information to open a new account, and misuse of personal information for other fraudulent purposes.

From 2012 through 2018, the ITS was administered every two years. In fall 2019, BJS contracted with RTI International to examine the scope of crimes under identity theft and address methodological concerns of respondent uncertainty regarding timing of events. This work also allowed for changes to modernize the instrument where needed. To allow time for this research, administration of the ITS was delayed until July 2021. The research consisted of four parts: (1) an analysis of state laws on identity theft, (2) a secondary data analysis on previously collected ITS data, (3) cognitive interviewing, and (4) an online pilot test assessing three versions of the questionnaire. For more information, see *Assessing the Measurement of Identity Theft through the Identity Theft Supplement to the National Crime Victimization Survey* (NCJ 306383, BJS third-party report, October 2023).

BJS used the results of the research to develop a redesigned ITS questionnaire that was administered from July to December 2021. The 2021 instrument differed from the 2018 questionnaire in several ways: (1) attempted incidents of identity theft were excluded, (2) a dual reference period (lifetime and past year) was added to screen for each type of identity theft, (3) respondents were asked to give the month and year of the most recent occurrence of each type of identity theft experienced in the past year, and (4) a separate screener question for the misuse of email and social media accounts was included.

These changes resulted in several improvements to the ITS questionnaire. The new questionnaire allows for more control of telescoping of incidents into the study period by reducing the number of incidents reported that occurred outside the survey window. The new version decreases respondent burden by excluding attempted incidents as opposed to previous administrations of the ITS where they were asked to report both successful and unsuccessful incidents of identity theft. It also more correctly classifies incidents involving email/social media accounts by separating them from misuse of financial accounts. Questionnaire examples were also updated to help modernize the instrument. Due to these differences, the 2021 ITS is not comparable to previous administrations of the ITS. For more information on the ITS, see https://bjs.ojp.gov/data-collection/identity-theft-supplement-its.

Defining identity theft for this report

This report details the number, percentage, and demographic characteristics of U.S. residents age 16 or older who experienced one or more incidents of identity theft in their lifetime or in the prior 12 months. Depending on the circumstances of the incident, victims of identity theft may not know immediately that their identity was stolen. Most of the report focuses on the most recent incident. It describes:

- victim characteristics
- victim responses to identity theft
- how victims discovered the crime
- offender characteristics, including how the offender obtained the victim's personal information
- financial losses and other consequences of identity theft, including the amount of time victims spent resolving associated problems
- reporting of the incident to credit card companies, credit bureaus, or law enforcement agencies
- the level of emotional distress that victims experienced.

Identity-theft victims are persons age 16 or older who experienced one or more of the following:

- **Misuse of an existing account**—completed unauthorized use of one or more existing accounts, such as a credit card, debit card, checking, savings, email, social media, telephone, online, mortgage, or insurance account.
- **Opening of a new account**—completed unauthorized use of personal information to open a new account, such as a credit card, debit card, checking, savings, email, social media, telephone, online, mortgage, or insurance account.
- **Misuse of personal information for other fraudulent purposes**—completed unauthorized use of personal information for other fraudulent purposes, such as filing a fraudulent income tax return, getting medical treatment, applying for a job, concealing the offender's identity from police or another government authority (e.g., a Department of Motor Vehicles), applying for government benefits, or carrying out some other fraud. This excludes the completed unauthorized use of personal information to open a new account or misuse of an existing account.

Most recent identity theft

Misuse of an existing account was the most recent experience for a majority of identity-theft victims

For about 85% of victims of identity theft in 2021, the most recent incident involved the misuse of at least one type of existing account (table 1). This included 76% of victims experiencing the misuse of only one type of existing account and 9% of victims experiencing the misuse of multiple types of existing accounts.

About 3% of victims experienced the misuse of their personal information to open a new account only, and 7% had their personal information misused for other fraudulent purposes. Five percent of victims experienced multiple types of identity theft, including a combination of misuse of an existing account, the fraudulent opening of a new account, or misuse of personal information for other fraudulent purposes.

Persons in households earning $200,000 or more annually had the highest prevalence of identity theft across income groups

A greater percentage of females (10%) than males (9%) were victims of identity theft in 2021 (table 2). Persons who were white (10%) had a higher prevalence of identity-theft victimization than persons who were black (8%) or Hispanic (6%). White persons also had a higher prevalence compared to persons who were Asian or who were Native Hawaiian or Other Pacific Islander (7%). Persons of other races (includes American Indian or Alaska Native and persons of two or more races) had a higher prevalence of identity theft (13%) compared to white persons. Persons ages 50–64 (11%) were more likely to be victims of identity theft than persons in all other age groups. Persons in households earning at least $200,000 per year (13%) had the highest prevalence of identity theft across income groups.

TABLE 1
Victims of identity theft, by type of most recent incident of theft, 2021

Type of identity theft	Number of victims	Percent of all persons age 16 or older	Percent of all victims
Total	23,928,600	9.1%	100%
Misused only one type of existing account	18,175,200	6.9%	76.0%
Credit card*	7,289,970	2.8	30.5
Bank	5,662,590 †	2.2 †	23.7 †
Email/social media	3,856,390 †	1.5 †	16.1 †
Other	1,366,250 †	0.5 †	5.7 †
Opened new account only	759,330 †	0.3% †	3.2% †
Other misuse of personal information[a]	1,639,600 †	0.6% †	6.9% †
Multiple types of identity theft	3,354,470 †	1.3% †	14.0% †
Existing accounts only[b]	2,125,130 †	0.8 †	8.9 †
Other[c]	1,229,350 †	0.5 †	5.1 †

Note: Details may not sum to totals due to rounding. Estimates are based on the most recent incident of identity theft that occurred in the past year. In 2021, there were 263 million persons age 16 or older living in noninstitutionalized, residential settings in the United States. See appendix table 2 for standard errors.

*Comparison group.

†Difference with comparison group is significant at the 95% confidence level.

[a]Includes misuse of personal information for fraudulent purposes other than opening a new account or the misuse of an existing account, such as filing a fraudulent income tax return, getting medical treatment, applying for a job, concealing the offender's identity from police or another government authority (e.g., a Department of Motor Vehicles), applying for government benefits, or carrying out some other fraud.

[b]Includes victims who experienced two or more of the following: misuse of a credit card, bank account, email or social media, or other existing account.

[c]Includes victims who experienced two or more of the following: misuse of an existing account, personal information to open a new account, or personal information for other fraudulent purposes.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

TABLE 2

Demographic characteristics of victims of identity theft in the past 12 months and the U.S. residential population age 16 or older, 2021

	Victims of identity theft in the past 12 months[a]			U.S. residential population	
Demographic characteristic	Number of victims	Percent of U.S. residential population age 16 or older[b]	Percent of all victims	Number of persons age 16 or older	Percent of all persons age 16 or older
Total	23,928,600	9.1%	100%	262,944,530	100%
Sex					
Male*	10,996,850	8.6%	46.0%	127,570,290	48.5%
Female	12,931,750 †	9.6 †	54.0 †	135,374,240	51.5
Race/Hispanic origin					
White[c]*	16,786,460	10.3%	70.2%	163,092,990	62.0%
Black[c]	2,584,720 †	8.2 †	10.8 †	31,677,970	12.0
Hispanic	2,776,650 †	6.1 †	11.6 †	45,249,370	17.2
Asian/Native Hawaiian/ Other Pacific Islander[c]	1,181,550 †	6.5 †	4.9 †	18,303,610	7.0
Other[c,d]	599,220 †	13.0 †	2.5 †	4,620,590	1.8
Age					
16–17	108,610 †	1.4% †	0.5% †	7,788,210	3.0%
18–24	2,048,000 †	7.0 †	8.6 †	29,203,000	11.1
25–34	4,045,430 †	8.9 †	16.9 †	45,566,860	17.3
35–49	6,090,210 †	9.9 †	25.5 †	61,565,520	23.4
50–64*	6,772,050	10.9	28.3	62,268,620	23.7
65 or older	4,864,310 †	8.6 †	20.3 †	56,552,320	21.5
Household income[e]					
$24,999 or less	2,932,100 ‡	7.4% †	12.3% ‡	39,687,030	15.1%
$25,000–$49,999	4,244,230 †	7.1 †	17.7 †	59,460,100	22.6
$50,000–$99,999	7,703,790 †	9.2 †	32.2 †	83,952,620	31.9
$100,000–$199,999	6,407,310 †	10.9 †	26.8 †	58,760,990	22.3
$200,000 or more*	2,641,170	12.5	11.0	21,083,790	8.0

Note: Details may not sum to totals due to rounding. Estimates are based on the most recent incident of identity theft that occurred in the past year. See appendix table 3 for standard errors.

*Comparison group within each demographic characteristic.

†Difference with comparison group is significant at the 95% confidence level.

‡Difference with comparison group is significant at the 90% confidence level.

[a]Includes persons who experienced at least one identity-theft incident in the past year.

[b]Estimates are based on the number of persons in each category. For example, the percentage for males is the number of male victims of identity theft divided by the total number of males age 16 or older multiplied by 100.

[c]Excludes persons of Hispanic origin (e.g., "white" refers to non-Hispanic white persons and "black" refers to non-Hispanic black persons).

[d]Includes American Indian or Alaska Native persons, and persons of two or more races.

[e]Missing data were imputed.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

Victims most commonly discovered identity theft through contact from a financial institution

Among identity-theft victims in 2021 who most recently had at least one existing account misused, 27% discovered the incident when a financial institution contacted them about suspicious activity, while 21% discovered it after noticing fraudulent charges on their account (table 3). Victims of other types of identity theft most commonly discovered it when a company or agency other than a financial institution notified them (48% of victims). Smaller percentages of such victims discovered the incident when they received a bill or were contacted about an unpaid bill (6%) or when they had problems applying for a loan or government benefits or filing an income tax return (6%).

TABLE 3
Ways that victims discovered identity theft, by type of theft, 2021

Ways victims discovered identity theft	Any identity theft	Misused at least one existing account[a]*	Other identity theft[b]
Total	100%	100%	100%
Contacted by financial institution about suspicious activity	24.6	26.8	4.4 †
Noticed fraudulent charges on account	19.4	21.4	1.4 †
Notified by company or agency	11.3	7.2	47.6 †
Noticed money missing from account	9.0	9.9	1.0 !
Notified by family or friends	7.9	8.3	3.8 †
Contacted financial institution to report a theft	6.1	6.7	0.8 !
Received a bill or contacted about an unpaid bill	3.1	2.8	5.6 †
Credit card declined, check bounced, or account closed due to insufficient funds	1.9	2.1	0.3 !
Discovered through credit report or credit monitoring service	1.6	1.3	4.8 †
Problems with applying for a loan, applying for government benefits, or filing income taxes	1.0	0.5	5.6 †
Received merchandise or card that victim did not order or did not receive product the victim ordered	0.9	0.5	4.5 †
Notified by police	0.4	0.2	1.8 †
Another way[c]	12.6	12.0	18.2 †
Do not know	0.2	0.2	0.1 !
Number of victims	23,928,600	21,518,450	2,410,150

Note: Details may not sum to totals due to rounding. Estimates are based on the most recent incident of identity theft that occurred in the past year. See appendix table 4 for standard errors.

*Comparison group.

†Difference with comparison group is significant at the 95% confidence level.

! Interpret with caution. Estimate is based on 10 or fewer sample cases, or coefficient of variation is greater than 50%.

[a]Includes the misuse of at least one of the following: a credit card, bank account, email or social media account, or other existing account.

[b]Includes the misuse of personal information to open a new account or for other fraudulent purposes.

[c]Includes receiving suspicious texts, phone calls, or emails; having problems logging into or accessing an account; noticing account information or settings had changed; being notified by an employer or someone else; and discovering the identity theft in other ways.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

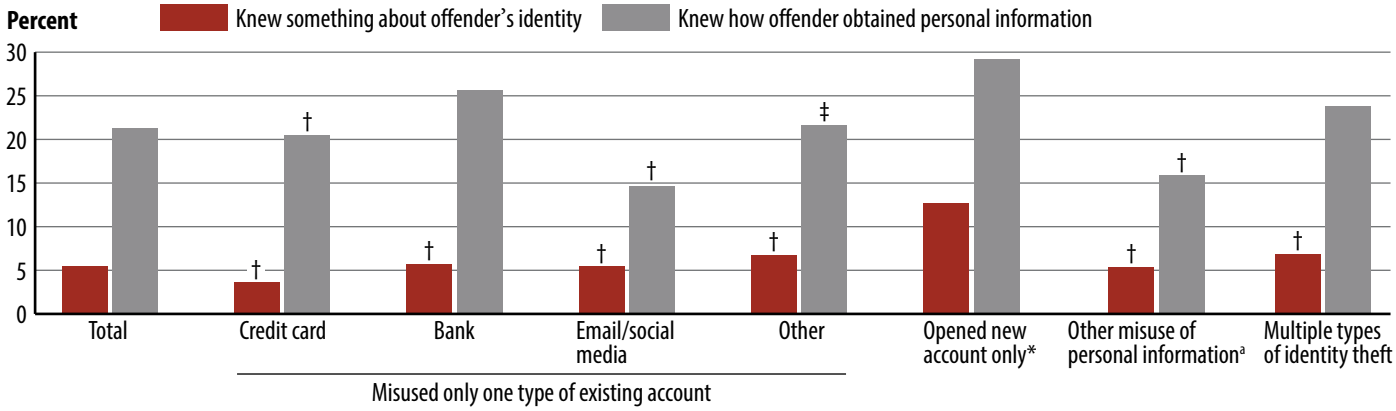
Among the victims of identity theft, 21% knew how the offender obtained their personal information

The ITS asks victims whether they knew anything about the person who misused their personal information or how their personal information was obtained. Overall, 5% of identity-theft victims in 2021 knew something about the offender's identity in the most recent incident (figure 2). The share of victims with this knowledge ranged from 4% of those whose existing credit card was misused to 13% of those whose personal information was misused to open a new account.

One in 5 (21%) victims knew how the offender obtained their personal information. Victims were more likely to know this if the identity theft involved opening a new account (29% of victims) than misusing an existing credit card (21%), existing email or social media account (15%), or personal information for other fraudulent purposes (16%).

FIGURE 2

Victims of identity theft who knew something of the offender's identity or how the offender obtained their personal information, by type of theft, 2021



Note: Estimates are based on the most recent incident of identity theft that occurred in the past year. See appendix table 5 for estimates and standard errors.

*Comparison group.

†Difference with comparison group is significant at the 95% confidence level.

‡Difference with comparison group is significant at the 90% confidence level.

[a]Includes misuse of personal information for fraudulent purposes other than opening a new account or the misuse of an existing account, such as filing a fraudulent income tax return, getting medical treatment, applying for a job, concealing the offender's identity from police or another government authority (e.g., a Department of Motor Vehicles), applying for government benefits, or carrying out some other fraud.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

Cyber-enabled identity theft

Identities can be stolen through traditional modes (e.g., physically) or cyber-enabled means (e.g., during an online transaction). Among victims who knew how their personal information was obtained, about 38% said it was done through cyber-enabled means (an online transaction, scam email or phone call, or electronic access to their work or home computer, cellphone, tablet, or other electronic device) (table 4). This method was the most common overall and for each type of identity theft except two (opening of a new account and misuse of personal information for other fraudulent purposes).

Half (50%) of victims who knew how the offender obtained their information to misuse their email or social media account said the offender used cyber-enabled means. A similar pattern was found among victims who experienced misuse of an existing account other than a bank, credit card, email, or social media account (50%).

TABLE 4

Victims of identity theft who knew how the offender obtained their personal information, by method offender used and type of theft, 2021

		Method offender used					
Type of identity theft	Knew how offender obtained personal information	Total	Used cyber-enabled means[a]*	Found/stole from place[b]	Stole during in-person transaction[c]	Stole from files[d]	Other
Total	5,081,260	100%	37.5%	11.3% †	17.6% †	16.3% †	17.2% †
Misused only one type of existing account	3,802,550	100%	40.4%	12.2% †	21.2% †	12.5% †	13.7% †
Credit card	1,494,370	100	39.6	12.6 †	25.1 †	12.5 †	10.3 †
Bank	1,448,830	100	35.5	16.9 †	28.2 †	7.3 †	12.2 †
Email/social media	564,170	100	50.3	3.5 !	2.0 !	19.6 †	24.7 †
Other	295,190	100	50.4	3.4 !	3.6 !	25.0 †	17.6 †
Opened new account only	221,470	100%	8.3%	5.1% !	1.6% !	30.4% †	54.7% †
Other misuse of personal information[e]	259,350	100%	13.9%	4.4% !	--	51.2% †	30.5% †
Multiple types of identity theft	797,890	100%	39.2%	11.1% †	11.1% †	19.2% †	19.3% †

Note: Details may not sum to totals due to rounding. Estimates are based on the most recent incident of identity theft that occurred in the past year and on the 5.1 million (21% of all) victims who knew how the offender obtained their information. See appendix table 6 for standard errors.

*Comparison group.

†Difference with comparison group is significant at the 95% confidence level.

--Less than 0.05%.

! Interpret with caution. Estimate is based on 10 or fewer sample cases, or coefficient of variation is greater than 50%.

[a]Includes obtaining information through an online transaction, scam email or phone call, or electronic access to the victim's work or home computer, cellphone, tablet, or other electronic device.

[b]Includes finding lost information and stealing information from the mail or a place where it was stored (e.g., wallet, home, office, or car).

[c]Includes stealing information by using a skimmer or card reader.

[d]Includes stealing information from personnel files at a place of employment or from an office or a company that had the victim's information in its paper or electronic files.

[e]Includes misuse of personal information for fraudulent purposes other than opening a new account or the misuse of an existing account, such as filing a fraudulent income tax return, getting medical treatment, applying for a job, concealing the offender's identity from police or another government authority (e.g., a Department of Motor Vehicles), applying for government benefits, or carrying out some other fraud.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

More than half of victims had direct financial losses from their most recent identity-theft incident, and 4% had indirect financial losses

The economic impact of identity theft is measured by direct and indirect financial losses.[1] A direct financial loss is the monetary amount the offender obtained from misusing the victim's account or personal information, including the estimated value of goods, services, or cash obtained. It includes both out-of-pocket loss and any losses that were reimbursed to the victim. An indirect loss includes any other monetary cost caused by the identity theft, such as legal fees, bounced checks, and other miscellaneous expenses that were not reimbursed (e.g., postage, phone calls, or notary fees). All indirect losses are included in the calculation of out-of-pocket loss.

In 2021, more than half (57%) of victims had a direct financial loss of at least $1 in connection with their most recent incident of identity theft (table 6). The mean direct loss was $880 per identity-theft victim, and the median was $200. Mean direct losses were higher for victims whose personal information was misused to open a new account ($3,430) than for victims whose credit card ($620), bank account ($670), or other existing account ($550) was misused. About 4% of all identity-theft victims reported indirect losses of at least $1. These victims had a mean indirect loss of $280 and a median indirect loss of $40.

Credit card, insurance, and other companies may reimburse some or all of the financial loss associated with identity theft, thus reducing or eliminating out-of-pocket losses for victims. At the time of their interviews, about 12% of identity-theft victims had experienced out-of-pocket losses of $1 or more, with a mean out-of-pocket loss of $790 and a median of $100. Out-of-pocket losses were more common among victims who had multiple existing accounts misused (20%) than victims whose email or social media account was misused (5%) or whose personal information was misused to open a new account (9%) or for other fraudulent purposes (9%).

[1]Direct and indirect financial losses include losses to victims and exclude financial losses to stores, credit card companies, and banks.

Financial loss for all identity theft

Across all incidents of identity theft reported in 2021, about 59% of victims experienced a financial loss of $1 or more (table 5). These victims had financial losses totaling $16.4 billion. The mean loss was $1,160 per victim, and the median loss was $200.

TABLE 5
Financial loss for all incidents of identity theft, 2021

Estimate	Financial loss
Total	$16,386,045,280
Mean	$1,160
Median	$200
Percent of victims experiencing a loss	58.9%
Number of victims	23,928,600

Note: Estimates are based on all incidents of identity theft that occurred in the past year. Mean, median, and percentage were calculated using direct estimation. Financial loss includes any financial loss of $1 or more. See appendix table 7 for standard errors.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

TABLE 6

Financial loss from victims' most recent incident of identity theft, by type of theft and loss, 2021

		Misused only one type of existing account						Multiple types of identity theft	
Type of financial loss	Total identity theft	Credit card	Bank	Email/ social media	Other	Opened new account only*	Other misuse of personal information[a]	Existing accounts only[b]	Other[c]
Any loss[d]									
Mean	$880	$620 †	$680 †	$2,730	$550 †	$3,360	$2,680	$1,160 †	$1,920 ‡
Median	$200	$200	$200	$200	$100	$1,000	$1,100	$300	$500
Percent experiencing a loss	58.0%	78.3% †	83.4% †	9.0% †	47.7% †	30.5%	18.7% †	65.1% †	43.0% †
Direct[e]									
Mean	$880	$620 †	$670 †	$3,270	$550 †	$3,430	$3,200	$1,140 †	$1,900 †
Median	$200	$200	$200	$400	$100	$1,000	$1,800	$300	$500
Percent experiencing a loss	57.1%	78.0% †	83.1% †	7.2% †	47.2% †	29.1%	15.1% †	64.0% †	42.0% †
Indirect[f]									
Mean	$280	$70 †	$260	$360	$160	$620	$340 !	$470	$360
Median	$40	$2	$70	$2	$40	$300	$50 !	$200	$100
Percent experiencing a loss	3.8%	2.9%	4.5%	2.5%	2.3%	4.1%	5.1% !	5.5%	6.9%
Total out of pocket[g]									
Mean	$790	$460 †	$760 †	$1,340	$270 †	$1,900	$1,540	$840 †	$1,200
Median	$100	$70	$100	$200	$100	$800	$200	$200	$300
Percent experiencing a loss	12.5%	9.4%	18.5% †	4.9% ‡	17.1% †	9.2%	8.6%	20.1% †	15.5% †
Number of victims	23,928,600	7,289,970	5,662,590	3,856,390	1,366,250	759,330	1,639,600	2,125,130	1,229,350

Note: Estimates are based on the most recent incident of identity theft that occurred in the past year. Means and percentages were calculated using direct estimation. See appendix table 8 for standard errors.

*Comparison group.

†Difference with comparison group is significant at the 95% confidence level.

‡Difference with comparison group is significant at the 90% confidence level.

! Interpret with caution. Estimate is based on 10 or fewer sample cases, or coefficient of variation is greater than 50%.

[a]Includes misuse of personal information for fraudulent purposes other than opening a new account or the misuse of an existing account, such as filing a fraudulent income tax return, getting medical treatment, applying for a job, concealing the offender's identity from police or another government authority (e.g., a Department of Motor Vehicles), applying for government benefits, or carrying out some other fraud.

[b]Includes victims who experienced two or more of the following: misuse of a credit card, bank account, or other existing account.

[c]Includes victims who experienced two or more of the following: misuse of an existing account, personal information to open a new account, or personal information for other fraudulent purposes.

[d]Includes victims who had any direct or indirect loss of $1 or more.

[e]Includes victims who had a direct loss of $1 or more and no indirect loss and victims who had both direct and indirect losses of $1 or more. Mean amounts for direct losses could be greater than mean amounts of any loss due to top-coding, a procedure used to protect respondents with large loss amounts from the risk of disclosure. See *Methodology*.

[f]Includes victims who had an indirect loss of $1 or more and no direct loss and victims who had both direct and indirect losses of $1 or more.

[g]Includes direct loss not reimbursed to the victim plus any indirect loss.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

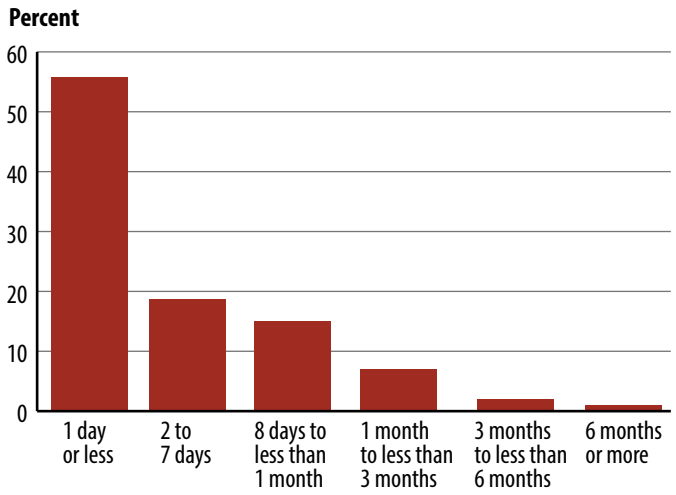
Most identity-theft victims spent 1 day or less resolving associated financial or credit problems

At the time of their interview in 2021, about 86% of victims had resolved any financial or credit problems associated with their most recent incident of identity theft. (See appendix table 9.) More than half of these victims (56%) had spent 1 day or less clearing up the problems (figure 3). About 10% spent 1 month or more resolving problems.

The length of time that victims spent resolving all associated financial or credit problems varied by the type of identity theft. In 2021, victims who resolved all problems spent a mean of 4 hours and a median of 1 hour doing so (table 7). Victims whose credit card was misused spent a mean of 3 hours resolving financial or credit problems, less time than victims of almost any other type of identity theft measured. Victims of multiple types of identity theft, including misuse of an existing account or personal information to open a new account or conduct other fraud, spent a mean of 7 hours resolving problems.

FIGURE 3

Length of time that victims spent resolving financial or credit problems associated with identity theft, 2021



Note: Estimates are based on the most recent incident of identity theft that occurred in the past year and on the 86% of victims whose associated financial or credit problems were resolved at the time of interview. About 1% of victims resolved the problems but did not know how long it took, and about 6% did not know if they resolved the problems. See appendix table 9 for estimates and standard errors.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

TABLE 7

Number of hours that victims spent resolving financial or credit problems associated with identity theft, 2021

	Problems resolved[a]		Problems not resolved[b]	
Type of identity theft	Mean	Median	Mean	Median
Total	3.9 hrs.	1.0 hrs.	9.1 hrs.	2.0 hrs.
Misused only one type of existing account	3.4 hrs.	1.0 hrs.	6.4 hrs.	1.0 hrs.
Credit card*	2.6	1.0	4.8	1.0
Bank	4.4 †	1.0	12.0 †	2.0
Email/social media	3.8 †	1.0	3.8	1.0
Other	3.0	1.0	7.3	1.0
Opened new account only	5.3 hrs. †	2.0 hrs.	12.5 hrs. †	3.0 hrs.
Other misuse of personal information[c]	4.9 hrs. †	2.0 hrs.	10.3 hrs. †	2.0 hrs.
Multiple types of identity theft	6.2 hrs. †	2.0 hrs.	14.8 hrs. †	3.0 hrs.
Existing accounts only[d]	5.6 †	2.0	12.0 †	2.0
Other[e]	7.3 †	2.0	17.1 †	4.0

Note: Estimates are based on the most recent incident of identity theft that occurred in the past year. Means were calculated using direct estimation. See appendix table 10 for standard errors.

*Comparison group.

†Difference with comparison group is significant at the 95% confidence level.

[a]Includes the 86% of victims whose associated financial or credit problems were resolved at the time of interview.

[b]Includes the 14% of victims who did not resolve the problems or did not know if they resolved the problems.

[c]Includes misuse of personal information for fraudulent purposes other than opening a new account or the misuse of an existing account, such as filing a fraudulent income tax return, getting medical treatment, applying for a job, concealing the offender's identity from police or another government authority (e.g., a Department of Motor Vehicles), applying for government benefits, or carrying out some other fraud.

[d]Includes victims who experienced two or more of the following: misuse of a credit card, bank account, or other existing account.

[e]Includes victims who experienced two or more of the following: misuse of an existing account, personal information to open a new account, or personal information for other fraudulent purposes.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

Identity-theft victims who did not resolve all associated financial or credit problems showed a similar pattern. Victims with unresolved problems spent a mean of 9 hours and a median of 2 hours trying to resolve the problems. Victims of credit card misuse spent a mean of 5 hours on resolving problems, while victims of multiple types of identity theft, including misuse of an existing account or personal information to open a new account or conduct other fraud spent a mean of 17 hours.

Ten percent of identity-theft victims were severely distressed as a result of the crime

Victims rated how distressing their most recent incident of identity theft was on a 4-point scale that ranged from not at all to severely distressing. In 2021, about 10% of all identity-theft victims said the crime was severely distressing (table 8). Severe emotional distress was higher among victims of multiple types of identity theft (18%) than victims of misuse of one type of existing account (8%). In particular, severe distress was higher among victims of multiple types of identity theft, including misuse of an existing account or personal information to open a new account or conduct other fraud (20%) than it was among victims of misuse of personal information only (13%), a credit card (5%), a bank account (11%), an email or social media account (8%), or other existing account (7%).

TABLE 8

Victims who experienced emotional distress from identity theft, by severity of stress and type of theft, 2021

Type of identity theft	Total	Severe	Moderate	Mild	None
Total	100%	9.8%	23.7%	46.3%	20.3%
Misused only one type of existing account	100%	7.6% †	22.1% †	47.7% †	22.5% †
Credit card	100	5.4 †	21.7 †	50.3 †	22.6 †
Bank	100	10.7 †	25.8	45.7 †	17.9 †
Email/social media	100	7.9 †	18.0 †	45.4 ‡	28.7 †
Other	100	6.6 †	21.1 †	48.7 †	23.5 †
Opened new account only	100%	17.5%	27.5%	38.1%	17.0% ‡
Other misuse of personal information[a]	100%	13.1% †	30.8%	42.7%	13.4%
Multiple types of identity theft	100%	17.8%	27.7%	42.3%	12.2%
Existing accounts only[b]	100	16.4	26.4	44.0	13.1
Other[c]*	100	20.3	29.9	39.3	10.6

Note: Details may not sum to totals due to rounding. Estimates are based on the most recent incident of identity theft that occurred in the past year. Excludes about 0.4% of victims with missing data on emotional distress. See appendix table 11 for standard errors.

*Comparison group.

†Difference with comparison group is significant at the 95% confidence level.

‡Difference with comparison group is significant at the 90% confidence level.

[a]Includes misuse of personal information for fraudulent purposes other than opening a new account or the misuse of an existing account, such as filing a fraudulent income tax return, getting medical treatment, applying for a job, concealing the offender's identity from police or another government authority (e.g., a Department of Motor Vehicles), applying for government benefits, or carrying out some other fraud.

[b]Includes victims who experienced two or more of the following: misuse of a credit card, bank account, or other existing account.

[c]Includes victims who experienced two or more of the following: misuse of an existing account, personal information to open a new account, or personal information for other fraudulent purposes.

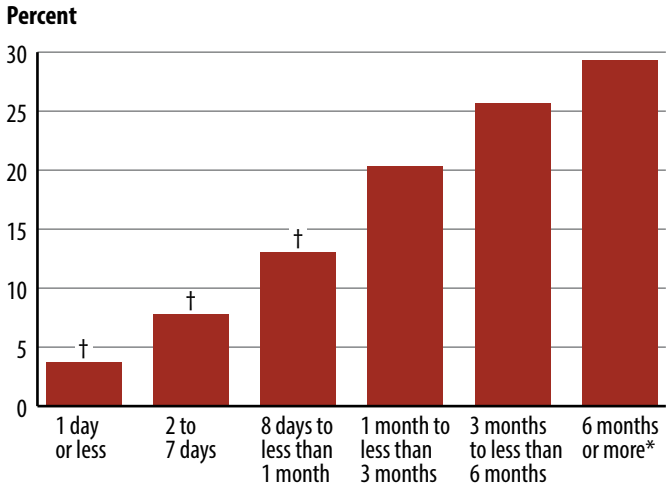
Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

The share of identity-theft victims with severe distress grew with the time spent resolving problems

The longer that victims spent resolving financial or credit problems associated with their most recent incident of identity theft, the more likely they were to experience severe emotional distress. In 2021, victims who spent 1 month or more resolving problems were more likely to have severe distress than those who spent less time resolving these problems (figure 4). Four percent of victims who spent 1 day or less resolving problems had severe distress, compared to 20% of those who spent 1 to 3 months.

FIGURE 4

Victims who experienced severe emotional distress from identity theft, by length of time they spent resolving associated financial or credit problems, 2021



Note: Estimates are based on the most recent incident of identity theft that occurred in the past year. See appendix table 12 for estimates and standard errors.

*Comparison group.

†Difference with comparison group is significant at the 95% confidence level.

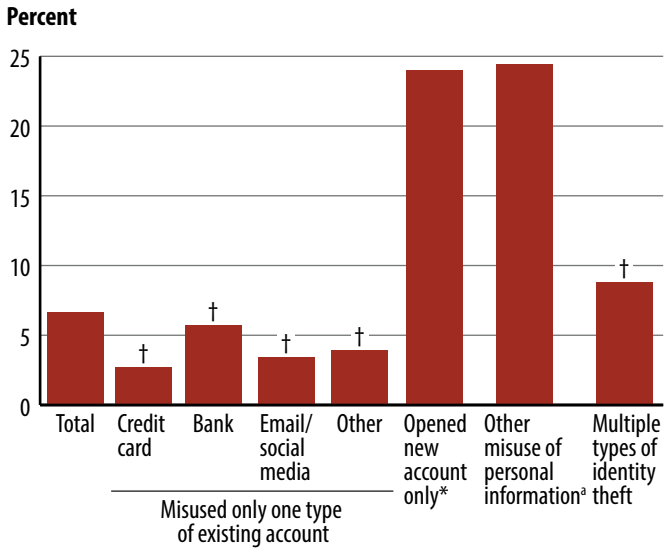
Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

An estimated 7% of identity-theft victims reported the incident to police, while 67% contacted a credit card company or bank

About 7% of victims in 2021 said they reported the most recent identity-theft incident to police or another law enforcement agency (figure 5). Police reporting varied by the type of theft. Victims whose personal information was misused to open a new account (24%) were more likely to report the incident to police than victims of multiple types of identity theft (9%) or victims whose credit card (3%), bank (6%), email or social media (3%), or other (4%) existing account was misused. Victims most commonly did not report identity theft to police because it was handled in another way, such as by the victim, a financial institution, or another organization (57%) (not shown).

FIGURE 5

Victims of identity theft who reported the theft to police, by type of theft, 2021



Note: Estimates are based on the most recent incident of identity theft that occurred in the past year. Less than 1% of victims did not know if the theft was reported to police. See appendix table 13 for estimates and standard errors.

*Comparison group.

†Difference with comparison group is significant at the 95% confidence level.

[a]Includes misuse of personal information for fraudulent purposes other than opening a new account or the misuse of an existing account, such as filing a fraudulent income tax return, getting medical treatment, applying for a job, concealing the offender's identity from police or another government authority (e.g., a Department of Motor Vehicles), applying for government benefits, or carrying out some other fraud.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

Nearly 7 in 10 (67%) victims contacted a credit card company or bank to report the incident, while about 4 in 10 (39%) contacted the business associated with the misuse (table 9). About 7% of victims contacted a credit bureau, 6% contacted a credit-monitoring service, and 3% contacted a document-issuing agency, such as an agency that issues driver's licenses. Two percent of victims contacted a consumer agency, such as the Better Business Bureau. One percent contacted the Federal Trade Commission, and 1% contacted a nonpolice victim services agency. Less than 1% of victims contacted an attorney.

TABLE 9
Victims of identity theft, by type of organization contacted about the theft, 2021

Type of organization contacted	Percent
Credit card company or bank	67.3%
Business associated with misuse	39.4
Credit bureau	7.1
Credit-monitoring services	6.1
Document-issuing agency[a]	3.0
Consumer agency[b]	2.4
Federal Trade Commission	1.3
Victim services agency[c]	0.8
Attorney	0.4
Other	0.8
Number of victims	23,928,600

Note: Estimates are based on the most recent incident of identity theft that occurred in the past year. Details do not sum to 100% because persons could contact multiple organizations. See appendix table 14 for standard errors.

[a]Includes agencies that issue documents, including driver's licenses, Social Security cards, or insurance cards.

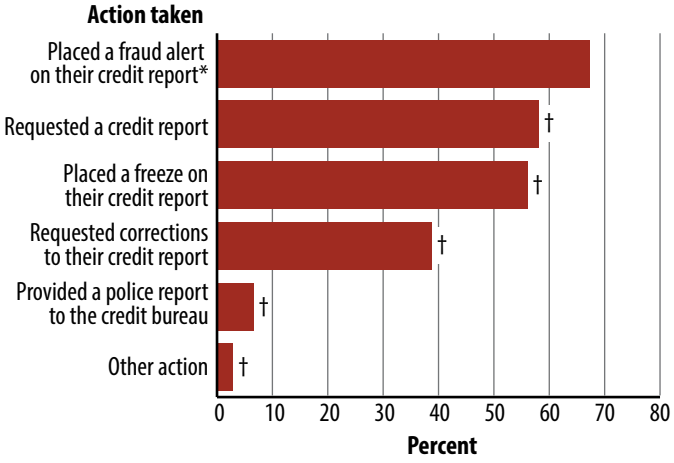
[b]Includes state or local consumer affairs agencies, such as a state attorney general's office, and consumer agencies, such as the Better Business Bureau.

[c]Includes nonpolice agencies that assist victims of crime.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

Of the 7% of identity-theft victims who contacted a credit bureau, 67% placed a fraud alert on their credit report (figure 6). Victims who contacted a credit bureau were more likely to take this action than request a credit report (58%), place a freeze on their credit report (56%), request corrections to their credit report (39%), or provide a police report to the credit bureau (7%).

FIGURE 6
Victims of identity theft who contacted a credit bureau, by action taken, 2021



Note: Estimates are based on the most recent incident of identity theft that occurred in the past year and on the 7% of victims who contacted a credit bureau. Details do not sum to 100% because persons could take multiple actions. See appendix table 15 for estimates and standard errors.

*Comparison group.

†Difference with comparison group is significant at the 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

Lifetime identity theft

As of 2021, about 1 in 5 persons had reported experiencing identity theft in their lifetime

Of the 263 million persons age 16 or older in the United States in 2021, about 22% had been victims of at least one incident of identity theft in their lifetime (table 10). A larger share (7%) of U.S. residents experienced the misuse of an existing credit card during their lifetime than the misuse of a bank (5%), email or social media (2%), or other (1%) existing account. About 7% of U.S. residents experienced multiple types of identity theft during their lifetime: approximately 4% experienced the misuse of multiple types of existing accounts only and 2% experienced multiple types of identity theft, including misuse of an existing account or personal information to open a new account or conduct other fraud.

Of the 59 million persons who were victims of identity theft during their lifetime, 64% experienced the misuse of only one type of existing account. About 30% of victims experienced multiple types of identity theft in their lifetime: 19% experienced misuse of multiple credit card, bank, telephone, online, or other existing accounts, while 10% experienced multiple types of identity theft, including misuse of an existing account or personal information to open a new account or conduct other fraud.

TABLE 10
Victims of identity theft in their lifetime, by type of theft, 2021

Type of identity theft	Number of victims	Percent of all persons age 16 or older	Percent of all victims
Total	58,951,800	22.4%	100%
Misused only one type of existing account	37,900,130	14.4%	64.3%
Credit card*	17,654,720	6.7	29.9
Bank	13,047,580 †	5.0 †	22.1 †
Email/social media	5,490,400 †	2.1 †	9.3 †
Other	1,707,440 †	0.6 †	2.9 †
Opened new account only	1,456,710 †	0.6% †	2.5% †
Other misuse of personal information[a]	2,073,920 †	0.8% †	3.5% †
Multiple types of identity theft	17,521,050	6.7%	29.7%
Existing accounts only[b]	11,419,680 †	4.3 †	19.4 †
Other[c]	6,101,360 †	2.3 †	10.3 †

Note: Details may not sum to totals due to rounding. Estimates are based on any incident of identity theft that occurred in the victim's lifetime. In 2021, there were 263 million persons age 16 or older living in noninstitutionalized, residential settings in the United States. See appendix table 16 for standard errors.

*Comparison group.

†Difference with comparison group is significant at the 95% confidence level.

[a]Includes misuse of personal information for fraudulent purposes other than opening a new account or the misuse of an existing account, such as filing a fraudulent income tax return, getting medical treatment, applying for a job, concealing the offender's identity from police or another government authority (e.g., a Department of Motor Vehicles), applying for government benefits, or carrying out some other fraud.

[b]Includes victims who experienced two or more of the following: misuse of a credit card, bank account, or other existing account.

[c]Includes victims who experienced two or more of the following: misuse of an existing account, personal information to open a new account, or personal information for other fraudulent purposes.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

Female U.S. residents (23%) were more likely than male U.S. residents (22%) to experience identity theft during their lifetime (table 11). U.S. residents who were white (26%) had a higher prevalence of lifetime identity theft than those who were black (17%) or Hispanic (15%). The lifetime prevalence of identity theft was also higher for white persons compared to persons who were Asian or who were Native Hawaiian or Other Pacific Islander (15%). U.S. residents of another race (including American Indian or Alaska Native persons, and persons of two or more races) (29%) had a higher prevalence of lifetime identity theft than those who were white. A higher percentage of persons ages 50–64 (27%) experienced identity theft in their lifetime than any group with the exception of those ages 35–49 (26%). Lifetime identity theft was more prevalent among persons in households earning $200,000 or more a year (33%) than persons in lower income groups. Persons in the highest income group accounted for 12% of victims of lifetime identity theft.

TABLE 11
Demographic characteristics of victims who experienced identity theft in their lifetime, 2021

	Victims of identity theft in their lifetime		
Demographic characteristic	Number of victims	Percent of U.S. residential population age 16 or older[a]	Percent of all victims
Total	58,951,800	22.4%	100%
Sex			
Male*	28,112,460	22.0%	47.7%
Female	30,839,340 †	22.8 ‡	52.3 †
Race/Hispanic origin			
White[b]*	42,921,420	26.3%	72.8%
Black[b]	5,394,580 †	17.0 †	9.2 †
Hispanic	6,613,970 †	14.6 †	11.2 †
Asian/Native Hawaiian/ Other Pacific Islander[b]	2,694,940 †	14.7 †	4.6 †
Other[b,c]	1,326,910 †	28.7 ‡	2.3 †
Age			
16–17	262,540 †	3.4% †	0.4% †
18–24	3,878,220 †	13.3 †	6.6 †
25–34	9,980,460 †	21.9 †	16.9 †
35–49	16,102,200	26.2	27.3
50–64*	16,610,920	26.7	28.2
65 or older	12,117,460 †	21.4 †	20.6 †
Household income[d]			
$24,999 or less	6,400,270 †	16.1% †	10.9% †
$25,000–$49,999	9,944,940 †	16.7 †	16.9 †
$50,000–$99,999	18,942,980 †	22.6 †	32.1 †
$100,000–$199,999	16,722,770 †	28.5 †	28.4 †
$200,000 or more*	6,940,850	32.9	11.8

Note: Details may not sum to totals due to rounding. Estimates are based on any incident of identity theft that occurred in the victim's lifetime. See appendix table 17 for standard errors.

*Comparison group within each demographic characteristic.

†Difference with comparison group is significant at the 95% confidence level.

‡Difference with comparison group is significant at the 90% confidence level.

[a]Estimates are based on the number of persons in each category. For example, the percentage for males is the number of male victims of identity theft divided by the total number of males age 16 or older multiplied by 100.

[b]Excludes persons of Hispanic origin (e.g., "white" refers to non-Hispanic white persons and "black" refers to non-Hispanic black persons).

[c]Includes American Indian or Alaska Native persons, and persons of two or more races.

[d]Missing data were imputed.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

Victims and nonvictims of identity theft

90% of persons age 16 or older took at least one action to prevent identity theft

Persons age 16 or older were asked about the actions they took in the past 12 months to reduce their risk of identity theft, such as checking credit reports, shredding documents with personal information, or changing passwords on financial accounts. Most persons (90%) took at least one action in 2021 to prevent identity theft, regardless of whether they experienced identity theft in 2021 (table 12). A larger percentage of victims (97%) than nonvictims (89%) of identity theft took at least one preventive action. About 2% of victims took no action to reduce their risk of identity theft, lower than the 10% of nonvictims who took no action.

TABLE 12

Actions that persons age 16 or older took in the past 12 months to reduce the risk of identity theft, 2021

Type of action	Total	Nonvictims*	Victims
Any action	90.0%	89.3%	97.4% †
Checked bank or credit statements	82.9	81.8	93.4 †
Shredded or destroyed documents with personal information	73.4	73.1	76.7 †
Checked credit reports	54.4	53.2	66.5 †
Changed passwords on financial accounts	49.8	47.7	70.8 †
Used identity theft security program on computer	26.9	25.7	38.8 †
Purchased identity theft insurance or credit-monitoring service	6.4	6.0	10.7 †
Purchased identity theft protection	10.2	9.7	15.8 †
No action	9.6%	10.4%	1.8% †

Note: Persons whose most recent incident of identity theft occurred earlier than 12 months prior to the interview were classified as nonvictims. See appendix table 18 for standard errors.

*Comparison group.

†Difference with comparison group is significant at the 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

Methodology

Defining identity theft

As with many other types of crime, there is no standard definition of identity theft used nationwide. The Bureau of Justice Statistics (BJS) developed the Identity Theft Supplement (ITS) in conjunction with the Federal Trade Commission (FTC), a consumer protection agency; the U.S. Department of Justice's Office for Victims of Crime, National Institute of Justice, and Bureau of Justice Assistance; and experts from the criminal justice and financial fields. The ITS definition of identity theft is based on the FTC's definition: a fraud that is committed or attempted using a person's identifying information without authority.[2]

Many state legal codes use a similar definition of identity theft but define personal information and types of misuse differently. For example, the California Penal Code specifies that identity theft occurs when an individual "willfully obtains personal identifying information, as defined in subdivision (b) of Section 530.55, of another person, and uses that information for any unlawful purpose, including to obtain, or attempt to obtain, credit, goods, services, real property, or medical information without the consent of that person."[3] The list of personal identifying information includes:

> "any name, address, telephone number, health insurance number, taxpayer identification number, school identification number, state or federal driver's license, or identification number, social security number, place of employment, employee identification number, professional or occupational number, mother's maiden name, demand deposit account number, savings account number, checking account number, PIN (personal identification number) or password, United States Citizenship and Immigration Services-assigned number, government passport number, date of birth, unique biometric data including fingerprint, facial scan identifiers, voiceprint, retina or iris image, or other unique physical representation, unique electronic data including information identification number assigned to the person, address or routing code, telecommunication identifying information or access device, information contained in a birth or death certificate, or credit card number of an individual person, or an equivalent form of identification."[4]

The Pennsylvania Consolidated Statutes state that "a person commits the offense of identity theft of another person if he possesses or uses, through any means, identifying information of another person without the consent of that other person to further any unlawful purpose."[5] It defines identifying information as "any document, photographic, pictorial or computer image of another person, or any fact used to establish identity, including, but not limited to, a name, birth date, Social Security number, driver's license number, nondriver governmental identification number, telephone number, checking account number, savings account number, student identification number, employee or payroll number or electronic signature."[5]

The primary categories of identity theft that the ITS used were modeled after a survey on identity theft that the FTC conducted in 2005 and 2006. The identity-theft categories specified in the initial FTC survey were (1) the misuse of an existing credit card account, (2) the misuse of an existing noncredit card account, and (3) the misuse of personal information to open new accounts or to engage in types of fraud other than the misuse of existing or new financial accounts.[6] The ITS split the third category into two separate groups: misuse of personal information to open new accounts and misuse of personal information for fraudulent behavior other than the misuse of existing or new accounts.

Timing

The timing of identity-theft incidents is an important aspect of this crime type. Victims of identity theft may not know until much later that their identity was stolen or used in a fraudulent way. It is important to consider this potential lag when analyzing data related to these incidents.

[2]See https://www.ftc.gov/news-events/press-releases/2004/10/ftc-issues-final-rules-facta-identity-theft-definitions-active.

[3]California Penal Code Part 1, Title 13, Chapter 8, Section 530.5.

[4]California Penal Code Part 1, Title 13, Chapter 8, Section 530.55.

[5]Pennsylvania Consolidated Statutes Title 18, Chapter 41, Section 4120.

[6]See Synovate. (2007). *Federal Trade Commission – 2006 Identity Theft Survey Report*. Federal Trade Commission. https://www.ftc.gov/sites/default/files/documents/reports/federal-trade-commission-2006-identity-theft-survey-report-prepared-commission-synovate/synovatereport.pdf.

Possible overreporting of losses from jointly held accounts

When persons experience the unauthorized use of a jointly held account, both persons might report the same financial harm or loss, resulting in double counting. The ITS did not ask if a loss from an account was reported by another respondent who also held that account. Therefore, any overreporting due to joint account holders could not be adjusted for. While the 2021 ITS did not specifically ask respondents about misused joint accounts, about 1% of identity-theft victims reported experiencing the same type of identity theft and amount of direct loss during the most recent incident as another person in their household (not shown).

Top-coding loss amounts

Some large loss amounts reported by identity-theft victims can create outliers in the distribution of loss amounts reported by all victims. Leaving these amounts unchanged could lead to disclosure of their identities. To protect respondents from disclosure, the U.S. Census Bureau, which collects the ITS data for BJS, uses a method called "top-coding" to mask outliers. This method was used on continuous variables in the 2021 ITS that captured financial loss amounts from identity-theft victims.[7]

Identity Theft Supplement to the National Crime Victimization Survey

In 2021, the ITS was administered as a supplement to the National Crime Victimization Survey (NCVS). From July 1 to December 31, approximately 133,800 persons age 16 or older in sampled NCVS households received the ITS at the end of the NCVS interview. Respondents were required to complete their NCVS interview to participate in the ITS. Proxy respondents (those who respond on behalf of other household members) did not receive the ITS. If the NCVS interview was conducted in a language other than English, the ITS interview was made available in that language by either the interviewer or a reliable translator. All NCVS and ITS interviews were conducted using computer-assisted personal interviewing via telephone or a personal visit. A final sample size of about 93,300 persons from among the original NCVS-eligible respondents completed the ITS questionnaire, representing a weighted person response rate of 69%.

[7]For more information, see https://www.census.gov/library/working-papers/2019/adrm/CED-WP-2019-005.html.

The combined ITS response rate, computed as a product of the NCVS household response rate and ITS person response rate, was about 46%. Due to the level of nonresponse, a nonresponse bias analysis was conducted. It examined response rates, respondent and nonrespondent distributions, and modeled estimates, using data from the ITS, NCVS sampling frame, the most recent block group planning database, and the most current data from the FBI's Uniform Crime Reporting (UCR) Program and the Illinois State Police crime report. The result of the analysis suggested that there was little to no substantive bias due to nonresponse in the ITS estimates.[8]

The ITS collected individual data on the prevalence of, and victim response to, successful misuse of an existing account, misuse of personal information to open a new account, or misuse of personal information for other fraudulent purposes. Respondents were asked whether they experienced any of these types of misuse in their lifetime and in the 12 months prior to the interview.

Persons who reported experiencing one or more incidents of identity theft in the prior 12 months were asked questions about the incident and their response to the incident, such as the date of the most recent incident; how they discovered the identity theft; financial, credit, and other problems resulting from the incident; time spent resolving associated problems; and reporting to police and credit bureaus. For most sections of the survey instrument, the ITS asked victims who experienced multiple incidents during the 12-month reference period to describe only the most recent incident. It asked victims who experienced multiple incidents of identity theft during the year to provide details on the total financial losses they experienced as a result of all incidents. It also asked all respondents a series of questions about identity theft they experienced outside of the 12-month reference period and about measures they took to avoid or minimize the risk of becoming an identity-theft victim.

Attempted identity theft was excluded from the survey, and misuse of an existing email or social media account was added as a type of identity theft separate from misuse of other existing accounts. Due to the combined impact of these survey changes, comparisons between 2021 and previous ITS estimates should not be made.

[8]For more information, see the Source and Accuracy Statement for the 2021 Identity Theft Supplement (ITS) in the ITS 2021 Codebook at https://www.icpsr.umich.edu/web/NACJD/studies/38429/datadocumentation.

For more information on previous ITS data collections, see the publications listed at: https://bjs.ojp.gov/library/publications/list?series_filter=Identity%20Theft.

The National Crime Victimization Survey

The NCVS is an annual data collection conducted by the U.S. Census Bureau for BJS. The NCVS is a self-report survey that is administered annually from January 1 to December 31. Annual NCVS estimates are based on the number and characteristics of crimes that respondents experienced during the prior 6 months, excluding the month in which they were interviewed. Therefore, the 2021 survey covers crimes experienced from July 1, 2020 to November 30, 2021, with March 15, 2021 as the middle of the reference period. Crimes are classified by the year of the survey and not by the year of the crime.

The NCVS is administered to persons age 12 or older from a nationally representative sample of U.S. households. It collects information on nonfatal personal crimes (rape or sexual assault, robbery, aggravated assault, simple assault, and personal larceny (purse-snatching and pocket-picking)) and household property crimes (burglary or trespassing, motor vehicle theft, and other types of theft). The survey collects information on threatened, attempted, and completed crimes. It collects data both on crimes reported and not reported to police. In addition to providing annual level and change estimates on criminal victimization, the NCVS is the primary source of information on the nature of criminal victimization incidents.

Survey respondents provide information about themselves (including age, sex, race, Hispanic origin, marital status, education level, and income) and whether they experienced a victimization. For each victimization incident, respondents report information about the offender (including age, sex, race, Hispanic origin, and victim-offender relationship), characteristics of the crime (including time and place of occurrence, use of weapons, nature of injury, and economic consequences), whether the crime was reported to police, reasons the crime was or was not reported, and experiences with the criminal justice system.

Household information, including household-level demographics (e.g., income) and property victimizations committed against the household (e.g., burglary or trespassing), is typically collected from the reference person. The reference person is any responsible adult (age 18 or older) member of the household who is unlikely to permanently leave the household. Because an owner or renter of the sampled housing unit is normally the most responsible and knowledgeable household member, this person is generally designated as the reference person and household respondent. However, a household respondent does not have to be one of the household members who owns or rents the unit.

In the NCVS, a household is defined as a group of persons who all reside at a sampled address. Persons are considered household members when the sampled address is their usual place of residence at the time of the interview and when they have no primary place of residence elsewhere. Once selected, households remain in the sample for 3.5 years, and all eligible persons in these households are interviewed every 6 months, either in person or over the phone, for a total of seven interviews.

First interviews are typically conducted in person, with subsequent interviews conducted either in person or by phone. New households rotate into the sample on an ongoing basis to replace outgoing households that have been in the sample for the full 3.5-year period. The sample includes persons living in group quarters, such as dormitories, rooming houses, and religious group dwellings, and excludes persons living on military bases or in institutional settings such as correctional or hospital facilities.[9]

Standard error computations

When national estimates are derived from a sample, as with the NCVS, caution must be used when comparing one estimate to another or when comparing estimates over time. Although one estimate may be larger than another, estimates based on a sample have some degree of sampling error. The sampling error of an estimate depends on several factors, including the amount of variation in the responses and the size of the sample. When the sampling error around an estimate is taken into account, estimates that appear different may not be statistically significant.

One measure of the sampling error associated with an estimate is the standard error. The standard error may vary from one estimate to the next. Generally, an estimate with a smaller standard error provides a more reliable approximation of the true value than an estimate with a larger standard error. Estimates with relatively large standard errors have less precision and reliability and should be interpreted with caution.

[9]For more information, see https://bjs.ojp.gov/data-collection/ncvs.

For complex sample designs, there are several methods that can be used to generate standard errors around a point estimate (e.g., counts, percentages, and rates). These include direct variance estimation and generalized variance function (GVF) parameters.

BJS used Taylor Series Linearization (TSL) methods to generate standard errors around some estimates. The TSL method directly estimates variances through a linearized function by combining variance estimates from the stratum and primary sampling units (PSUs) used to sample households and persons.[10] In the NCVS, the design parameters used for computing TSL variances are PSEUDOSTRATA (stratum) and HALFSAMPLE (PSU). The standard errors for estimates in tables 5, 6, and 7 were estimated using TSL.

Another method used to produce standard errors for ITS estimates is through GVF parameters. The U.S. Census Bureau produces GVF parameters for BJS, which account for aspects of the NCVS's and ITS's complex sample design and represent the curve fitted to a selection of individual standard errors, using a specialized version of balanced repeated replication based on Fay's method. The standard errors for all figures and for tables 1 through 4 and 8 through 11 were generated using GVFs.

GVFs express the variance as a function of the expected value of the survey estimate.[11] The GVF parameters are generated by fitting estimates and their relative variance to a regression model, using an iterative weighted least squares procedure where the weight is the inverse of the square of the predicted relative variance. For more information, see the most recent version of the *National Crime Victimization Survey, 2016: Technical Documentation* (NCJ 251442, BJS, December 2017). GVF parameters are available in the codebooks published with the NCVS public use files through the National Archive of Criminal Justice Data.[12]

Direct variance estimation—TSL—is generally considered more accurate than GVFs in terms of how closely the variance estimate approximates the true variance. With direct variance estimation, each estimate is generated based on the outcome being estimated rather than being generated based on a generalized function.

[10]See Wolter, K. M. (2007). Introduction to variance estimation (2nd ed.). Springer. https://doi.org/10.1111/j.1751-5823.2007.00030_7.x.

[11]Ibid.

[12]See https://www.icpsr.umich.edu/web/NACJD/series/95.

BJS conducted statistical tests to determine whether differences in estimated numbers, percentages, and rates in this report were statistically significant once sampling error was taken into account. Using statistical analysis programs developed specifically for the NCVS, all comparisons in the text of this report were tested for significance. The primary test procedure was the Student's t-statistic, which tests the difference between two sample estimates. Findings described in this report as increases or decreases passed a test at either the 0.05 level (95% confidence level) or 0.10 level (90% confidence level) of significance. Figures and tables in this report should be referenced for testing on specific findings.

Estimates and standard errors of the estimates in this report may be used to generate a confidence interval around the estimate as a measure of the margin of error. The following example illustrates how standard errors may be used to generate confidence intervals:

> Based on the 2021 ITS, an estimated 9.1% of persons age 16 or older experienced identity theft in the past year. (See figure 1.) Using GVFs, BJS determined that the estimated percentage has a standard error of 0.15%. (See appendix table 1.) A confidence interval around the estimate is generated by multiplying the standard error by ± 1.96 (the t-score of a normal, two-tailed distribution that excludes 2.5% at either end of the distribution). Therefore, the 95% confidence interval around the 9.1% estimate from 2021 is 9.1 ± (0.15 × 1.96) or (8.81% to 9.39%). In other words, if BJS used the same sampling method to select different samples and computed an interval estimate for each sample, it would expect the true population parameter (percentage of persons who were victims of identity theft in the past year) to fall within the interval estimates 95% of the time.

Confidence intervals for flagged estimates should be interpreted with caution, as large standard errors may result in a lower bound estimate of less than zero. For this report, BJS also calculated a coefficient of variation (CV) for all estimates, representing the ratio of the standard error to the estimate. CVs (not shown) provide another measure of reliability and a means for comparing the precision of estimates across measures with differing levels or metrics.

APPENDIX TABLE 1

Estimates and standard errors for figure 1: Persons age 16 or older who experienced at least one identity-theft incident in the past 12 months, by type of theft, 2021

	Estimate		Standard error	
Type of identity theft	Number of victims	Percent of all persons age 16 or older	Number of victims	Percent of all persons age 16 or older
Total	23,928,600	9.1%	387,427	0.15%
Misused at least one existing account	21,518,450	8.2%	366,050	0.14%
Credit card*	9,104,270	3.5	228,588	0.09
Bank	7,383,530 †	2.8 †	203,568	0.08
Email/social media	5,586,320 †	2.1 †	174,458	0.07
Other	2,501,300 †	1.0 †	112,155	0.04
Opened new account	1,605,650 †	0.6% †	88,139	0.03%
Other misuse of personal information[a]	2,317,740 †	0.9% †	107,585	0.04%

Note: Details do not sum to totals because persons could experience more than one type of identity theft. In 2021, there were 263 million persons age 16 or older living in noninstitutionalized, residential settings in the United States.

*Comparison group.

†Difference with comparison group is significant at the 95% confidence level.

[a]Includes misuse of personal information for fraudulent purposes other than opening a new account or the misuse of an existing account, such as filing a fraudulent income tax return, getting medical treatment, applying for a job, concealing the offender's identity from police or another government authority (e.g., a Department of Motor Vehicles), applying for government benefits, or carrying out some other fraud.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

APPENDIX TABLE 2

Standard errors for table 1: Victims of identity theft, by type of most recent incident of theft, 2021

Type of identity theft	Number of victims	Percent of all persons age 16 or older	Percent of all victims
Total	387,427	0.15%	~
Misused only one type of existing account	334,160	0.13%	0.66%
Credit card	202,136	0.08	0.69
Bank	175,771	0.07	0.63
Email/social media	142,201	0.05	0.53
Other	80,780	0.03	0.32
Opened new account only	58,976	0.02%	0.24%
Other misuse of personal information	89,143	0.03%	0.36%
Multiple types of identity theft	131,708	0.05%	0.50%
Existing accounts only	102,619	0.04	0.40
Other	76,315	0.03	0.31

~Not applicable.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

APPENDIX TABLE 3

Standard errors for table 2: Demographic characteristics of victims of identity theft in the past 12 months and the U.S. residential population age 16 or older, 2021

	Victims of identity theft in the past 12 months		
Demographic characteristic	Number of victims	Percent of U.S. residential population age 16 or older	Percent of all victims
Total	387,427	0.15%	~
Sex			
Male	253,730	0.19%	0.76%
Female	277,427	0.20	0.76
Race/Hispanic origin			
White	320,026	0.19%	0.71%
Black	114,182	0.34	0.44
Hispanic	118,743	0.25	0.46
Asian/Native Hawaiian/ Other Pacific Islander	74,706	0.39	0.30
Other	52,009	1.04	0.21
Age			
16–17	21,347	0.27%	0.09%
18–24	100,576	0.33	0.40
25–34	145,997	0.30	0.55
35–49	182,992	0.28	0.64
50–64	194,058	0.29	0.67
65 or older	161,617	0.27	0.59
Household income			
$24,999 or less	122,338	0.29%	0.47%
$25,000–$49,999	149,907	0.24	0.56
$50,000–$99,999	208,409	0.24	0.70
$100,000–$199,999	188,203	0.30	0.66
$200,000 or more	115,538	0.50	0.45

~Not applicable.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

APPENDIX TABLE 4

Standard errors for table 3: Ways that victims discovered identity theft, by type of theft, 2021

Ways victims discovered identity theft	Any identity theft	Misused at least one existing account	Other identity theft
Contacted by financial institution about suspicious activity	0.64%	0.69%	0.85%
Noticed fraudulent charges on account	0.58	0.63	0.49
Notified by company or agency	0.45	0.38	2.14
Noticed money missing from account	0.41	0.45	0.40
Notified by family or friends	0.38	0.41	0.80
Contacted financial institution to report a theft	0.34	0.37	0.36
Received a bill or contacted about an unpaid bill	0.24	0.24	0.96
Credit card declined, check bounced, or account closed due to insufficient funds	0.19	0.20	0.24
Discovered through credit report or credit monitoring service	0.17	0.16	0.89
Problems with applying for a loan, applying for government benefits, or filing income taxes	0.13	0.09	0.95
Received merchandise or card that victim did not order or did not receive product the victim ordered	0.13	0.10	0.86
Notified by police	0.08	0.07	0.55
Another way	0.48	0.49	1.63
Do not know	0.06	0.07	0.15
Number of victims	387,427	366,050	109,904

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

APPENDIX TABLE 5

Estimates and standard errors for figure 2: Victims of identity theft who knew something of the offender's identity or how the offender obtained their personal information, by type of theft, 2021

	Knew something of offender's identity		Knew how offender obtained personal information	
Type of identity theft	Estimate	Standard error	Estimate	Standard error
Total	5.4%	0.32%	21.2%	0.60%
Misused only one type of existing account				
Credit card	3.6% †	0.45%	20.5% †	1.01%
Bank	5.7 †	0.64	25.6	1.24
Email/social media	5.4 †	0.75	14.6 †	1.19
Other	6.7 †	1.37	21.6 ‡	2.29
Opened new account only*	12.7%	2.45%	29.2%	3.37%
Other misuse of personal information[a]	5.4% †	1.13%	15.8% †	1.85%
Multiple types of identity theft	6.9% †	0.90%	23.8%	1.54%

Note: Estimates are based on the most recent incident of identity theft that occurred in the past year.

*Comparison group.

†Difference with comparison group is significant at the 95% confidence level.

‡Difference with comparison group is significant at the 90% confidence level.

[a]Includes misuse of personal information for fraudulent purposes other than opening a new account or the misuse of an existing account, such as filing a fraudulent income tax return, getting medical treatment, applying for a job, concealing the offender's identity from police or another government authority (e.g., a Department of Motor Vehicles), applying for government benefits, or carrying out some other fraud.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

APPENDIX TABLE 6

Standard errors for table 4: Victims of identity theft who knew how the offender obtained their personal information, by method offender used and type of theft, 2021

Type of identity theft	Knew how offender obtained personal information	Method offender used				
		Used cyber-enabled means	Found/stole from place	Stole during in-person transaction	Stole from files	Other
Total	165,559	1.46%	0.93%	1.13%	1.09%	1.12%
Misused only one type of existing account	141,105	1.70%	1.10%	1.39%	1.12%	1.17%
Credit card	84,783	2.63	1.76	2.32	1.75	1.61
Bank	83,378	2.61	2.02	2.44	1.39	1.76
Email/social media	50,377	4.31	1.56	1.17	3.39	3.69
Other	35,842	5.91	2.13	2.16	5.09	4.47
Opened new account only	30,857	3.71%	2.95%	1.68%	6.24%	6.77%
Other misuse of personal information	33,501	4.33%	2.56%	~	6.29%	5.78%
Multiple types of identity theft	60,552	3.55%	2.26%	2.25%	2.85%	2.85%

~Not applicable.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

APPENDIX TABLE 7

Standard errors for table 5: Financial loss for all incidents of identity theft, 2021

Estimate	Financial loss
Total	$1,310,534,130
Mean	$90
Percent of victims experiencing a loss	0.67%
Number of victims	387,427

Note: Standard errors for the mean and percentage were calculated using direct estimation.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

APPENDIX TABLE 8

Standard errors for table 6: Financial loss from victims' most recent incident of identity theft, by type of theft and loss, 2021

		Misused only one type of existing account						Multiple types of identity theft	
Type of financial loss	Total identity theft	Credit card	Bank	Email/ social media	Other	Opened new account only	Other misuse of personal information	Existing accounts only	Other
Any loss									
Mean	$40	$40	$50	$730	$130	$670	$380	$160	$340
Percent experiencing a loss	0.68%	0.98%	0.95%	0.90%	2.74%	3.28%	1.85%	2.20%	2.78%
Direct									
Mean	$40	$40	$50	$850	$130	$670	$430	$160	$340
Percent experiencing a loss	0.69%	1.00%	0.96%	0.76%	2.75%	3.21%	1.82%	2.22%	2.72%
Indirect									
Mean	$30	$10	$70	$130	$70	$280	$180	$120	$110
Percent experiencing a loss	0.24%	0.39%	0.54%	0.61%	0.80%	1.45%	0.94%	0.86%	1.34%
Total out of pocket									
Mean	$50	$70	$90	$500	$50	$510	$400	$150	$230
Percent experiencing a loss	0.46%	0.73%	1.15%	0.79%	2.04%	2.10%	1.26%	1.71%	1.86%
Number of victims	387,427	202,136	175,771	142,201	80,780	58,976	89,143	102,619	76,315

Note: Standard errors for the means and percentages were calculated using direct estimation.
Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

APPENDIX TABLE 9

Estimates and standard errors for figure 3: Length of time that victims spent resolving financial or credit problems associated with identity theft, by type of theft, 2021

	Total identity theft		Misused only one type of existing account		Opened new account only		Other misuse of personal information[a]		Multiple types of identity theft	
	Estimate	Standard error	Estimate	Standard error	Estimate	Standard error	Estimate	Standard error	Estimate	Standard error
Problems not resolved	8.6%	0.40%	6.9%	0.41%	16.4%	2.73%	14.1%	1.77%	13.1%	1.21%
Problems resolved	85.7%	0.54%	89.0%	0.55%	70.9%	3.40%	71.2%	2.35%	78.3%	1.53%
Time to resolve										
1 day or less	55.8	0.81	58.3	0.89	47.9	4.40	45.5	3.02	46.8	2.06
2 to 7 days	18.6	0.61	18.7	0.68	15.6	3.17	18.7	2.34	18.2	1.57
8 days to less than 1 month	15.0	0.55	14.1	0.60	16.9	3.28	16.2	2.21	19.4	1.61
1 month to less than 3 months	7.0	0.39	6.0	0.40	11.7	2.80	11.6	1.91	10.1	1.21
3 months to less than 6 months	1.9	0.20	1.4	0.19	4.9 !	1.88	3.3	1.06	3.3	0.71
6 months or more	1.0	0.15	0.9	0.15	0.8 !	0.77	2.3	0.88	1.6	0.50
Time unknown	0.7	0.12	0.6	0.12	2.1 !	1.25	2.4	0.90	0.5 !	0.28
Resolution unknown	5.7%	0.32%	4.1%	0.31%	12.7%	2.45%	14.7%	1.80%	8.7%	1.00%

Note: Estimates are based on the most recent incident of identity theft that occurred in the past year.

! Interpret with caution. Estimate is based on 10 or fewer sample cases, or coefficient of variation is greater than 50%.

[a]Includes misuse of personal information for fraudulent purposes other than opening a new account or the misuse of an existing account, such as filing a fraudulent income tax return, getting medical treatment, applying for a job, concealing the offender's identity from police or another government authority (e.g., a Department of Motor Vehicles), applying for government benefits, or carrying out some other fraud.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

APPENDIX TABLE 10

Standard errors for table 7: Number of hours that victims spent resolving financial or credit problems associated with identity theft, 2021

	Problems resolved	Problems not resolved
Type of identity theft	Mean	Mean
Total	0.17 hrs.	0.59 hrs.
Misused only one type of existing account	0.20 hrs.	0.75 hrs.
Credit card	0.14	0.92
Bank	0.50	2.34
Email/social media	0.51	0.77
Other	0.34	1.76
Opened new account only	0.92 hrs.	3.77 hrs.
Other misuse of personal information	0.69 hrs.	1.88 hrs.
Multiple types of identity theft	0.53 hrs.	1.79 hrs.
Existing accounts only	0.57	2.42
Other	1.08	2.74

Note: Standard errors were calculated using direct estimation.
Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

APPENDIX TABLE 11

Standard errors for table 8: Victims who experienced emotional distress from identity theft, by severity of stress and type of theft, 2021

Type of identity theft	Severe	Moderate	Mild	None
Total	0.42%	0.63%	0.76%	0.59%
Misused only one type of existing account	0.43%	0.69%	0.86%	0.70%
Credit card	0.55	1.04	1.29	1.06
Bank	0.86	1.24	1.44	1.08
Email/social media	0.90	1.30	1.71	1.54
Other	1.36	2.27	2.81	2.37
Opened new account only	2.82%	3.33%	3.63%	2.78%
Other misuse of personal information	1.72%	2.37%	2.55%	1.73%
Multiple types of identity theft	1.39%	1.63%	1.82%	1.18%
Existing accounts only	1.67	2.00	2.27	1.52
Other	2.36	2.70	2.89	1.79

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

APPENDIX TABLE 12

Estimates and standard errors for figure 4: Victims who experienced severe emotional distress from identity theft, by length of time they spent resolving associated financial or credit problems, 2021

	Experienced severe distress	
Time to resolve	Estimate	Standard error
1 day or less	3.7% †	0.37%
2 to 7 days	7.8 †	0.90
8 days to less than 1 month	13.0 †	1.26
1 month to less than 3 months	20.3	2.19
3 months to less than 6 months	25.7	4.51
6 months or more*	29.3	6.26

Note: Estimates are based on the most recent incident of identity theft that occurred in the past year.
*Comparison group.
†Difference with comparison group is significant at the 95% confidence level.
Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

APPENDIX TABLE 13

Estimates and standard errors for figure 5: Victims of identity theft who report the theft to police, by type of theft, 2021

	Reported theft to police	
Type of identity theft	Estimate	Standard error
Total	6.6%	0.35%
Misused only one type of existing account		
Credit card	2.7% †	0.39%
Bank	5.7 †	0.64
Email/social media	3.4 †	0.59
Other	3.9 †	1.05
Opened new account only*	24.0%	3.17%
Other misuse of personal information[a]	24.4%	2.19%
Multiple types of identity theft	8.8% †	1.01%

Note: Estimates are based on the most recent incident of identity theft that occurred in the past year. Less than 1% of victims did not know if the theft was reported to police.

*Comparison group.

†Difference with comparison group is significant at the 95% confidence level.

[a]Includes misuse of personal information for fraudulent purposes other than opening a new account or the misuse of an existing account, such as filing a fraudulent income tax return, getting medical treatment, applying for a job, concealing the offender's identity from police or another government authority (e.g., a Department of Motor Vehicles), applying for government benefits, or carrying out some other fraud.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

APPENDIX TABLE 14

Standard errors for table 9: Victims of identity theft, by type of organization contacted about the theft, 2021

Type of organization contacted	Percent
Credit card company or bank	0.72%
Business associated with misuse	0.74
Credit bureau	0.36
Credit-monitoring services	0.33
Document-issuing agency	0.23
Consumer agency	0.21
Federal Trade Commission	0.15
Victim services agency	0.12
Attorney	0.08
Other	0.12
Number of victims	387,427

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

APPENDIX TABLE 15

Estimates and standard errors for figure 6: Victims of identity theft who contacted a credit bureau, by action taken, 2021

Action taken	Estimate	Standard error
Placed a fraud alert on their credit report*	67.2%	2.39%
Requested a credit report	58.1 †	2.50
Placed a freeze on their credit report	56.1 †	2.52
Requested corrections to their credit report	38.8 †	2.46
Provided a police report to the credit bureau	6.6 †	1.22
Other action	2.8 †	0.81

Note: Estimates are based on the most recent incident of identity theft that occurred in the past year and on the 7% of victims who contacted a credit bureau. Details do not sum to 100% because persons could take multiple actions.

*Comparison group.

†Difference with comparison group is significant at the 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

APPENDIX TABLE 16

Standard errors for table 10: Victims of identity theft in their lifetime, by type of theft, 2021

Type of identity theft	Number of victims	Percent of all persons age 16 or older	Percent of all victims
Total	606,561	0.23%	~
Misused only one type of existing account	491,758	0.19%	0.51%
Credit card	328,929	0.13	0.47
Bank	278,790	0.11	0.41
Email/social media	172,796	0.07	0.28
Other	91,121	0.03	0.15
Opened new account only	83,622	0.03%	0.14%
Other misuse of personal information	101,266	0.04%	0.17%
Multiple types of identity theft	327,573	0.12%	0.46%
Existing accounts only	259,066	0.10	0.39
Other	183,177	0.07	0.29

~Not applicable.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

APPENDIX TABLE 17

Standard errors for table 11: Demographic characteristics of victims who experienced identity theft in their lifetime, 2021

	Victims of identity theft in their lifetime		
Demographic characteristic	Number of victims	Percent of U.S. residential population age 16 or older	Percent of all victims
Total	606,561	0.23%	~
Sex			
Male	421,846	0.30%	0.52%
Female	442,685	0.30	0.52
Race/Hispanic origin			
White	522,993	0.30%	0.48%
Black	171,123	0.48	0.27
Hispanic	191,538	0.39	0.30
Asian/Native Hawaiian/ Other Pacific Islander	116,819	0.58	0.19
Other	79,518	1.42	0.13
Age			
16–17	33,715	0.42%	0.06%
18–24	142,643	0.45	0.23
25–34	240,499	0.46	0.37
35–49	312,846	0.44	0.45
50–64	318,199	0.44	0.46
65 or older	267,673	0.42	0.40
Household income			
$24,999 or less	188,088	0.43%	0.30%
$25,000–$49,999	240,026	0.37	0.37
$50,000–$99,999	341,737	0.36	0.48
$100,000–$199,999	319,364	0.46	0.46
$200,000 or more	196,720	0.74	0.31

~Not applicable.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

APPENDIX TABLE 18

Standard errors for table 12: Actions that persons age 16 or older took in the past 12 months to reduce the risk of identity theft, 2021

Type of action	Total	Nonvictims	Victims
Any action	0.19%	0.20%	0.25%
Checked bank or credit statements	0.23	0.25	0.39
Shredded or destroyed documents with personal information	0.27	0.28	0.65
Checked credit reports	0.30	0.31	0.73
Changed passwords on financial accounts	0.30	0.31	0.70
Used identity theft security program on computer	0.25	0.25	0.73
Purchased identity theft insurance or credit-monitoring service	0.12	0.12	0.44
Purchased identity theft protection	0.16	0.16	0.53
No action	0.15%	0.16%	0.18%

Source: Bureau of Justice Statistics, National Crime Victimization Survey, Identity Theft Supplement, 2021.

The Bureau of Justice Statistics of the U.S. Department of Justice is the principal federal agency responsible for measuring crime, criminal victimization, criminal offenders, victims of crime, correlates of crime, and the operation of criminal and civil justice systems at the federal, state, tribal, and local levels. BJS collects, analyzes, and disseminates reliable statistics on crime and justice systems in the United States, supports improvements to state and local criminal justice information systems, and participates with national and international organizations to develop and recommend national standards for justice statistics. Kevin M. Scott, PhD, is the acting director.

This report was written by Erika Harrell, PhD, and Alexandra Thompson. Emilie Coen and Stephanie Mueller verified the report.

David Fialkoff edited the report. Jeffrey Link produced the report.

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APPENDIX 22

U.S. Department of Health and Human Services, Office of Inspector General, Birth Certificate Fraud, 2000

Department of Health and Human Services

OFFICE OF INSPECTOR GENERAL

BIRTH CERTIFICATE FRAUD

JUNE GIBBS BROWN
Inspector General

SEPTEMBER 2000
0EI-07-99-00570

OFFICE OF INSPECTOR GENERAL

The mission of the Office of Inspector General (OIG), mandated by Public Law 95-452, as amended by Public Law 100-504, is to protect the integrity of the Department of Health and Human Services programs as well as the health and welfare of beneficiaries served by them. This statutory mission is carried out through a nationwide program of audits, investigations, inspections, sanctions, and fraud alerts. The Inspector General informs the Secretary of program and management problems and recommends legislative, regulatory, and operational approaches to correct them.

Office of Evaluation and Inspections

The Office of Evaluation and Inspections (OEI) is one of several components of the Office of Inspector General. It conducts short-term management and program evaluations (called inspections) that focus on issues of concern to the Department, the Congress, and the public. The inspection reports provide findings and recommendations on the efficiency, vulnerability, and effectiveness of departmental programs.

OEI's Region VII, Kansas City office prepared this report under the direction of James H. Wolf, Regional Inspector General, and Brian Pattison, Deputy Regional Inspector General.
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EXECUTIVE SUMMARY

PURPOSE

To provide an update on the nature and extent of birth certificate fraud.

BACKGROUND

Legitimate birth certificates provide vital information about the person whose name appears on the certificate. Issuing birth certificates is the responsibility of State vital records registrars and numerous local issuing entities. While originally intended for the sole purpose of birth registration, birth certificates are now used extensively for employment purposes and to obtain benefits or other documents used for identification.

Over the last 25 years, a number of studies have addressed problems related to false identification and the misuse of birth certificates. These studies conclude that false identification is a major factor in crime, and that most, if not all, Federal fugitives and drug trafficking crimes are associated with false identification. They also conclude that stolen, counterfeit, and altered birth certificates are often used as "breeder documents" that allow the holder to obtain documents needed to create new identities. The Office of Inspector General has conducted three inspections focused specifically on birth certificate fraud that identified a number of vulnerabilities in birth certificate processes. Because so many Federal and State agencies rely on birth certificates to assist them in determining eligibility for services and benefits, it is important that these agencies have current information on the nature and extent of birth certificate fraud to assist them in the proper assignment and protection of benefits.

This inspection was initiated at the request of the Department of Health and Human Services to provide information which the Department could use in responding to responsibilities placed on it as a result of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996.

We used two mechanisms to gather information. We gathered general information regarding vital records policies and procedures from 53 primary vital records registrars using mail surveys. We also collected more in-depth information through personal interviews with State registrars, fraud investigators, and local and State vital records, Passport Services, Immigration and Naturalization Services, Social Security Administration, and public assistance staff in five States and New York City. We also met with the Center for Disease Control and Prevention (CDC), National Center for Health Statistics, staff who provided us with comments on the draft of this report.

FINDINGS

Fundamental, Irreconcilable Conflicts Surround Birth Certificate Purposes and Uses

A certified copy of a birth certificate is proof only that a birth occurred and was recorded. For that purpose, it may be desirable that the public be allowed easy access to them. However, the agencies and organizations that use birth certificates as proof of

identification for employment purposes, to obtain benefits or other documents (e.g., driver's licenses, Social Security cards, and passports), and to assist them in determining eligibility for public assistance and other benefits, may have concerns with how easily certified copies of birth certificates can be obtained. These conflicting perspectives are at the very heart of the birth certificate controversy.

Birth Certificates Continue to be Used as "Breeder Documents" and are Easy to Obtain

Virtually all Federal and State agencies agree that fraudulent birth certificates are used as "breeder documents" to obtain the genuine documents needed to create new identities, and that fraudulent birth certificates are easy to obtain. Factors which contribute to their use as "breeder documents" include the following:

- currently, *6,422 different entities issue birth certificates*. This large number of State, county, city, township, and other entities that issue birth certificates increases opportunities for fraud, theft, bribery, and other methods of illegally obtaining birth certificates;
- *thirteen States allow "open" access* to birth records, which allows virtually anyone to purchase copies of any birth certificates on file; and
- *birth certificates can be purchased without identification* from some vital records offices and issuing entities.

Birth Certificate Fraud is Hard to Detect

Many altered or counterfeit birth certificates and genuine birth certificates held by imposters may go undetected. The reasons why these fraudulent birth certificates are hard to detect include the following:

- *over 14,000 different versions of birth certificates are in circulation*;
- *nearly 4 million* United States births were registered in 1999;
- *security features* contained in the paper used to issue birth certificates, as well as formats and signatures, vary among State vital records offices and the many local entities issuing them;
- *technological advances* in the Internet, scanners, color printers, and copiers make it easier to obtain genuine birth certificates and create counterfeit ones;
- between 85 and 90 percent of the birth certificate fraud encountered by the Immigration and Naturalization Services and Passport Services staff is the result of *genuine birth certificates held by imposters* -- the most difficult fraud to detect; and
- Federal and State agency staff report receiving only *limited training* focused on the detection of fraudulent birth certificates.

State Practices Create Opportunities for Fraud

It was the consensus of those we interviewed that a number of State practices create opportunities for fraud. Those practices include the following:

- *delayed, amended, and midwife birth registrations* that are based on affidavits of personal knowledge, include no documentary evidence, and are not often marked or overlaid accordingly;
- *delays in matching death and birth records* can make the identities of many deceased persons easy to assume between the time the person dies and the time the death and birth records are matched;
- questionable *physical security* situations that create opportunities for fraud; and
- *limited oversight* of local issuing entities by State vital records offices.

Birth Certificate Fraud is Seldom Prosecuted

Virtually all of the Federal and State agency staff we talked with indicate birth certificate fraud is seldom prosecuted unless it can be linked to large dollar losses or other punishable crimes. Most staff also indicate that many prosecutors are reluctant, or refuse to take birth certificate fraud cases in which the only charge is attempting to obtain another individual's birth certificate, or counterfeiting or altering a birth certificate. At the same time, misconceptions exist surrounding the security and integrity of birth certificates.

CONCLUSIONS

Birth Certificates Alone do not Provide Conclusive or Reliable Proof of Identity

Many agencies and organizations request that individuals provide their birth certificates to receive a benefit or service, or to support the issuance of other documents often used for identity purposes (e.g., driver's license). However, agencies who rely on birth certificates as a means of establishing identity must understand the limitations of accepting a birth certificate as proof of age, citizenship, or identity. For example, genuine documents obtained with counterfeit birth certificates can be used to obtain genuine birth certificates. Thus, it is inherently illogical to require someone to prove their identity using potentially fraudulent identity documents spawned by false birth certificates in order to obtain a birth certificate.

Further, it would be Impractical to Redesign Birth Certificates to Make them Reliable Identification Documents in and of Themselves

Efforts to make the birth certificate into a reliable identity document are complicated by the more than 14,000 different legitimate versions in existence, and the more than 6,000 entities which issue them and the processes they use to do so. Efforts are also complicated by the ease with which birth certificates can legitimately be obtained and counterfeited, and the fact that the majority of fraud is now being committed by imposters

using genuine birth certificates. Also, any changes to the birth certificate itself will take essentially a lifetime to become effective.

Some Efforts to Redesign Birth Certificates Might Even be Undesirable

The primary purpose for which birth certificates were created -- to document and record births -- is served well by the large number of entities that issue them and the technology which makes them readily and quickly available. Because redesigning birth certificates could jeopardize their availability, to do so might be undesirable. Unfortunately, that availability contributes to fraud and the unreliability of birth certificates as identification documents.

Nevertheless, Since Birth Certificates can Play an Important Role in Establishing Identity, Their Integrity Should be Improved

When used in combination with other documents, birth certificates can add to the level of proof in establishing eligibility and identity. As noted previously, many agencies use them in this way. Therefore, it is important that the processes used to issue birth certificates be standardized and recent advances in technology utilized to ensure birth certificate integrity parallels that of other identification documents. It is also important that user agencies be vigilant in their detection of fraudulent documents and documents held by imposters. We have included consensus suggestions for improving the birth certificate process and the detection of fraud in the body of the report.

In Addition, Federal and State Program Administrators Should Assess the Proofs of Identity They Will Accept

Even if their security is improved, birth certificates may still not be the best proof of identity. For this reason, program administrators may not want to use birth certificates at all, or use them only with other documents, as noted above. Agencies need to specify documents and methods of proving identity (e.g., fingerprints, testimony of relatives) they will accept in determining eligibility for services. Given what we have learned, if program administrators continue to include birth certificates in the proofs of identity they will accept, they should also reconsider what steps they will take to detect fraudulent certificates and to secure valid ones.

TABLE OF CONTENTS

INTRODUCTION

PURPOSE

To provide an update on the nature and extent of birth certificate fraud.

BACKGROUND

The Birth Certificate Process

Legitimate birth certificates provide vital information about the person whose name appears on the certificate (i.e., legal proof of parentage, citizenship, date, place, and time of birth). While originally intended for those purposes, their role has evolved to the point where they are now used extensively for employment purposes and to obtain benefits or other documents (e.g., driver's licenses, Social Security cards, passports, State identification documents). The issuance of birth certificates in the United States is the responsibility of 57 State vital records registrars and numerous other entities assigned vital records responsibility.

No Federal requirements exist regarding the reporting and collection of birth certificate information. However, the 1992 *Model State Vital Statistics Act and Regulations* published by the National Center for Health Statistics within the Centers for Disease Control and Prevention (CDC) state that "Even though the legal responsibility for the registration of vital records rests with the individual States, the States and the National Center for Health Statistics (the Federal partner) work together to build a uniform system that produces records to satisfy the legal requirements of individuals and their families and also to meet statistical and research needs at the local, State, and national levels. The cooperation includes the development and promotion of standard certificates and reporting forms, training and quality control programs, and model legislation." The information contained on birth certificates is the basis for the vital record information reported to the National Center for Health Statistics by State vital records registrars. States report vital records information without names to the National Center for Health Statistics for research and statistical purposes.

Previous Reports on Birth Certificate Fraud

Federal Advisory Committee on False Identification - Problems related to false identification and misuse of birth certificates have been addressed in a number of studies conducted over the last 25 years. In 1974, the Federal Advisory Committee on False Identification (FACFI), commissioned by the Attorney General of the United States, recognized the criminal use of false identification documents. In its 1976 report entitled

The Criminal Use of False Identification, the committee concluded that 100 percent of all Federal fugitives and 80 percent of all drug trafficking are associated with false identification. They also reported that false identification is a major factor in crime, including illegal immigration and flight from justice, and that falsified or stolen vital statistics (i.e., birth certificates) are used as "breeder documents." ("Breeder documents" refer to documents that allow the holder to obtain other documents -- passports, driver's licenses, etc. -- and benefits, such as resident status, Social Security benefits, loans, and other government aid, including Temporary Assistance to Needy Families, Food Stamps, and Medicaid). The Federal Advisory Committee also issued a supplemental report entitled *A Plan for Reducing the Abuse of Birth Certification*. In 1984, the Laws at Work Task Force, co-chaired by top HHS officials, issued a report entitled *A Report of the Task Force on Criminal Implications of False Identification*. These two reports on false identification have findings similar to the 1976 report.

National Association for Vital Records - In 1995, the National Association for Vital Records and Health Statistics (now called the National Association for Public Health Statistics and Information Systems), issued a staff report identifying many of the same problems associated with birth certificate fraud. They recommended uniformity and standardization of the forms and paper used to issue certified copies of birth certificates and further suggested that more resources be directed toward matching death and birth information.

Office of Inspector General - The Office of Inspector General (OIG) conducted two inspections focused specifically on birth certificate fraud (*Birth Certificate Fraud*, OAI-86-02-00001, March 1988, and *Birth Certificate Fraud Update - A Management Advisory Report*, OEI-02-91-01530, December 1991). The OIG also issued a third report (*Citizenship and Alien Verification - Information*, September 1996) in which birth certificates were discussed. The first inspection identified vulnerabilities in the birth certificate process, the many forms of birth certificates in existence, and issuance procedures. The report recommended both interstate and intrastate standardization of birth certificates, minimum security standards, and improvements in matching death and birth records, and further recommended that States work cooperatively with the Social Security Administration (SSA) to establish procedures to issue Social Security numbers to infants at birth. The second inspection was conducted in response to a request from the Commissioner of the Social Security Administration and summarized SSA's efforts to control birth certificate fraud, which included verification of United States Virgin Island birth certificates and assignment of Social Security numbers at birth. In this study, we found the nature and extent of birth certificate fraud relatively unchanged since 1988 and that major weaknesses continued to hamper the reliability of birth certificates as evidence of eligibility for program services and benefits, even though some incremental improvements had been made. We reported the same problems and weaknesses in our 1996 report.

This Inquiry

This inspection was initiated at the request of the Department of Health and Human Services in the fall of 1999. The Department requested that the OIG provide information that the Department could use in responding to responsibilities placed on it as a result of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996. More specifically, the Act requires the Secretary to "submit a report to Congress on ways to reduce the fraudulent obtaining and use of birth certificates." This inspection focuses on the processes of issuing and fraud associated with certified copies of birth certificates. The OIG was asked to provide this information because of our previous work in the area of birth certificate fraud at a time when the SSA was located within the Department, and because public assistance programs currently funded by the Department still rely on birth certificates as one proof of identification in determining eligibility. Further, because so many State and Federal agencies rely on birth certificates in determining eligibility for services and benefits, we feel it is important that they have current information regarding the status of birth certificate fraud.

METHODOLOGY

We used two mechanisms to conduct this inspection. We first solicited information from the 57 primary vital records offices (50 States, Guam, Puerto Rico, United States Virgin Islands, American Samoa, Commonwealth of the Northern Mariana Islands, New York City, and Washington, DC) using mail surveys. This enabled us to quickly gather general information regarding vital records policies and procedures; security measures in place to protect against birth certificate fraud; coordination with other agencies; and enforcement penalties for committing identity fraud. Of the 57 surveys mailed, 53 were completed and returned. We received completed surveys from vital records registrars in each of the 50 States, and New York City, Washington, DC, and Puerto Rico. We did not receive completed surveys from American Samoa, Commonwealth of the Northern Mariana Islands, Guam, or the United States Virgin Islands.

We selected six locations -- five States (California, Florida, Massachusetts, New Mexico, and Texas) and New York City -- for additional data collection. Of these States, 4 were among the 11 States included in the 1988 and 1991 OIG inspections, as was New York City. The original 11 sites were selected because they represent states with large cities, cities that serve as major ports, or cities along the United States-Mexico border where birth certificate fraud was more concentrated. Because we believe this premise remains valid, we included some of these same States in this study. We included New Mexico based on information obtained from State registrars, the Immigration and Naturalization Service, and the National Center for Health Statistics during preinspection. The locations selected represent a mix of States with "open" and "restricted" (limited) public access to records, and include various geographic regions.

In the six locations, we collected more in-depth information about the coordination between agencies, matching death registration and birth certificates, security measures, enforcement, and the effects of new technology on birth certificate fraud. This information was obtained through personal interviews with State registrars, fraud investigators, local and State vital records agency staff, and local and State Temporary Assistance for Needy Families agency staff. We also collected information from the Departments of Motor Vehicles and Food Stamps staffs who require birth certificates as proof of eligibility for program services or benefits, and officials from SSA, Immigration and Naturalization Service, and State Department's Passport Services. We also met with the Center for Disease Control and Prevention, National Center for Health Statistics staff who provided us with comments on the draft of this report

We conducted this inspection in accordance with the ***Quality Standards for Inspections*** issued by the President's Council on Integrity and Efficiency.

FINDINGS

In conducting this inspection, we heard many stories of people whose lives have been adversely affected by birth certificate fraud -- people who were personally victimized by stolen identities and suffered financial ruin. Others stories were more far-reaching, describing the criminal use of fraudulent birth certificates to evade law enforcement for crimes already committed, commit bank or credit card fraud, or obtain services and benefits for which individuals were not entitled. We also heard stories about fraudulent birth certificates used by terrorists and drug traffickers to acquire passports for international travel, and by illegal aliens attempting to avoid detection and deportation. The common threads running through each of these stories are 1) fraudulent birth certificates were involved, 2) most false identity crimes go undetected, 3) once detected, few false identity crimes are successfully prosecuted, and ultimately, 4) each one of us is affected by birth certificate fraud every day.

Recent Congressional and media attention on the subjects of identity theft and the sale of false identification documents via the Internet, and the statements of State and Federal staff with whom we spoke, reflect concerns regarding the fraudulent use of birth certificates. Virtually everyone with whom we spoke indicated that they believe birth certificate fraud is increasing, and 34 State registrars responded in the survey that birth certificate fraud has increased in the last 10 years.

To this end, the primary focus of this report and the majority of our findings address the status of birth certificate fraud. However, one of our most striking findings is related to the disconnect between the intended purposes of birth certificates and the purposes for which they are used.

Fundamental, Irreconcilable Conflicts Surround Birth Certificate Purposes and Uses

A Birth Certificate is Proof Only that a Birth Occurred and was Recorded. It is important to recall the intended purpose of a birth certificate -- to certify that a birth was documented and recorded. For that purpose, it is not unreasonable that State laws allow public access to these records. Efforts to restrict access to birth certificates would diminish their value for the purpose they were originally designed to serve.

However, Birth Certificates are Used as Proof of Age, Citizenship, and Identity. Birth certificates are widely recognized as proof of age, place of birth, and identity. They are also used extensively for employment purposes, to obtain benefits or other documents (e.g., driver's licenses, Social Security cards, and passports), to assist in determining eligibility for public assistance and other benefits, to enroll children in school, and as proof of age eligibility for sports and other age restricted activities. However, because

they were never designed to provide sole proof of identity, and because a birth certificate cannot be positively linked with an individual, their use for that purpose is questionable.

Concerns about Birth Certificates are Largely the Result of Conflicting Perspectives. The key to understanding the conflicts between the goals of State and local entities who register births and issue birth certificates and agencies and organizations that rely on birth certificates as proof of identification is understanding and interpreting individual perspectives. For example, those seeking access to public records may look favorably on vital records offices' efforts to make it easier to request and obtain birth certificates, while those using birth certificates for identity purposes may have concerns with how easily certified copies of birth certificates can be obtained.

These varying perspectives are at the very heart of the birth certificate controversy and should be kept in mind as you read the following findings related to birth certificate fraud.

Birth Certificates Continue to be Used as "Breeder Documents" and Are Easy to Obtain

As we previously reported in 1988, 1991, and 1996, birth certificates continue to be used as "breeder documents" from which other supporting documents can be secured to alter identities and fraudulently obtain services and benefits. Virtually all Federal and State agencies agree that fraudulent birth certificates are used to obtain genuine documents, and in concert with other fraudulent documents, to create new identities. The perpetrator usually begins with a purchased, stolen, counterfeit, or altered birth certificate. The birth certificate is then used as the basic evidence of age, citizenship, and identity to seek and obtain other documents and/or benefits.

Birth Certificate ➜ Social Security Card ➜ Driver's License
= Services/Benefits/Credit/Crime

The following two instances demonstrate how birth certificates have provided the basis for improper program payments.

> A joint investigation conducted by the Assistant U.S. Attorney for the Southern District of Texas in cooperation with the Immigration and Naturalization Services, Social Security Administration, public assistance, Food Stamps, U.S. Postal Service, and Secret Service identified 100 cases in which fraudulent birth certificates had been used to obtain public assistance, Food Stamps, and Medicaid benefits totaling $514,741.[1]

[1] Source: Texas Department of Human Services, Office of Inspector General

> In another case, fraudulent birth certificates found at the scene of an automobile accident were linked to $1 million in public assistance and Food Stamps fraud. Some of the birth certificates used to obtain these services were genuine documents that had been sold by the persons whose names appeared on them. Others were counterfeit documents printed on genuine birth certificate banknote paper used by one State's vital records office, which investigators suspect were acquired as "part of an inside job." Staff interviewed in a public assistance agency referred to the children created to obtain these services as "paper babies" because they exist only on paper, for the sole purpose of fraudulently obtaining benefits.[2]

The first step in understanding why birth certificates are easy to obtain, thus making them useful as "breeder documents," is to understand how they are issued. It is also important to know that the issuance of birth certificates varies from State to State and can vary within States. Factors which contribute to the continued use of birth certificates as "breeder documents," and that remain relatively unchanged since our earlier reports are as follows.

Currently, 6,422 Entities Issue Birth Certificates. The majority of States use a decentralized approach for issuing birth certificates, relying on local offices over which they have limited control. In 39 States and Puerto Rico, birth certificates are issued by a number of local vital records registrars and other officials (e.g., county clerks, justices of the peace, mayors) in county, city, and township offices in addition to the State vital records office. Only 11 States, Washington, DC, and New York City use a centralized operation for issuing birth certificates.

The large number of locations issuing birth certificates potentially increases the opportunities for fraud, theft, bribery, or other methods to illegally obtain birth certificates. In total, the registrars responding to our survey report 6,417 different locations where birth certificates can be issued. The National Center for Health Statistics indicates an additional five entities issue birth certificates within the jurisdictions of the four primary vital registrars that did not respond to our survey. A chart outlining the reported number of locations where birth certificates are issued in each State, New York City, Washington, DC, and Puerto Rico is located in Appendix A.

Most State and county issuing offices are located within the auspices of their respective health departments. The sale of birth certificates serves as source of revenue for States and the only source of revenue for some State health departments, thus creating no disincentive for issuing birth certificates. The sale of birth certificates can serve also as a major source of revenue for many local offices. For these departments and offices, restrictions on the issuance of birth certificates could adversely affect revenues.

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[2] Source: Kansas Department of Health and Environment, Center for Health and Environmental Statistics, Office of Vital Statistics

Some States Allow "Open" Access to Birth Records. In 36 States, New York City, Washington, DC, and Puerto Rico, access to birth records is considered "restricted." In these locations only the person listed on the birth certificate and others designated for access by State or local governments (e.g., parent, child, sibling, grandparent, or others who demonstrate a direct and tangible interest) can obtain certified copies of a birth certificate. However, in 14 States, public access to birth records is "open" at the State or local level, and virtually anyone can review birth records or purchase a copy of any birth certificate from issuing entities as long as they know the name and birth date of the person listed on the birth certificate. There are 2,375 such "open" access locations in these States, which account for 37 percent of the 6,422 issuing offices nationwide.

- Ten of the 14 States allow "open" access at both the State and local levels and treat requests for birth certificates the same in all locations.

- Two States allow "open" access at the State level, but allows only "restricted" access in all local offices within the State.

- Two States allow only "restricted" public access to birth records at the State level, but "open" at the local level. They allow birth registration indexes and/or actual birth certificates to be openly viewed in local offices and thus provide enough information to request copies of certificates from the State registrar's office.

We have identified "open" access at both the State and local level, and the number of issuing offices in each of those States, in the following chart.

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Open Access to Vital Records

State	Issuing Entities: State Level	Issuing Entities: Local Level	Total Number of Issuing Offices
California	✓	✓	63
Iowa		✓	101
Kentucky	✓		1
Maine	✓	✓	498
Massachusetts	✓	✓	352
Minnesota	✓	✓	98
New Jersey	✓	✓	566
North Carolina		✓	102
Ohio	✓	✓	144
South Dakota	✓	✓	65
Tennessee	✓		28
Vermont	✓	✓	248
Washington	✓	✓	34
Wisconsin	✓	✓	75
			2,375

Copies of birth certificates can be obtained from primary vital records offices and local entities by using a variety of methods. With the exception of California, all of the responding primary vital records registrars indicate birth certificates can be obtained from their offices on a "walk-in" basis. All 53 State vital records offices and local offices in 34 States also issue birth certificates in response to requests they receive in the mail. Thirty-eight primary offices and an unknown number of local offices in seven States also allow credit card purchases of birth certificates based on telephone requests. Birth certificates can also be purchased through the Internet in 29 States, and from an unknown number of local offices.

Proof of Identification Is Not Always Required to Obtain Copies of Birth Certificates. Proof of identification is required for walk-in requests in only 30 primary vital records offices and local offices in 19 States. In addition, only 11 States require persons to provide proof of identification when requesting copies of birth certificates by mail. Local offices in fewer States (7) require proof of identification for mail requests. Even fewer primary and local offices request proof of identification for Internet and facsimile requests as indicated in the following chart.

Number of Vital Records Offices Accepting Type of Request and Proof of Identification Required

Type of Request	State Accept/Require ID	Local Accept/Require ID
Walk-in	52/30	39/19
Phone/Credit Card	38/7	10/1
Mail/Check or Money Order	53/11	34/7
Mail/Credit Card	22/2	8/2
Internet/Credit Card	29/5	3/2
Facsimile/Credit Card	41/9	10/2

When asked what they consider acceptable forms of identification, the registrars interviewed said they would prefer a driver's license or State issued identification card as proof of identity, but some indicated they would also accept identification documents with "any type of control number" (e.g., employment badges, library cards, bus passes) or utility bills as proof of identification. We also learned the laws in one "open access" State (California) prohibit issuing offices from asking for identification. As long as the person requesting the birth certificate can provide the required information (i.e., name, date of birth), he or she can obtain a certified copy of a birth certificate. In addition to the lack of identification documents, 43 States also have no limits on the number of copies of birth certificates that can be purchased, and 31 States have no restrictions on the age of persons to whom they will sell birth certificates. The lack of restrictions make it easier to perpetrate systematic fraud.

Fraudulent Birth Certificates are Hard to Detect

With the exception of detection by highly trained Immigration and Naturalization Services and Passport Services staff, information we obtained indicates many altered or counterfeit birth certificates and genuine birth certificates held by imposters may go undetected. Officials who use birth certificates to determine eligibility for services and benefits say they fail to detect many fraudulent documents, and the ones they do detect are "only the tip of the iceberg." In attempting to identify fraudulent birth certificates, SSA, public assistance, Department of Motor Vehicles, and some Immigration and Naturalization Service staff indicate their efforts to detect fraudulent birth certificates focus only on obvious alterations, such as erasures, smudges, white-out, misspelled words, offset margins, poor seals, dates that do not match, or photocopies. However, information we obtained indicates birth certificates are vulnerable to fraud beyond the obvious in the following areas.

The Large Number of Legitimate Birth Certificates in Circulation Make Fraud Detection Difficult. Staff at the Immigration and Naturalization Service's Forensics Document Laboratory[3] estimate more than 14,000 different versions of legitimate birth certificates currently exist. The number of different versions is the result of the more than 6,000 entities issuing birth certificates using different formats, types of paper, and different signatures (e.g., State registrars, county registrars, or clerks, mayors, and justices of the peace). Once a birth certificate is issued, it never expires, meaning that security features added to new birth certificates will offer no protection against fraud in previously issued birth certificates. The National Center for Health Statistics reports that 3,957,829 United States births were registered in 1999.

In addition, responses to our survey revealed State vital records offices currently issue 113 different types of certified copies of birth records. This number does not account for the number of variations in local office issuance. Fifty-one of the 53 primary vital records offices issue certified photocopies of actual birth records, 37 issue certified copies of computerized abstracts of birth records, 17 issue wallet-sized birth certificates/cards, and 8 issue commemorative birth certificates, each with their own unique security features and signatures. In addition, survey respondents report that, in 20 States, local entities issue full photocopies of actual birth records, 16 States' local entities issue certified copies from computerized abstracts, 17 States' local entities issue wallet-sized certificates, and 4 States' local entities can issue commemorative birth certificates.

Differences in Paper, Security Features, Formats, and Signatures Make Fraudulent Birth Certificates Hard to Detect. All State vital records offices issue birth certificates on security paper, but the security features vary from State-to-State. Some local offices

[3] The Forensics Document Laboratory provides a wide variety of forensic document analysis and law enforcement services for the Immigration and Naturalization Services and other Federal, State, and local law enforcement agencies. It also develops and presents training programs in the detection of fraudulent documents, assists in identifying fraudulent documents, and acts as a liaison in promoting common efforts to combat international document fraud.

also issue birth certificates on security paper, but in 14 of the local offices with local issuance they use different security paper than the State vital records office. (One local office we visited issues birth certificates on plain white bond paper.) The security features most often used by both State and local offices are serial numbers, watermarks, and micro-line printing. Other paper security features used include intaglio and steel-engraved borders, ultraviolet ink, security threads, substrate paper or ink, hidden voids, and latent images. A chart outlining the security features contained in the paper used by State vital records registrars is located in Appendix B.

Adding to the potential number of different types of valid birth certificates in existence is the unknown number of changes in paper used to issue birth certificates, the number of different formats used, and the number of different registrars' signatures that have appeared on birth certificates since the birth registration began in most States in the early 1900's. State registrars interviewed estimate periodic changes in paper and/or formats occur every 8 to 10 years, and that registrar signatures could change more frequently, especially when registrars are local elected officials (e.g., county clerks, mayors). States and local offices also make changes in the vendors from whom they purchase their security paper. Some change vendors annually because State laws require that they purchase from the lowest bidder. Local offices also make periodic changes in the vendors from whom they order their security paper, and many order paper based on State issued specifications, but not from the same vendor used by the State.

Technological Advances Make Counterfeit Birth Certificates Easy to Create and Hard to Detect. Advances in communication (e.g., the Internet) and technologies (e.g., scanners, color printers and copiers) make it easier to obtain genuine birth certificates fraudulently or to create fraudulent birth certificates. These technological advances render the once standard methods of detecting fraudulent documents generally ineffective. With the exception of one public assistance office, which requires every applicant to be fingerprinted, virtually everyone we talked with says technology has made birth certificate fraud more likely. This is supported by the 27 primary vital records registrars responding to our survey who also say that technology has created new opportunities for fraud.

Our discussions also reveal that technology has made birth certificates the "path of least resistance" because, as other departments and agencies have increased the security features in their documents (e.g., Social Security cards, driver's licenses, and immigration documents), less secure birth certificates have been targeted for counterfeiting. As previously noted, counterfeit birth certificates are then used to obtain genuine Social Security cards, driver's licenses, and, ultimately, new identities. With each genuine document acquired, a person's new identity becomes harder to detect.

Information available through the Internet poses a significant security risk to the integrity of birth certificates. Not only are birth certificates available through the Internet, but the vital statistics necessary to request some birth certificates can be found using the Internet as well. Some vital records offices also post indexes, containing the names and birth dates of people for whom they have registered births, on their websites.

At least one local vital records office, at one time, posted scanned copies of actual birth certificates on their website. Many hospitals also have established websites where they post newborn information, and independent companies offer websites that allow parents to share their newborn's vital records information with anyone who accesses the site. We found many websites offering information to assist in creating new identities and websites offering "novelty" fake identification (many of which include birth certificates, Social Security cards, and driver's licenses). Federal and State staff we spoke with said the price "on-the-street" for a new identity, which includes a birth certificate, and often a driver's license and Social Security card, is between $500 and $1,200.

Most Birth Certificate Fraud is Committed Using Genuine Documents. An alarming fact is that most of the fraudulent documents identified by Immigration and Naturalization Services staff are genuine documents held by imposters, the most difficult frauds to detect. For example, staff in the El Paso Intelligence Center[4] indicate that 90 percent of the false claims cases they see involve bonafide birth certificates held by imposters. Passport Services staff report parallel statistics, stating that 85 percent of the birth certificate fraud they encounter also is the result of genuine birth certificates held by imposters. Further, vital records registrars responding to our survey indicate they have encountered persons impersonating others to obtain genuine copies of those persons' birth certificates, individuals who had purchased birth certificates from the persons' named on the birth certificate, and persons who had stolen or acquired stolen birth certificates.

Federal and State agency staff say genuine documents held by imposters are difficult to detect. They also note that increased customer service is impacting their abilities to detect fraudulent documents and say serving a large number of customers with limited resources leaves little time to examine identification documents. We highlight our discussions with them below.

- *Public Assistance* and *Food Stamps* agency staff say they detect virtually no birth certificate fraud.
- *SSA* staff report detecting only limited attempts at birth certificate fraud.
- *Immigration and Naturalization Service* regional office staff indicate they may only be detecting common alternations and obvious counterfeits.
- *Passport Services* staff note fraudulent birth certificates are getting harder to detect and that imposters are almost impossible to detect once they have obtained a genuine passport.

[4] The El Paso Intelligence Center is staffed by the Drug Enforcement Agency, Immigration and Naturalization Services, and 13 other agencies to collect information on drug trafficking, immigration violations, and other crimes.

Agencies Receive Little Training Focused on the Detection of Fraudulent Birth Certificates. Staff who depend on birth certificates as proof of citizenship and eligibility for services or benefits report receiving little training focused on the detection of fraudulent birth certificates, and that training received is focused on "obvious attempts at counterfeiting." As such:

- *SSA* district and field office staff, and *Department of Motor Vehicles* office employees indicate they receive only limited training focused on the identification of fraudulent birth certificates.

- *Public Assistance* and *Food Stamps* agency staff note receiving little or no training to assist them in detecting fraudulent birth certificates.

- *Immigration and Naturalization Service* staff receive internal training to assist them in the identification of fraudulent birth certificates, but it is limited.

- *Passport Services Staff* in regional offices and the National Passport Services Center are responsible for issuing passports and receive training focused on birth certificate fraud. However, the over 4,500 acceptance agents located primarily in Post Offices and State and Federal Courts receive little training in the identification of fraudulent birth certificates.

State Practices Create Opportunities for Fraud

Delayed, Amended, and Midwife Birth Registrations Provide Opportunities for Fraud. State and local vital records staff say birth certificates issued based on delayed and amended birth registrations are more likely to be fraudulent. They also say they consider births registered by midwives, and other home births, to have a high potential for fraud.

Delayed birth registration occurs when a certificate of birth is not filed within the time specified by State law. Delayed birth registrations are sometimes the result of unattended home births, midwife births, and other out-of-hospital births. *The Model State and Vital Statistics Act and Regulations* require delayed certificates to be issued for births not filed within 1 year. Based on our survey responses, the State median time frame for filing delayed registrations is 1 year, but varies from State-to-State and ranges between 10 days and 4 years.

Federal and State staff alerted us to problems with delayed birth registration. These problems arise from the lack of evidence required to file a delayed birth in some States. Not all States include information with birth certificates about the documentary evidence they accept as proof a birth occurred, and upon which delayed registrations are allowed, with delayed birth certificates. Likewise, the documentary evidence required to register delayed births is inconsistent among States. Forty-seven States accept affidavits of

personal knowledge as proof a birth occurred, and 14 include no abstract of documentary evidence when issuing delayed birth certificates.

Amended birth registration occurs when changes are made to the vital information contained on the original birth registration. While we did not specifically address amended birth registrations in our survey, they were identified as problematic in our discussions with Federal agency and State vital records office staff. The overall concern surrounding amended registrations is similar to that of delayed registrations in that some States do not require substantial evidence to amend birth registrations and that birth certificates issued based on amended registrations are not clearly marked as having been "amended." One State registrar also noted a growing problem in which adults are adopted by other adults, usually for inheritance purposes. In these cases, the adopted person undergoes a legal change of name and their birth record is altered, but the fact that the adoption took place is never recorded in any way on the original or amended birth certificate.

Midwife birth registrations were also identified as an area of concern. Midwives provide a valuable service in insuring the healthy delivery of children and accurate registration of births. However, out-of-hospital births attended by midwives have raised concerns. Sixteen State registrars indicate they have encountered problems specifically linked to midwife birth registration. Our discussions with Federal, State, and local staff during our onsite visits indicate that problems associated with midwife registrations are concentrated along the United States-Mexico border. In fact, midwife registration has become such a problem in one border city we visited that they now require a police officer to be called to the scene shortly after any midwife delivery to verify that the birth actually occurred in the United States. All 41 States that allow midwives to register births have procedures and guidelines in place for such registration, but only 17 of those States require information in addition to or different from that required for hospital births. The additional information required to register midwife births in these States can include attendant affidavits, prenatal and/or post-partum records, and notarized statements or other documentation verifying the birth took place. In addition, some States require that midwives provide documentation that the mother lived in the State at the time the birth occurred.

Delays in Matching Death and Birth Records Create Opportunities for Fraud. While our contacts all agreed that matching death and birth information is a strong deterrent to improper use of a genuine birth certificate, delays in matching those records present opportunities for fraud. In our interviews, we heard many stories in which the identity of a deceased person was assumed by obtaining a copy of their birth certificate. In these stories, imposters chose their new identities from names listed in newspaper obituary columns, from newspaper articles about individuals who had been murdered or killed in accidents, or from cemetery markers. Others had assumed the identities of deceased friends or family members. In each case, the imposter obtained a copy of the deceased person's birth certificate before it had been matched with the death registration.

With the exception of one State (Connecticut), primary vital records registrars responding to our survey say their offices match death and birth registrations and that they send information regarding deaths occurring in their State to the States in which the deceased individuals were born. They indicate most death information is transmitted to other States by mail (47), but some States (12) also transmit information electronically, and 1 State transmits death information to other States by facsimile.

Forty registrars indicate the time between when a death is registered and the time the death is recorded on a birth record creates opportunities for fraud, and 24 registrars say they do not consider the receipt of death information from other States to be timely. Thirty registrars indicate that, on the average, they provide batched death notification to other States between 1 and 3 months after the death, 11 say between 3 to 6 months after death, 4 say between 6 and 12 months, and 4 say it takes them 12 months or longer to provide death information to other States. The result is that, even though a State may send information to other States on a monthly basis, because of delays and batching of records, the deaths may have occurred many months before the death and birth records can be matched.

Once received, limited resources have forced most States to establish priorities to determine which death and birth records will be matched, and, as a result, 40 States have established priorities for matching death and birth records. As such, 20 States give priority status to matching death registrations for infants under the age of 1 year, and 17 States assign priority status to deceased individuals under the age of 45.

Adding to the problems associated with birth certificates of deceased individuals is the fact that five State registrars do not mark original birth records maintained in the State vital records office "deceased," and six do not issue certified copies clearly marked "deceased." In addition, birth certificates issued from computerized abstracts by those offices are not marked "deceased" in 3 of the 37 States that issue them. When asked if they would attempt to gain additional information if the information provided to them was insufficient to provide a positive match between the death registration and a birth record, only 27 registrars said yes.

Physical Security Creates Opportunities for Fraud. Despite the statements of registrars, we observed a number of questionable security situations during our onsite visits. Fifty-two of the responding registrars say they keep the paper used to print birth certificates in secured areas (e.g., locked cabinets, vaults, safes, and locked rooms) outside business hours. During business hours however, we observed a number of instances where birth certificate information or the paper used to print birth certificates were not secured. State registrars also indicate the number of vital records employees with access to birth certificate paper ranges between 3 and 60.

In our visits to local offices we also observed a number of situations we consider vulnerable. For instance, in one local office:

- certified copies of birth certificates ready for customer pick-up were kept in a box just inside the customer service counter, in plain view of the public, and well within arms-reach of anyone;

- office copies of carbon-set applications used over the last several years to request copies of birth certificates (and containing all the information needed to obtain additional copies) were kept rubber-banded together and stacked in open boxes on the floor just inside the back door; and

- several stacks of unclaimed birth certificates (some printed as far back as 1995) were kept on a shelf in a small locked closet.

Destruction of Documents - The destruction of documents and tools also poses a security problem in some offices. Some State registrars told us they are required to contract with the lowest bidder for destruction of unused or voided birth certificate paper, applications, microfilm, and embossing equipment. In some States, vital records staff "hand-shred" documents and place them in open containers for pick-up and machine shredding at a later date. In one State, paper slated for destruction was stolen or sold, and ultimately used to create fraudulent birth certificates. In that same State, applications and voided documents are now "hand-shredded" and stored in boxes awaiting a new contract for the destruction of documents.

Employee Background Checks - In spite of the fact that 25 State registrars say that birth certificate fraud has been committed by vital records employees in their State, only 14 States conduct background checks on vital records office employees.

Use by Sports Teams - Another security issue and opportunity for fraud brought to our attention was the use of birth certificates by sports team coaches to prove age and eligibility of players. Every day, thousands of certified copies of birth certificates are carried around on clip boards at ball parks across the country, and in one known instance, a coach discarded birth certificates in a trash container at the end of a season. In other instances, birth certificates used for sports activities were alleged to have been sold across the border to assist illegal aliens to gain entry into the United States.

Access to Computer Files - In our discussions with Federal and State staff, we noted a number of staff with direct access to vital records information via computer terminals. While such access allows SSA, public assistance, and Food Stamps staff to quickly verify birth record information online, it increases the number of people with access to that information. In one office, the password to enter the system was printed on a piece of paper taped to the edge of the computer screen.

Limited Oversight of Local Offices Makes Them Vulnerable to Fraud. Of the 42 States with local issuance, State vital records staff conduct monitoring visits to the local offices in their States on an annual basis in only 18 States and biannually in only 3 States. However, we question some States' abilities to conduct monitoring of between 300 and 500 local offices annually or biannually. In 10 other States, registrars say they also conduct monitoring visits to local issuing offices, but do so only on an "as needed" or occasional basis. There are 2,767 local issuing entities in States where monitoring is done "as needed" or occasionally.

State registrars say the activities conducted during onsite visits can include auditing records, reviewing laws and regulations with issuing staff, providing onsite training, and reviewing security procedures and issues. Many local offices have never been visited by State vital records staff. Staff in those offices that have been visited say the visits are usually nothing more than quick audits of their financial records related to the sale of birth certificates. In another State, the large number of local offices prohibits visiting all of them, so a self-assessment form is used to gather information about security in those offices. By completing this survey, the State vital records office not only gains information about the local offices, but it also educates local office staff regarding security measures.

Very few state vital records staff are assigned responsibility for the detection of fraud, and only 24 States employ someone responsible for fraud activities. However, in 16 States, registrars indicate staff designated responsibility for fraud activities devote less than 25 percent of their time to birth certificate fraud. Other State registrars say their lack of funds prohibits them from employing someone designated responsibility for birth certificate fraud.

In addition, Immigration and Naturalization Service and Department of Motor Vehicles office staff say they experience difficulty in obtaining the information they need to verify questionable birth certificates in a timely manner. As such, Immigration and Naturalization Service staff described situations in which they have detained individuals with suspect birth certificates for which they need immediate vital information, but were unable to get the information quickly. Passport Services staff say they also have encountered problems verifying birth certificate information in a timely manner. In addition to contacting State vital records offices directly, they contact the SSA office in Baltimore, MD, for information to assist them in determining whether or not a birth certificate presented by a passport applicant is valid. However, they are limited in the number of such requests they can make, and are forced to prioritize their requests, choosing which questionable or suspect applications they pursue.

Birth Certificate Fraud is Seldom Prosecuted

The False Identification Crime Control Act of 1982, Public Law 97-398, amended Title 18 of the United States Code to provide penalties for certain false identification related crimes.

Section 1028 of that law addresses fraud activity in connection with identification documents. This law makes it a crime to knowingly produce, transfer, or possess false identification documents with the intent to defraud the United States. Punishment for an offense under this Act is a fine of up to $25,000 and/or imprisonment for up to 5 years. Many State statutes also address identity fraud, but it is considered a felony in only 23 States. In 28 States, birth certificate fraud remains a misdemeanor.

However, virtually all of the Federal and State staff we talked with indicate birth certificate fraud is seldom prosecuted unless it can be linked to large dollar losses or other punishable crimes. Most staff also indicate that many prosecutors are reluctant, or refuse to take birth certificate fraud cases in which the only charge is attempting to obtain another individual's birth certificate, or counterfeiting or altering a birth certificate. Further, State registrars indicate they receive information about potential fraud cases from Passport Services, SSA, Department of Motor Vehicle offices, and law enforcement. However, most indicate they receive little feedback regarding cases they refer for prosecution.

Misconceptions Exist Regarding the Security and Integrity of Birth Certificates

During the course of our study, we found that many misconceptions exist surrounding the security and integrity of birth certificates. We also found that a lack of education exists regarding the importance of securing vital records information. Misconceptions include the following:

- a birth certificate insures the identity and citizenship of the person holding it;
- birth certificates can be obtained only by the individual listed on the certificate or appropriate family members;
- if a birth certificate contains a crimped seal, it is "real";
- birth certificate information is always safeguarded when provided to user agencies or entities (e.g., sports managers); and
- lamination improves the integrity of birth certificates.

CONCLUSIONS

Birth Certificates Alone do not Provide Conclusive or Reliable Proof of Identity

However, agencies who rely on birth certificates as a means of establishing identity must understand the limitations of accepting a birth certificate as proof of age, citizenship, or identity. While the agency has a need or requirement for establishing identity, the issuing entity most likely does not.

A related point is that genuine documents obtained with counterfeit birth certificates can be used to obtain genuine birth certificates, which in turn are used to obtain additional identification documents. This vicious cycle enables persons establishing false identities to acquire the documentation and proof of identity necessary to open bank accounts, establish credit, and evade law enforcement. Thus, it is inherently illogical to require someone to prove their identity using potentially fraudulent identity documents spawned by false birth certificates in order to obtain a birth certificate.

Further, it would be Impractical to Redesign Birth Certificates to Make them Reliable Identification Documents in and of Themselves

The birth certificate does not provide positive proof of identity of the holder. Efforts to make the birth certificate into a reliable identity document are complicated by the more than 14,000 different versions of legitimate birth certificates currently in existence, and the more than 6,000 entities that issue them and the processes used to do so. Efforts are also complicated by the ease with which birth certificates can be obtained in open States, through the mail, and via the Internet. In addition, technology has made birth certificates easier to counterfeit, and the majority of birth certificate fraud is now being committed by imposters using genuine birth certificates. Finally, because birth certificates do not expire, currently valid birth certificates will remain valid until an individual's death, meaning that changes to the birth certificate itself will take essentially a lifetime to become fully effective.

Some Efforts to Redesign Birth Certificates Might Even be Undesirable

The primary purpose for which birth certificates were created -- to document and record births -- is served well by the large number of entities that issue them and the technology that makes them readily and quickly available. It is through the many issuing entities and different issuing processes that we are afforded quick and easy access to our birth and other vital records information.

This intended purpose of birth certificates is also well served by the different types of birth certificates issued, which allows individuals to obtain information in formats most usable to them. However, these are the very things that breed fraud and render birth certificates unreliable proof of identity.

Nevertheless, Since Birth Certificates can Play an Important Role in Establishing Identity, Their Integrity Should be Improved

When used in combination with other documents, birth certificates can add to the level of proof in establishing eligibility and identity. As such, many agencies and organizations request that individuals provide birth certificates in order to receive a benefit or service, or to support the issuance of other documents used for identity purposes. The SSA uses birth certificates as proof of age in assigning Social Security numbers, and as proof of age and citizenship in determining eligibility for Supplemental Security Income benefits. Passport Services considers birth certificates primary evidence of birth in the United States, and while they do not consider birth certificates evidence of identity, they do consider them a primary document in establishing identity. In addition, public assistance agencies use birth certificates as proof of applicant age and relationship/parentage, and driver's license offices require them as proof of birth and age. Many other State and Federal agencies also rely to some extent on birth certificates as part of the process to establish personal identity and eligibility for services and benefits.

Given that birth certificates will undoubtedly continue to be an important element in determining identity, it is important that the processes used to issue birth certificates be standardized and that recent advances in technology be utilized to ensure birth certificate integrity parallels that of other identification documents. In support of this conclusion, we provide the consensus responses we received for improving the birth certificate process and the detection of birth certificate fraud. The suggestions include the following:

State vital records offices and other entities that issue birth certificates may wish to consider

- taking the steps necessary to reduce the number of legitimate birth certificates by substantially reducing the number of entities that issue birth certificates and different types of birth certificates issued;
- establishing national requirements for security paper;
- placing a higher priority on matching death and birth records and the speed at which these records are matched;
- reducing opportunities for fraud created as the result of delayed, amended, or midwife birth registrations by placing greater emphasis on the scrutiny of

supporting documentation allowed as verification to register delayed, amended, or midwife birth and marking delayed and amended birth registrations accordingly;

- expanding the number of staff assigned responsibility for the detection and enforcement of birth certificate fraud;

- introducing the use of biometrics (e.g., fingerprints or other individual physical identifier) into the birth certificate process, thus insuring positive links between birth certificates and the people presenting them as proof of identity; and

- launching a national campaign to inform the general public and user agencies about the importance of safeguarding vital records and their vulnerability to fraud.

In Addition, Federal and State Program Administrators Should Assess the Proofs of Identity They Will Accept

Even if their security is improved, birth certificates may still not be the best proof of identity. For this reason, program administrators may not want to use birth certificates at all, or to use them only with other documents, as noted above. Agencies need to specify which other documents and methods of proving identity (e.g., fingerprints, testimony of relatives, employer information, background checks) they will accept in determining eligibility for services and benefits.

Given what we have learned, if program administrators continue to include birth certificates in the proofs of identity their agencies and organizations will accept, they should reconsider how they use them, and what steps they will take to detect fraudulent certificates and to secure valid ones. For example, they should remain vigilant in their detection of fraudulent documents and genuine documents held by imposters. The nature of each individual program should dictate the level of proof the agency requires to establish identity, and acceptable documents determined accordingly. For instance, the same level of proof required to enroll a child in school may not be the same level of proof required to obtain a passport.

In this vein, we provide consensus responses from persons surveyed and interviewed, which reflect longstanding suggestions for improving the use of birth certificates in establishing identity.

Federal and State agencies who use birth certificates in determining eligibility for services and benefits may wish to consider

- reassessing the documents they will accept as proof of identity and program eligibility;

- accepting only birth certificates issued on security paper that meets current national standards;

- using biometrics (e.g., fingerprints, DNA, retinal scans) to assist the agencies in establishing proof of identity;

- improving guidelines and procedures regarding the detection of fraudulent birth certificates, and make them readily accessible; and

- providing staff with ongoing training to assist them in detecting all types of birth certificate fraud.

State and Local Birth Certificate Issuing Entities

APPENDIX A

State	Number of Issuing Offices by Location					
	Central/State	County	City	Township	Other*	Total
Alaska	3	0	4	15	0	22
Alabama	1	67	0	0	1	69
Arkansas	1	0	0	0	0	1
Arizona	1	12	0	0	2	15
California	1	58	4	0	0	63
Colorado	1	63	0	0	0	64
Connecticut	1	0	169	0	0	170
Washington, DC	1	0	0	0	0	1
Delaware	1	2	0	0	0	3
Florida	1	67	0	0	0	68
Georgia	1	159	0	0	0	160
Hawaii	1	0	0	0	0	1
Iowa	1	100	0	0	0	101
Idaho	1	0	0	0	0	1
Illinois	1	42	100	2	0	145
Indiana	1	91	3	0	0	95
Kansas	1	0	0	0	0	1
Kentucky	1	0	0	0	0	1
Louisiana	1	0	0	0	5	6
Massachusetts	1	0	351	0	0	352
Maryland	1	20	0	0	1	22
Maine	1	0	22	475	0	498
Michigan	1	83	27	0	0	111
Minnesota	1	87	5	0	5	98
Missouri	1	113	3	0	0	117
Mississippi	1	0	0	0	0	1
Montana	1	56	0	0	0	57
North Carolina	1	98	0	0	3	102
North Dakota	1	0	0	0	0	1
Nebraska	1	1	0	0	0	2
New Hampshire	1	0	13	222	0	236
New Jersey	1	0	565	0	0	566
New Mexico	1	9	0	0	0	10
Nevada	1	2	0	0	0	3
New York	1	4	100	1,000	400	1,505
Ohio	1	88	55	0	0	144
Oklahoma	1	1	1	0	0	3
Oregon	1	35	0	0	0	36
Pennsylvania	1	0	0	0	5	6
Puerto Rico	1	0	0	84	0	85
Rhode Island	1	0	39	0	0	40
South Carolina	1	46	0	0	0	47
South Dakota	1	64	0	0	0	65
Tennessee	1	23	0	0	4	28
Texas	1	278	587	0	0	866
Utah	1	0	0	0	12	13
Virginia	1	0	0	0	0	1
Vermont	2	0	8	238	0	248
Washington	1	33	0	0	0	34
Wisconsin	1	72	2	0	0	75
West Virginia	1	55	0	0	0	56
Wyoming	1	0	0	0	0	1
NY City	1	0	0	0	0	1
Total	560	1,829	2,058	2,036	438	6,417

*Includes villages, regional branch offices, and some State vital records satellite office.

APPENDIX B

Types of Certificates Issued and Paper Security Features Used by State Vital Records Offices

	Type of Birth Certificate			
	Full Photocopy of Birth Record	Certified Copy from Computerized Abstract	Birth Card or Wallet Sized Birth Certificate	Commemor-ative Birth Certificate
Number of States Issuing Type of Birth Certificate	51	37	17	8
Number of States Using Specified Security Features				
Watermarks	27	25	6	3
Intaglio	19	20	9	2
Serial Numbers	35	34	15	7
Steel Engraved Borders	18	19	10	2
Ultraviolet Ink	9	13	2	1
Security Threads	11	13	3	0
Micro-Line Printing	25	28	7	1
Substrate Paper or Ink	14	14	4	1

APPENDIX 23

U.S. Department of Health and Human Services, Office of Inspector General, Birth Certificate Fraud, 2000

BIRTH CERTIFICATE FRAUD

OFFICE OF INSPECTOR GENERAL
OFFICE OF ANALYSIS AND INSPECTIONS

MARCH 1988

OFFICE OF INSPECTOR GENERAL

The mission of the Office of Inspector General (OIG) is to promote the efficiency, effectiveness and integrity of programs in the United States Department of Health and Human Services (HHS). It does this by developing methods to detect and prevent fraud, waste and abuse. Created by statute in 1976, the Inspector General keeps both the Secretary and the Congress fully and currently informed about programs or management problems and recommends corrective action. The OIG performs its mission by conducting audits, investigations and inspections with approximately 1,200 staff strategically located around the country.

OFFICE OF ANALYSIS AND INSPECTIONS

This report is produced by the Office of Analysis and Inspections (OAI), one of the three major offices within the OIG. The other two are the Office of Audit and the Office of Investigations. The OAI conducts inspections which are typically short-term studies designed to determine program effectiveness, efficiency and vulnerability to fraud or abuse.

THIS REPORT

This report is entitled Birth Certificate Fraud. It was prepared following a review conducted to help HHS and other interested parties to gain a current overview of (1) the vulnerabilities to fraud in birth certificate forms and procedures of issuing and user agencies and (2) the best practices among State and local jurisdictions to minimize these vulnerabilities.

The report was prepared by the Regional Inspector General, Office of Analysis and Inspections, New York Region. Participating on the review were the following:

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BIRTH CERTIFICATE FRAUD

Richard P. Kusserow
INSPECTOR GENERAL

OAI-86-02-00001

MARCH 1988

PREFACE

". . . the foundation, or breeder document, for almost any other kind of identification for citizens is the birth certificate. Over 7,000 State and local vital records offices issue birth certificates with no uniform standards for issuance processes, controls, or quality of documents. In some jurisdictions, birth certificates are easily counterfeited, obtained through imposture, or created from stolen legitimate blank forms." *

*From Report of the Task Force on Criminal Implications of False Identification of the Fifth Conference of the Judiciary held by Laws At Work on May 23-24, 1984 in Los Angeles.

TABLE OF CONTENTS

List of Abbreviations

AFDC	-	Aid to Families with Dependent Children
AVRHS	-	Association for Vital Records and Health Statistics
DEFRA	-	Deficit Reduction Act
DMV	-	Department of Motor Vehicles
EPIC	-	El Paso Intelligence Center
FACFI	-	Federal Advisory Committee on False Identification
HHS	-	Department of Health and Human Services
ID	-	Identification
IG	-	Inspector General
INS	-	Immigration and Naturalization
LAW	-	Laws At Work
NCHS	-	National Center for Health Statistics
NWFA	-	National Welfare Fraud Association
OAI	-	Office of Analysis and Inspections
OI	-	Office of Investigations
OIG	-	Office of Inspector General
SSA	-	Social Security Administration
SSI	-	Supplemental Security Income

EXECUTIVE SUMMARY

PURPOSE AND BACKGROUND

In 1976, the Federal Advisory Committee on False Identification (FACFI) of the Justice Department pointed out that false identification was a serious national problem. In 1984, the Task Force on Criminal Implications of False Identification, sponsored by Laws at Work (LAW), a national citizen's association interested in law enforcement issues, endorsed a broad range of proposed actions, including a national review of birth certificate systems and practices. This inspection is a further study of this problem.

The purpose of the inspection was to: (1) identify vulnerabilities to fraud in birth certificate forms and issuance procedures and in procedures of user agencies which receive birth certificates as documentation; and (2) describe best practices among State and local jurisdictions to remove or minimize these vulnerabilities.

METHODOLOGY

Eleven States and New York City, representing differing problems and best practices in birth certificate forms and procedures, were visited. The sites included a disproportionate number of States with big cities or port or border cities where birth certificate fraud is heavily concentrated. Discussions were held with State and local registrars; fraud investigators from Immigration and Naturalization Service (INS), passport services, and various State agencies; and front-line workers in issuing and user agencies.

The study focused primarily on certified copies of birth records. In this report these certified copies are referred to as "birth certificates" as distinct from the original birth records or birth registrations on which certified copies are based.

FINDINGS

Major findings, which confirmed and extended the study results of FACFI and LAW, include:

- A birth certificate issued in the States is the key to opening many doors in our society -- from citizenship privileges to Social Security benefits. Such certificates can then be used as "breeder" documents to obtain driver's licenses, passports, Social Security cards or other documents with which to create a false identity. An Office of Inspector General study entitled **Social Security Number Validity in the Aid to Families With Dependent Children Program (AFDC)**, has shown that invalid Social Security cards are a major cause of AFDC errors.

- The birth certificate is also a key to creating a false identity and thus has great value for undocumented aliens who seek fraudulent citizenship, ineligible applicants who seek jobs or benefits, credit defrauders, fugitives, terrorists, and drug smugglers. Individuals can obtain a valid birth certificate through theft, purchase, borrowing, or applying, and then impersonate the real owner. They may produce, steal, or buy a counterfeit or altered document.

- While false identification (ID), in general, is estimated to cost society billions of dollars annually, data on the extent of birth certificate fraud are limited. With the new immigration law, however, it is likely that such fraud will increase.

- Issuance of birth certificates is a State function, but almost 7,000 local registrars' offices also issue certificates. The resulting multitude of certificate forms, official seals, and signatures (an estimated 10,000 nationwide) makes it extremely difficult for user agency workers to detect false documents.

- Privacy and security safeguards to protect birth records from unauthorized disclosures vary from State to State. In some cases this is attributable to a lack of State statutes on privacy of vital record information. Ten States allow the public open access to vital records. Even in the restricted States, however, ID is often not required. Weak physical security over forms and records, and use of non-safety paper for certificates, create additional vulnerabilities.

- Local offices which issue most birth certificates are even more vulnerable. They are less likely than their State offices to have safety paper, a standard State form, adequate security, or to mark "deceased" on birth certificates for dead registrants. Moreover, State control of local offices is still strongly resisted.

- A variety of measures to fight fraud have been developed. Many States limit local issuance and many now provide a standard State birth certificate form to their local offices and use safety paper or plan to do so. It is becoming increasingly common to match birth and death records. (See Best Practices in Appendix A.)

- The primary users of birth certificates (e.g., Social Security Administration, passport services, State welfare agencies, driver's license agencies, etc.) are faced with a gargantuan task. A birth certificate submitted to their workers may be any one of thousands of variations making it virtually impossible to determine their validity.

- The ad hoc nature of communication between Federal and State agencies has hindered effective prevention and detection of birth certificate fraud. Prosecution is hindered by legal limitations and difficulties in getting prosecutors to take cases involving birth certificate fraud unless linked with other major criminal activity.

RECOMMENDATIONS

Efforts to reduce birth certificate fraud take on added urgency in light of the new immigration law which requires employers to check the citizenship or work authorization and identity documents of potential employees. The new law also requires State agencies to verify the immigration status of alien applicants for Federal benefit programs. It is expected that more aliens will try to escape this check by claiming citizenship. A birth certificate is one acceptable identity document for verifying citizenship.

Since the issuance of birth certificates is clearly a State function, recommendations are directed to the State level. To be effective, improvements in birth certificate controls must include both stricter issuance and more tamper-proof documents. Neither by itself is sufficient.

It is recommended that State registrars, with the support of their Governors, legislatures, and relevant national associations as needed, should:

- standardize the form and content of birth certificates within their State to protect birth documents against alteration and counterfeiting, and expand the use of bank note-type safety paper with security features;

- promote greater intra-State standardization of birth certificate forms and procedures, through State legislation if necessary, by reducing the number of local issuing offices and/or exercising greater control over them;

- establish minimum standards for all issuing offices to assure the physical security of original vital records, certified copy blanks, and seals against theft, and maintain a system of strict accountability of all certified copy blanks;

- urge legislatures to amend existing statutes or pass new ones, where needed, to protect the privacy of individual vital records by restricting physical access and strictly limiting applications for copies;

- assure that States participate fully in and help expand the voluntary Interstate Vital Records Exchange System of the Association for Vital Records and Health Statistics, by including the sharing of death records for persons substantially beyond infancy, and should apply a "Deceased" overlay to all original and certified copies of birth records of persons who have died; and

- work cooperatively with the Social Security Administration to establish procedures whereby parents can receive a Social Security number for their infants at the time a birth is registered, and in the long run help reduce the utility of a false birth certificate as a breeder document of a false identity.

COMMENTS ON DRAFT REPORT AND OIG RESPONSES

Department of Health and Human Services comments were received from the Administrator of the Health Care Financing Administration (HCFA), the Deputy Assistant Secretary for Health Operations of the Public Health Service (PHS), and the Commissioner of Social Security. From outside HHS they were received from the President of the Association for Vital Records and Health Statistics (AVRHS) and the Director of the Office of Consular Fraud Prevention Program of the U.S. Department of State.

The PHS commented that the report should distinguish between an original birth record and a certified copy of the record. In response, the term "birth certificate" as used in the report will always refer to a certified copy.

The AVRHS suggested that additional documentation of the extent of the fraud problem would help convince States of the need for change. Additional information on the scope of the problem is thus included.

The Department of State and HCFA made suggestions for more specific recommendations involving a more active Federal role as well as coordinated action by State and local registrars. The details of these comments and our responses are summarized in Appendix B.

The AVRHS and PHS offered technical comments on specific findings and on several recommendations. In response, appropriate changes were made as indicated in Appendix B.

INTRODUCTION

PURPOSE AND BACKGROUND

In 1976, the Justice Department's Federal Advisory Committee on False Identification (FACFI) in its report, **The Criminal Use Of False Identification**, found fraudulent identification to be a national problem costing $15 billion annually. The FACFI recommended standardization of birth records, matching of birth and death records, limited access to records, and other measures to reduce the fraudulent use of birth certificates and other documents. In 1977, the U.S. Public Health Service revised its Model State Vital Statistics Act, in part to stregthen efforts to reduce birth certificate fraud.

Seven years later, in response to continuing problems, the Inspector General (IG) of the Department of Health and Human Services (HHS) and top officials from the Departments of State and Justice co-chaired a Task Force on Criminal Implications of False Identification. Sponsored by the Fifth Conference on the Judiciary of "Laws at Work" (LAW), the task force proposed a study of birth certificate problems and practices. The task force acknowledged the significant work done by the HHS IG in investigating birth certificate fraud and issuing fraud alerts and recommendations to correct vulnerabilities. To further the recommendations of the task force, the HHS IG initiated this national inspection of the problem of birth certificate fraud and measures to counteract it. The purposes of the inspection were to:

- *identify vulnerabilities to fraud in birth certificate forms and procedures and in procedures of user agencies which receive birth certificates as documentation; and*

- *describe best practices among State and local jurisdictions to remove or minimize these vulnerabilities.*

The birth certificate is a key document in applying for benefits, privileges, or services from a variety of Federal and State programs such as Social Security, Aid to Families with Dependent Children (AFDC), Medicaid or Food Stamps. The birth certificate is also used to obtain other important documents such as a passport or driver's license. The birth certificate has been called a "breeder" document because with a false one a person can obtain other false identification (ID) documents with which to defraud Government or business, or create a new identity.

The release of this report, coming after the enactment of the Immigration Reform and Control Act of 1986 (IRCA), should be especially timely for States in their efforts to strengthen document security and issuance practices and for user agencies in tightening eligibility verification procedures.

METHODOLOGY

The IG's Office of Analysis and Inspections (OAI) in New York, with support from Boston, San Francisco, and Seattle, visited 12 jurisdictions (11 States and 1 city). The sites visited were: California, Florida, Illinois, Massachusetts, Michigan, Minnesota, New York City, New York State, Texas, Vermont, Virginia and Washington. Since New York City has its own registrar, it is treated as a State. Discussions in New Jersey pre-tested the study design and provided data for analysis. The study focused primarily on certified copies of birth records.

In this study, the certified copies are referred to as "birth certificates," as distinct from the original birth records or registration on which certified copies are based.

Pre-inspection discussions were held with officials of the U.S. Departments of State and Justice and of HHS's Social Security Administration (SSA) and National Center for Health Statistics (NCHS). The Association for Vital Records Health Statistics (AVRHS) and the National Welfare Fraud Association (NWFA) provided useful assistance. Also helpful were central and regional staff from the Office of Investigations (OI) who provided case material.

Sample States were selected to include major types of vulnerabilities to birth certificate fraud, and best practices in counteracting these vulnerabilities. The sample contains a disproportionate number of States with large metropolitan areas and port or border cities where problems involving fraudulent use of birth certificates are most likely to be found. The States include a mix with regard to the number of local registrars, the ease with which someone can obtain a birth certificate, and geographical region.

In each of the 12 States, team members met with State and local registrars, fraud investigators, and front-end workers in issuing and user agencies. The investigators were from State human services and motor vehicles agencies, INS special agents, passport agency fraud coordinators, SSA Regional Security Officers, and OI and other agencies. Team members held over 200 discussions.

FINDINGS

I. THE PROBLEM

"They are definitely being used for fraudulent purposes. We may be seeing the tip of the iceberg. Birth certificates are needed for our life style. A person needs a birth certificate to participate in society. For false identity, it is what is needed." -- **A New England Fraud Investigator**

Birth Certificate Fraud Takes Many Forms

Birth certificate fraud involves one or more of the following illegal acts: stealing, transferring or selling valid birth certificates; counterfeiting, selling, or using bogus documents; using or selling altered documents; and using someone else's valid certificate by impersonating the owner.

Impersonation was most often mentioned by investigators and registrars as the most common way of obtaining a birth certificate for fraudulent purposes. In some areas, counterfeiting is a big business. Use of a counterfeit birth certificate was, in fact, mentioned second as a way of committing birth certificate fraud. Alteration of a valid certificate was mentioned third. Theft was mentioned least often, though a variety of incidents were reported.

The following cases from the Office of Investigations strikingly illustrate the impersonation method of committing birth certificate fraud:

- Many years ago, a baby died in infancy. Recently, a young man (under the age of 20 and employed as a caretaker in a local cemetery) requested from a registrar's office a copy of the birth certificate of the dead infant. Since this State considers birth records public information and allows practically anyone to request and obtain anyone else's birth certificate, he was able to get the dead infant's birth certificate. With this, he attempted to open a bank account using the identify of the long-deceased infant. Much to his surprise, he was apprehended after being recognized by the bank teller, who was the mother of the dead boy.

- A Supplemental Security Income (SSI) beneficiary, age 41, was using fake medical data under false names to receive multiple SSI payments. The subject obtained death certificates of two persons, both born within 1 or 2 years of his birth. With these, he then obtained birth certificates from the counties of their births. He used these birth certificates to obtain Department of Motor Vehicles (DMV) identification. With the birth certificate and DMV identification of one person, the subject

appeared at an SSA district office to apply for an Social Security number (SSN), satisfied the SSA requirement of two ID documents and was assigned an SSN. In the same manner, he was given an SSN for a second person through another SSA district office. Once the false identities were established, he filed multiple claims for SSI in different SSA offices.

- Between April 1985 and June 1986, a legally blind, escaped convict fraudulently obtained at least three SSN cards and $1,313 in SSI presumptive disability payments. He used fraudulently obtained legitimate birth certificates to establish fictitious identities prior to filing for the SSN cards. He then filed for SSI disability using the false ID and newly acquired SSN. Investigation revealed he was a fugitive from a Federal correctional facility in California, where he had been serving a 15-year sentence for fraudulently obtaining over $140,000 in SSI payments over a 7-year period. He had established at least 38 known fictitious identities.

Many other cases were reported by registrars and other investigators illustrating fraud through counterfeiting and alteration of documents. For example:

- A counterfeiter in a southwest city printed birth cards on safety paper. He sold the cards for $40 to $50 each and they were resold by a trafficker in false ID for $1,100 to $1,500 each.

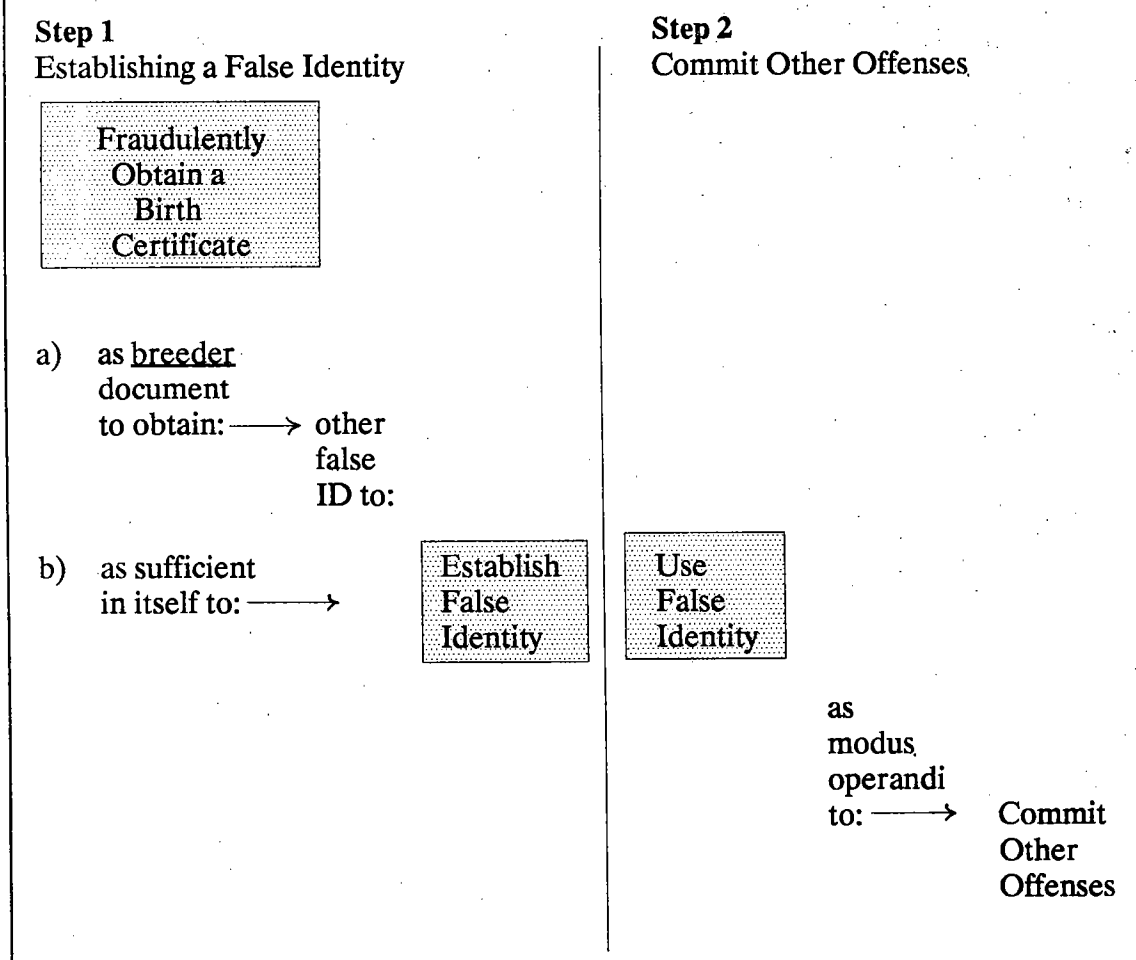
- An SSA employee invented 25 fictitious beneficiaries over a period of 10 years. To do this, she took a photocopied birth certificate from a legitimate beneficiary file, whited-out the real name and typed in the fictitious information on the birth certificate. She then made a photocopy of the altered certificate for the fake beneficiary's file. Before being discovered, she had received approximately $360,000.

Perpetrators Use Birth Certificates To Help Establish False Identity For Other Illegal Purposes

Almost all perpetrators of birth certificate fraud go through a two-step process. As Figure 1 below illustrates, the two steps are: (1) to fraudulently use a birth certificate to obtain false ID documents and thus create a false identity; and (2) to use one or more of these false ID documents to obtain government benefits or privileges to which one is not entitled, or to commit other crimes under an assumed name. The first step is to use a birth certificate as a "breeder" document, and the second step is to use the resulting false identity as a **modus operandi**, or method of operating, to defraud business or Government, and/or avoid legal sanctions.

FIGURE 1

The Two-Step Process of Fraudulent Use of Birth Certificates



Most Perpetrators Are Career Criminals Or Illegal Aliens

Illegal aliens and career criminals were mentioned most often by respondents as the kinds of persons most likely to commit birth certificate fraud. While there is some overlap between individuals in these two categories, each group tends to commit birth certificate fraud for different reasons.

Career Criminals Include:

- those who use false identities to engage in such activities as drug smuggling, insurance fraud, cashing bad checks, counterfeiting and/or selling birth and other documents, entering sham marriages for a price, credit care or bank fraud, securities fraud, money laundering, organized crime, and illegal departure from and entry into the country;

- terrorists, espionage agents, and fugitives who use false documents to avoid identification and detection;

- ineligible beneficiaries who habitually use the fraudulent paper route to obtain such government benefits as AFDC (based on non-existent children), other public assistance, unemployment insurance, SSI, Social Security (i.e., retirement, survivor or disability payments), college grants and loans, and sometimes duplicate benefits under different identities; and

- some employees of issuing or user agencies who, by illegally issuing or accepting birth certificates, facilitate birth certificate fraud by the above kinds of criminals.

- Some otherwise law abiding citizens also get caught up in using altered or other illegal birth certificates to gain privileges or avoid legal penalties. Common examples include: parents of minors whose birth record ages are changed to make them eligible for Little League teams; minors to get a driver's license or buy alcoholic beverages; adults who change their recorded age for what is called "vanity fraud" or to speed up or delay retirement, Medicare, or Social Security benefits; and those lawbreakers who assume an alternate identity to avoid fines.

Illegal Aliens typically use fraudulent birth certificates for gaining a legal status, benefit or privilege to which they are not entitled. Those that misuse birth certificates seek to:

- become a U.S. citizen or legal alien;
- get a Social Security card to work or to collect unemployment benefits;
- become eligible for welfare benefits;
- obtain a passport; or
- get a lower college tuition rate or certain college grants or loans.

While these illegal acts can be committed by persons in any alien status category, most concern was expressed about illegal aliens, who face deportation if apprehended without proper documents. Those who misuse birth certificates come from all parts of the world.

Extent Of The Problem Is Unknown

Most State and local registrars and user agency investigators did not know of any statistics on fraudulent birth certificate cases being kept by their own or other agencies. Only three State registrars said they kept track of fraud cases.

Passport's Office of Evaluation and Standards maintains statistics of cases referred to investigative agencies by each field office. During Fiscal Year 1987, 1,845 referrals were made prior to issuance of a passport. However, these do not include the applications estimated to be fraudulent based on determinations after issuance of a passport. These cases are largely, if not entirely, based on bogus birth certificates.

The El Paso Intelligence Center (EPIC), established by INS to receive reports from anywhere in the country on the use of fraudulent documents, received 16,130 reports of fraudulent birth certificates during FY 1986 and 9,456 during FY 1987. However, most of these reports are from Texas, California, and Illinois and do not represent all cases nationwide. While not currently national in scope, EPIC's information is a potential clearinghouse on fraudulent ID.

When asked how many birth certificate fraud cases had come to the attention of their agency last year, a third of the respondents were unable to give a figure. Among those who could, State registrars and investigators reported an average of 134 cases a year; local registrars reported on the average only one case a year. Only a fifth of the local registrars interviewed thought that birth certificate fraud was a problem. Although most of the States had few, if any, statistics, 7 of 11 State registrars interviewed considered birth certificate fraud a big problem in their State. The other four would not venture a judgement.

The lack of any national, State, or local figures on the extent of birth certificate fraud suggests that such data collection generally has low priority at all levels. This could be because Federal and State agencies have not yet focused sufficient attention on this type of fraud.

The pessimistic conclusion of some respondents was that the system is out of control and that the war is being won by those who would use birth certificates as an important link in a chain establishing false identify for illegal purposes. In 1982, the U.S. Senate's Permanent Subcommittee on Investigations' study estimated

that fraudulent ID in general cost society upwards of $24 billion. Since there is no reason to assume that the problem today is less severe, the cost to society, taking into account inflation, would currently approximate $30 billion.

At a hearing on the False Identification Crime Control Act before the House Committee on the Judiciary in 1982, a Justice Department official testified that the problems identified in the FACFI report still exist and may even have worsened in light of the increased number of illegal aliens, international terrorists, and drug-smuggling rings in recent years. State legislators are reportedly concerned with the increasing evidence of a link between false ID documents, including birth certificates, and illegal drug trafficking. Referring to bogus birth certificates as a particular form of false ID, one registrar in a western State observed that: "Birth certificate fraud is mainly a question of 'green.' The problem will exist as long as there is money to be made."

II. THE ISSUING AGENCIES

"*I've tried to get the system more centralized, but it's too political.*" -- **An Eastern State Registrar**

Nearly 7,000 Local Offices Still Issue Birth Certificates

Certified copies of birth records, as well as of other vital events, are issued by State and local registrars, stamped with an official seal and signed by them, and provided to applicants who meet the issuing agency's requirements. These agencies are usually located in State or local health departments but may operate out of other local offices or even homes.

In 1976, FACFI counted about 7,000 local offices nationwide which issued birth certificates. In 1981, NCHS survey data showed about the same number. This inspection found only a 1 percent drop in local offices from the NCHS data in the 12 States visited. The multitude of local offices has thus continued. Most copies of birth certificates are reportedly issued by these local offices.

Central Control Over Local Offices Is Resisted In Most States

Existing statutes in many of the States visited call for State direction and supervision of local registrars' offices. These States have authority to set policy and procedures and to monitor local compliance. In actual practice, however, most States exert minimal control.

In about half the States visited, local registrars used their own forms and procedures instead of, or in addition to, those of the State. Although half of the State registrars said they closely monitored local offices, two-thirds of the locals in these same States said their offices were not closely monitored. Only two State offices made site visits to local offices at least once a year. All but one of the State registrars said they had concerns about the controls over blank certificates and seals in local offices.

The 1977 revision of the model State Vital Statistics Act disseminated by NCHS calls for centralization of State registrars' offices. Although many State registrars recommend the reduction, if not the elimination, of local issuing offices, there has been little recent movement in that direction. Thirty States and Puerto Rico allowed their local offices to issue birth certificates.

Resistance on the part of the thousands of county, city, and town offices across the country is based on a combination of local custom and pride, convenience to applicants, financial gain from fees collected (especially where the forms are supplied free by the State), and local political patronage. Concerns about birth certificate fraud, and the fact that a multitude of local issuing offices makes such fraud easier to commit, has not sufficiently motivated legislators and executives to overcome these resistances in most States. Nevertheless, some progress has been made. (See Appendix A.)

Ten Thousand Varieties Of Birth Certificate Seals, Signatures, Or Forms Are Used Nationwide; 6,000 Used In 13 States Visited

The 1976 FACFI report estimated that over 1,000 different birth certificate forms were then issued nationwide. This meant that workers in user agencies -- those agencies to which birth certificates are submitted to document eligibility for a benefit or a privilege -- had to deal with over 1,000 different forms.

However, this inspection found that user agency workers are faced with a much more difficult task. They not only see different formats with their differing content, but also see a different certifying seal and registrar's signature from each local registrar which issued the certificates. Unless the worker knows what seal and signature was used by the particular local issuing office at the time the birth registration was filed or the certified copy was signed, there is no way of knowing that the document, even if it is an appropriate form for that city or town, is authentic.

The FACFI report concluded that the wide variety in document format and authenticating seals encourages the passing of counterfeit documents. Indeed, one of our respondents commented on the confusion about seals:

"*Someone walks in with a birth certificate which is completely alien to what the workers are familiar with. Even the seal itself varies. We said once it shouldn't say 'seal,' then we found some that do.*"

From the worker's point of view it would appear to be more accurate to count differences in seals and signatures, as well as difference in forms themselves, in describing how big the problem really is.

In about 4,000 issuing offices in the 13 States visited (including the pretest State), each had their own unique seal and signature as well as place name. Large city offices issue an average of two forms. It is a conservative estimate that these 4,000 offices issue at least 6,000 (1.5 times the number of offices) varieties of birth documents with unique seals or signatures, or printed on different forms. This does not take into account the fact that State and local offices also issue copies of older certificates which have seals, signatures, and forms different than the current ones used.

Based on our conservative estimate of a 1.5 to 1 ratio of documents to offices in the States visited, it is reasonable to assume that the approximately 2,900 local office in the remaining States issue about 4,300 varieties of birth documents differentiated by unique seals, signatures, or forms. We estimated that there are at least 10,000 different seals, signatures or forms currently used around the country. Including the many older forms issued over the years and still in use, the estimate would be higher. Thus, the problem of variety is even more overwhelming than was suggested by FACFI.

III. THE BIRTH DOCUMENTS

"*Print the birth certificates on a certain type of safety paper that no one else can buy. Cut off the supply of paper to counterfeiters.*" -- **An Eastern State Investigator**

Most States Visited Provided A Standard Form To Local Offices; But Only Some Locals Used Them

Three quarters of the States contacted reported having a standard birth certificate available for local offices to use. However, in only two States were the standard forms used throughout the State. In another three States, only some local offices used the standard form. Even in the five jurisdictions where a standard form was sometimes used, a total of 19 forms, including the standard ones, were used.

When local offices use these standard forms, which are generally provided free by the State, they always add the seal, registrar's signature, and place name of the local issuing office. None of the States visited used just one standard form throughout their State.

Most respondents recommended standardizing birth certificates within each State to reduce the variety of forms.

Half The State Offices Visited Were Not Using Safety Paper; Locals Generally Did Not

Six of 12 States did not use safety paper, although three of these States were planning to do so. Highly secure safety paper includes such features as intaglio printing, latent images, high resolution borders, and colored background designs. These features are commonly found in bank note paper. Local offices in only four of the States reported using safety paper, and they also issued some copies on non-safety paper as well. An INS investigator in the Midwest pointed out that to save money, small counties use inexpensive paper "which you can buy in a corner drug store."

The extra expense of bank note paper was often cited as an obstacle to its use by local registrars and even by some State offices. One registrar estimated the extra cost of the bank note paper to be at least 13 cents more per copy.

The non-safety paper still used by some States and most localities presents numerous problems. Cited as most vulnerable to fraud through alteration or counterfeiting were photocopies, plain white paper certificates, and plastic registration cards. (See Best Practices in Appendix A.)

Seals were also seen as a weak link. Not only were original seals and certifying stamps at the local level described as illegible, but respondents noted that the stamps and seals can be easily duplicated.

Physical Security And Document Control Improving But Still Spotty

As awareness of birth certificate fraud has increased, State efforts to secure birth registration and certificate forms appear to have improved. Blank forms and seals are typically locked in drawers or lockers at night and kept away from public access during the day. There are exceptions. One State registrar said his two seals were put away in a desk but the desk was not locked. Some States allow the same person to handle the processing and answering of requests for copies. This may provide more opportunity for theft or fraud to go unnoticed. (See Best Practices in Appendix A.)

Insufficient control over blank forms was also noted at the State level. Not all States prenumber their forms. While most, if not all, State offices have developed systems of numbering, logging numbers as used, and reconciling against dollars collected for fees, there are still some gaps in security. Examples include:

- blank birth certificates and seal stored in the open;
- a microfilm file of birth records kept behind the counter;
- documents kept at home by a local registrar; and
- theft of a city's birth certificate forms from a city print shop.

These examples underline the need to increase security at all stages, from printing through issuance of birth documents. The most secure paper is only as safe as the procedures for printing, distributing, locking and accounting for it.

A major reason for local office vulnerability to theft, loss, alteration, and counterfeiting is the lack of guidance, standards, or active oversight from most State offices regarding security. Accessing indexes and files of original birth registrations is one effective way to get the information needed to apply -- legally or illegally -- for the birth certificate of another person. Persons with fraudulent intent can peruse either birth or death records to get the name, date, place of birth, and other items (e.g., mother's maiden name) which may be required.

States' laws and regulations regarding access to vital records vary greatly. Either it is practically impossible for the public to get into the vault or room where original birth registrations or indexes are kept, or it is practically impossible to keep the public out during office hours. States with "open records" laws are more vulnerable to fraud through easy access to records.

IV. ISSUING PROCEDURES

"*Almost anyone can go over to the State and get someone else's birth certificate.*" -- **A Welfare Fraud Investigator In An "Open Record" State**

All States Vulnerable To Fraud; "Open Record" States More So

Five of the 12 States visited -- California, Massachusetts, Minnesota, Vermont and Washington -- had laws which classify them as "open record" States. These are States, as succinctly stated by a local registrar, in which: "By law, the original birth registration is a public record. Anyone can see it and get a copy of it. We have no authority to question." Nationwide, 10 of 57 central office issuing jurisdictions had "open records;" in 43, the records were relatively more protected. The four other jurisdictions (Virgin Islands, Guam, American Samoa, and the Trust Territory of the Pacific Islands) were not included in this analysis.

The five "open" States visited allow any individual with the minimum information necessary to apply for and obtain a copy of anyone's birth certificate. Offices in these States generally do not require any ID from the applicant. States with protected record statutes allow copies to be issued only to certain categories of

persons. Typically, those eligible include registrants over 18, parents, guardians or legal representatives. However, even in the seven stricter States visited, only two reported requiring any ID at the State Registrar's Office. An investigator in a "protected" State described a vulnerability in the issuing agency's procedures as follows: "The problem in issuing is clerks not knowing who is standing in front of them. There's a lack of interest in many local offices in thwarting fraud. It doesn't seem to affect them."

As some States and localities move to tighten issuance procedures, "How To" manuals, supplemented by word of mouth, are spreading the word about what areas to avoid. The **Paper Trip II**, for example, an underground-type publication on how to create a false identity, warns against requesting a birth certificate in certain States and cities and advises its readers, "*...that you not get discouraged that your efforts appear stymied in a particular area. Go to the next county--or State--and try again. Nine times out of 10 you won't believe how easy it is.*"

All States, whether protected or not, are vulnerable to fraud because ID is seldom required, fraud prevention has a low priority particularly in local offices, and death records can frequently be obtained.

The Application Process Is Generally Weak, Especially By Mail Or Telephone

All the States visited used application forms for persons requesting a birth certificate. However, most required them only of the 15 to 20 percent of applicants who walk into the State office. In the large majority of requests to the State office, which are made by mail (or, in a small but increasing number of cases, by telephone), application forms were not generally used.

The situation was reversed in local offices: walk-ins constituted about 60 percent of all applicants, and applications were generally required. The remaining 40 percent who requested a copy by mail or telephone did not fill out applications.

Applicants who mail or telephone in their requests, without application forms, usually did not have to give any identification or even provide their signatures. Registrars saw mail requests as the most vulnerable mode of request because there is no opportunity to question the person as with "walk-ins" and even "phone-ins."

In the last several years, a growing number of State and local registrars have begun to accept applications by telephone. This procedure has been facilitated by computer technology. Registrar clerks key into a terminal the necessary information given by the telephone applicants, including a credit card name and number

to cover the fee. Since there is no way of verifying that the caller is the same person whose name is on the credit card or, for that matter, is eligible for the requested certificate, impersonation by telephone is as easy as by mail.

Even if all applicants were required to complete an application, the current forms contained weaknesses. Twenty-one application forms (10 State and 11 local) were examined and compared to the Model Application Form for Birth Certificates prepared for FACFI. Among the items contained in nearly all the forms, only one is not easily known to an outsider: the mother's maiden name. This can be obtained from a death certificate.

As many as a third of the forms failed to call for the following items: the hospital or address at which the registrant was born, the full name at birth, and the applicant's signature. Even when forms did contain the above items, all of which were included in the FACFI model, the applicant was not routinely required to answer each question. In some offices, for example, the applicant's signature was optional.

Other items, some of which are hard for potential impostors to know, were not generally included. The following items, for example, were included on the 21 forms less than half the time:

ITEM	Percent of Times Included on Forms
Purpose of application	43%
Warning against fraudulent application	14
Mother's place of birth	10
Father's place of birth	10
Mother's address at time of birth	0
Number of prior births	0

No matter how well the application is designed to discourage fraud, however, it will not be an effective countermeasure unless it is required of mail and telephone requesters as well as of "walk-ins."

Another measure to reduce fraud is to tally the number of requests and flag frequently-issued certificates to avoid inappropriate issuance. Many States have not taken advantage of this preventive tool.

States Are Matching Birth And Death Records

A frequently used technique to obtain a birth certificate is the "Infant Death Identity" scheme (i.e., getting a certificate for a dead infant with identifying information gleaned from old newspapers or death registers). To combat this, FACFI recommended matching of birth and death records.

More States were found to have begun to match their own birth and death records in the last few years. The Association for Vital Records and Health Statistics has obtained agreement from the States to exchange birth and death and other vital records with each other on a regular basis. (See Appendix A.)

A number of problems inhibit the smooth exchange of birth and death certificates among the States (and even within States). One problem is the time gap between a person's death and the time at which the record is received and the birth record marked "deceased." As long ago as 1971, in anticipating the possibility of cross referencing among States, **The Paper Trip I** advised: "There would be a time delay loophole in the birth/death matching. Updating would occur probably only once per month, which would allow a clever Tripper time enough to obtain a birth certificate of a recently deceased person."

Some States which match births and deaths did not send notices to local offices to enter on their records. Thus, impostors could still obtain birth certificates of dead persons from these local offices.

Another obstacle to effective matching among the States is the variation in the upper age limit for matching deaths. This limit ranged from infancy to middle age among the States visited. Nor did State registrars always agree on the Interstate Agreement's upper age for sending children's death notices to the State of birth.

The cost of conducting birth/death matches was cited by respondents as a problem which could affect the feasibility of matching records on some sort of national basis. Only half the local registrars endorsed the idea and several mentioned funding problems. While the great majority of State registrars and investigators stated their belief that such matching was both desirable and feasible, a third of the State registrars cautioned about the cost.

Both AVRHS and NCHS continue to explore ways to expand birth/death match activities. The AVRHS has recently surveyed its membership to ascertain the readiness of State vital statistics offices to extend their interstate birth/death matches beyond infancy into adulthood.

A project to link infant birth and death records nationally was launched in late 1986 by NCHS. Although initiated for statistical purposes, the project is further developing birth/death match technology. NCHS has also asked States to describe their procedures for flagging birth records of deceased infants. The results of this evaluation project will be shared with States.

While there is no agreement on any one solution, consensus regarding the need exists. As stated by a western welfare investigator, "If birth records were matched with death records and birth certificates were stamped 'deceased' across the front, they could not be used for fraud."

In a somewhat related action, the Social Security Administration has been piloting a project in three States to issue SSNs to infants at birth at the request of their parents. One positive effect of implementing this demonstration nationally would be to increase the integrity of the SSA's process for issuing Social Security cards. Since most applications for cards made subsequent to the time of birth would be for replacement cards only, SSA's built-in internal review of the original application documents would minimize the use of fraudulent birth certificates as breeder documents to falsely obtain Social Security cards. Specifically, SSA does not recognize the birth certificate as an identification document when issuing replacement cards.

V. THE USER AGENCIES

"*There are so many different types of legitimate forms issued by the States, counties, and cities that it is impossible to be familiar with those of even a few States.*" -- **An Associate Commissioner Of The Immigration And Naturalization Service**

Federal And State Agencies Use Birth Certificates Heavily

Heavy users of birth certificates submitted by applicants as evidence of eligibility include the following two Federal and two State agencies:

- **Social Security Administration.** District office claims and service representatives ask for birth certificates as proof of age and citizenship when persons first apply for Social Security cards, as proof of age for retirement benefits and as proof of both age and citizenship for SSI. Birth certificates are also used as proof of age and/or relationship for dependents of the primary worker for such programs as Retirement, Survivor's and Disability Insurance.
- **Passport Services Of The Department Of State.** Examiners, clerks of court, and designated post office employees ordinarily require birth certificates of first-time passport applicants as proof of citizenship.

- **State Human Services Agencies.** Intake and eligibility workers request birth certificates as proof of age or relationship of applicants for: Federally-funded programs like AFDC, Food Stamps, and Medicaid; and for State-funded general assistance programs. Besides the problem of fraudulent birth certificates, missing or fraudulent social security cards, as noted earlier, were found to be a major source of errors in programs such as AFDC.
- **State Driver's License Agencies.** Desk clerks in these user agencies prefer birth certificates for proof of age with young applicants.

Each of these agencies requests a birth certificate when the applicant says it exists. However, the agencies differ in the documentation they will ultimately accept. Passport services is most insistent. While SSA will send an applicant home to get a certificate or ask a district office in the area where the applicant was born to check on the existence of a valid birth record, State agency workers have more leeway in accepting alternate documents. When no birth certificate exists, all of the agencies will review such alternate documents as baptismal certificates and census documents.

Most Workers Receive Minimal Training On Birth Certificates

Workers in user agencies review anywhere from 30 to 350 birth certificates a week. As many as 40 percent of these are from out of State, making it harder to evaluate their authenticity. The situation was summed up by an investigator with a user agency in the South who said: "There's no way to determine what is authentic with a reasonable degree of success. It's a big problem. We're talking about thousands of documents issued from so many sources. There's no control."

As a result, agency workers reported recognizing an average of only two or three suspicious-looking birth certificates in a month, and few of them ended up being rejected as invalid. More than one worker echoed the words of a supervisor of a multi-service center in a midwestern State who said, "I wouldn't know a counterfeit if I saw one."

The amount of training which workers get in birth certificate fraud varies by agency. The passport services has the most active training program for its field office personnel but it is less extensive for post office employees and clerks of court who handle the majority of passport applications. Senior examiners and passport fraud coordinators provide on-the-job training in the field offices, and a training manual lists criteria of a good birth certificate.

Social Security provides some training for its district office staff. It consists primarily of initial instruction in document review, followed by distribution of procedures manual updates, regional circulars and other written materials. These cite known fraudulent activities, including theft and counterfeiting of birth certificates, which could affect acceptance of applications.

The majority of SSA workers, however, indicated a need for more training in this area. One worker said it was 10 years since she was trained. Another SSA representative said that, "Training is not intense; it's sporadic and depends on the interest of the worker." An SSA security officer described the result: "The amount of knowledge among workers varies. One person will quote you chapter and verse and the person next to him won't know a thing." Nevertheless, SSA officials state that even an extra emphasis on training will not give workers the degree of expertise they need to detect false documents -- an expertise usually found only in special document labs.

State welfare and driver's license agencies generally have less well developed training programs for their staffs. Several welfare office supervisors said there was no awareness among their staffs of the topic since there were no problems in their areas. (See Best Practices in Appendix A.)

A special problem was noted in those States where local welfare agencies process applications for Social Security numbers on behalf of SSA. An earlier HHS/OIG report, **Controls Over The Social Security Number Application Process,** found that such local welfare workers receive inadequate training in detecting false birth certificates.

The driver's license agencies typically have had little or no training for their counter clerks regarding birth certificate fraud. One State agency official had not known any problem with birth certificates existed. (See exceptions in Appendix A.)

Agency "Service" Mission And Employee Evaluation Criteria Act As Disincentives To Ferreting Out Fraud

The primary mission of SSA, passport services, State welfare, and driver's license agencies is to serve the public. While most of them have investigative units, the agencies' service philosophies tend to permeate the staff even as they try to defend against fraud. The emphasis is on moving large numbers of cases efficiently through the system. In the words of an investigator, "A birth certificate is one more check on a blank form; because of the volume, it's not feasible to do a lot of checking."

Workers were also asked how high a priority their agency placed on stopping fraudulent use of birth certificates. While two- thirds of the workers from passport services said it had medium or high priority, none of the SSA staff said so. Compounding these obstacles to greater anti-fraud activities is the lack of incentives for workers to do more. For example, no credit is given by SSA for detection of fraudulent documents under its system of performance evaluation.

Poor Communication Hinders Deterrence And Detection

Communication and cooperation among Federal, State, and local investigators, and between the investigators and State and local registrars took place in every State we visited. The extent and effectiveness of such efforts, however, varied from good to poor.

While effective coordination efforts were observed in some cities and States visited (see Appendix A), the overall picture presented to the inspection team around the country was that of poor communication among agencies. The spotty nature of these efforts was illustrated by the following items:

- "It's one-way communication -- we never hear back."
- "We've been waiting over a year for SSA to straighten cases out."
- "I've notified the Secretary of State -- it's like talking to a wall."
- "We work close with INS but get no feedback on action it takes on referrals."

Cooperation between State registrars and investigative agencies also varied widely. The California State Registrar, for example, had loaned a microfilm file of vital records to the Los Angeles Passport Office for onsite access (see Appendix A). A registrar in another State, however, reportedly would not expeditiously verify birth certificates for the passport office there. The lack of formal and coordinated information sharing among agencies impacts negatively the ability of investigators and registrars alike to develop comprehensive plans to effectively prevent and detect birth certificate fraud.

When asked what the Federal government should do to help prevent birth certificate fraud, respondents were most likely to urge closer coordination and communication between Federal and State agencies, including developing nationwide information networks and sponsoring interagency meetings. A State registrar in the West summed it up: "The issue has national impact and therefore demands a cooperative effort between Federal and State Governments."

Inadequate Laws And Priority On "Big Bucks" Cases Hinders Prosecution

Effective sanctions against perpetrators of birth certificate fraud are hindered by laws viewed as inadequate and by resistance to prosecuting individuals who misuse birth certificates unless large sums of money are involved.

The historical inadequacy of Federal and State laws for charging individuals who are involved in birth certificate fraud was described in the FACFI report. As a result of its recommendations, Title 18 USC, Section 1028 was passed as part of the False Identification Crime Control Act of 1982 which closed some of the existing loopholes in Federal statutes. This new statute has been used successfully to prosecute and convict persons involved in birth certificate fraud. Overall, it is viewed as a positive step.

Two problems were noted with Section 1028. One investigator felt it was too limited because it does not make possession of a fraudulent State document, such as a birth certificate, an offense unless there is either a Federal document involved, evidence of defrauding the United States or the use of the mails. Another problem mentioned was the lack of publicity given to the availability and advantages of the statute.

Progress in obtaining new State legislation has been slow. A few States have passed statutes aimed at fraudulent identification and/or restricted access to vital records. A number of respondents, however, emphasized the lack of adequate laws in their own States.

In addition, there is a reluctance on the part of most prosecutors and some investigators to pursue individual perpetrators of birth certificate fraud. They are usually charged with the crime committed under a false identity, rather than with the birth certificate fraud itself. A low priority is typically given to crimes of obtaining false identity because, until subsequent criminal activities occur, few dollars are likely to be involved.

RECOMMENDATIONS

Since the production and issuance of legal birth certificates are clearly State and local functions, recommendations are directed to officials at the State level. It is hoped that the findings of this national inspection will encourage a concerted effort by State registrars to attain greater standardization of birth certificate forms (i.e., certified copies) and procedures, expanded use of safety paper, increased security of documents, stricter access and application procedures, and increased participation in national efforts to prevent birth certificate fraud. To be effective, such efforts must include both stricter issuance and more tamper-proof documents. Neither by itself is sufficient.

Such efforts by registrars will be most effective where they have the support of their Governors, their legislatures, and such national associations as the National Governors Association and the Association for Vital Records and Health Statistics.

It is recommended that State registrars, with the support of their Governors and the above groups as needed, should:

1. Standardize the form and content of birth certificates within their State, including the incorporation of document security features to protect birth documents against alteration and counterfeiting. Such document security should include the use of bank note-type safety paper with unique security characteristics, such as intaglio printing, high resolution borders, latent images, varying color tones, hidden errors, and latent "void" markings.

2. Promote greater intra-State standardization of birth certificate forms and issuance procedures, through State legislation if necessary, by reducing substantially the number of local issuing offices and/or by exercising greater control over local forms and procedures.

3. Establish minimum standards for the physical security of vital records, certified copy blanks, and seals against theft by providing secure storage, 24 hours a day, of blank forms and record files, and by a system of strict accountability for all certified copy blanks through prenumbering and other controls.

4. Urge legislatures to amend existing statutes, or pass new ones, to protect the privacy of individual vital records by restricting physical access to such records, and by strictly limiting applications for certified copies to those who have direct and tangible interest and can provide adequate identification.

5. Assure that their States participate fully in and help expand AVRHS' voluntary Interstate Vital Records Exchange System to include the sharing of death records for persons substantially beyond infancy for purposes of matching with birth records; and adopt a standard procedure for overlaying the word "Deceased" on original and certified copies of birth records of persons who have died.

6. Work cooperatively with the Social Security Administration in its pilot efforts to establish procedures whereby a parent can receive an infant's Social Security card at the time the infant's birth is registered, and in the long run help reduce the utility of a false birth certificate as a breeder document of a false identity.

APPENDIX A

BEST PRACTICES

The inspection team noted a number of State and local fraud prevention activities on the part of registrars and State user agencies which it considers to be best practices. They are described here so that other States and localities may consider adapting them. They include best practices with respect to centralization issuance, standardization of documents, security of paper, security of documents, secure issuing procedures, user agency staff training, and effective communication. They are not meant to be a complete listing of existing models even in States visited.

Centralization of Issuance

- While most State registrars allow their local offices to issue birth certificates, 16 States (Arkansas, Arizona, Delaware, Hawaii, Idaho, Kansas, Kentucky, Louisiana, Maryland, Missouri, Nebraska, Nevada, New Mexico, Tennessee, Wyoming, and Virginia) plus New York City and the District of Columbia, according to information available, either sharply curtailed local issuance or had no local offices. About 14 of these jurisdictions permitted issuance only by the State office, and another five limited local issuance to less than a handful of large local offices.

- Two States visited (Florida and Illinois) sent field representatives to monitor local offices at least once a year.

Standardization of Birth Documents

- Virginia, with no local offices issuing birth certificates, used several standardized State forms of certified copies throughout the State. New York City similarly issues standardized forms throughout its five boroughs.

- Three States (California, Vermont, and Washington) reported that State forms issued to local offices (free of charge in the latter two) were routinely used.

Security of Paper

- Of the seven visited States using some type of security, five (California, Illinois, Texas, Virginia, and Vermont) were using highly secure paper

including such features as intaglio printing, latent images, high resolution borders, and colored background designs.

- The city registrar in Detroit issued birth certificate copies on safety paper that was watermarked and would reveal the word "Void" if photocopied or treated with ink eradicator.

Secure Issuing Procedures

- In several State offices (e.g., Michigan and Washington), incidents of theft and fraud led to a separation of duties among staff responsible for processing and answering requests for copies. Such action precluded any one person from responsibility for all steps in the process.

- Following the lead of States like California, all but one of the visited States routinely matched birth and death records. Also, most marked "deceased" on the birth records which are then released with the "deceased" overlay, or are flagged for non-release.

- This increase in matching activity is due in part to the efforts of the AVRHS in promoting its Agreement for Administering the Interstate Vital Records Exchange System. These agreements signed by all State Registrars Offices, New York City, the District of Columbia, Guam, Puerto Rico, the Virgin Islands, and Canadian Provinces call for: (1) sending birth, death, and other records relating to non-residents to the State or Province where the individual usually resided; and (2) sending death certificates for infants under 1 year old to the State of birth.

- One factor cited to support national birth/death matches is the increasing computerization of State vital records. Of the 12 States surveyed, five issued computerized copies and five more had plans to do so.

User Agency Staff Training

- The outreach program established by the Bureau of Client Fraud Investigation in New York City has developed a training and awareness program for selected welfare staff.

- The Michigan Department of State has developed a pilot training document for staff in the Detroit area; and the Florida Division of Driver's Licenses had an aggressive program for its employees statewide. This training reportedly led to an increase in arrest rates.

- When training has been provided to workers in user agencies, it has often been with the cooperation of fraud investigators from their own and other agencies. The INS special agents, and passport fraud coordinators in particular, have joined with SSA Security Officers, HHS/OIG agents, welfare investigators and State and local registrars to provide such training.

Effective Communication

Where communication and collaboration does take place, it is often the result of informal networking among individuals-- investigators and registrars--who have developed working relationships. In Detroit, for example, the following joint activities were reported:

- City and suburban bank investigators met monthly together with State and local police, Secret Service, the Postal Inspector and others to discuss problems of fraudulent ID.

- The Detroit Office of the Secretary of State sent details of fraudulent driver's license requests to the bank investigators' group as well as to the State registrar. The banks, in turn, gave fraudulent driver's license numbers to the Secretary of State.

- The City registrar alerted the State registrar to fraudulent requests so they could tag the birth certificate in the State office. If there was a problem with mail requests, the City referred them to the Postal Inspector.

- According to the INS investigator, "If the passport office in Chicago has a case that appears to be an immigration case, they send it to us and we send them a copy of a finished report."

An example of effective coordination between a State registrar and passport agencies was observed in California as follows:

- In 1983, the California State registrar agreed to loan copies of birth and death records to the passport office in San Francisco. The project was so successful in expediting the verification of record authenticity that it was expanded to include the Los Angeles Passport Office. In 1985, the San Francisco office detected at least eight birth certificates for deceased individuals which were submitted with applications.

APPENDIX B

COMMENTS ON DRAFT REPORT AND OIG COMMENTS

The HHS comments on the draft report were received from the Administrator of Health Care Financing Administration, the Deputy Assistant Secretary for Health Operations of the Public Health Service and the Commissioner of Social Security. From outside HHS, they were received from the President of the Association for Vital Records and Health Statistics, and the Director of the Office of Consular Fraud Prevention Programs of the U.S. Department of State.

The Public Health Service commented that the use of the term "birth certificate" throughout the report made no clear distinction between original birth records and certified copies based on those records. Several technical comments were also made by PHS regarding the number of issuing jurisdictions, whether any States did not routinely match birth and death records, and which States curtail local office issuances of birth certificates.

> *The OIG response.* A statement is added at the beginning of the report which clearly states that in the report we refer to certified copies as "birth certificates" as distinct from the original birth records or registration on which certified copies are based. We also checked each technical comment and made appropriate changes.

The AVRHS expressed concern about the lack of documentation of the scope of the fraud problem and suggested a stronger statement to help convince States of the need for change.

> *The OIG response.* We added additional statements supporting the view that problems of false identification in general and of birth certificate fraud in particular are likely to be increasing as a result of the Immigration Reform and Control Act.

The AVRHS also pointed out that the National Center for Health Statistics is not in a position to match records since States do not provide NCHS with identifiers on birth records.

> *The OIG response.* Reference to NCHS as a possible coordinating agency with regards to a national birth/death match is deleted. We also refer to an AVRHS survey of States' willingness to expand their interstate exchange of birth and death information to include deceased persons substantially beyond infancy.

The recommendation (#2) that States reduce the number of local issuing offices and/or exercise greater control over them, according to AVRHS, would require legislative action in many States.

The OIG response. This point is acknowledged in the recommendation.

The recommendation (#5) which calls for strengthening AVRHS' voluntary Interstate Vital Records Exchange, was viewed favorably by PHS. The agency noted, however, that the exchange would have to be expanded beyond infant deaths to be effective against fraud.

The OIG response. The wording was changed from "strengthen" to "expand...to include the sharing of death records for persons substantially beyond infancy."

The recommendation (#6) that States work cooperatively with SSA to establish procedures for issuing infants an SSN at the time of birth was the subject of two comments. An update on their pilot project was provided by SSA; and PHS did not see the relevance of the recommendation to birth certificate fraud.

The OIG response. Our description of SSA's pilot project in the findings was updated and its potential relevance to birth certificate fraud was indicated.

The Department of State and HCFA both suggested more specific recommendations. The HCFA, while acknowledging the limitations of the Federal role, suggested the report "include more definitive guidelines for actively coordinating efforts among the various parties...." The State Department offered two specific recommendations. The first is for State and local registrars to develop a set of criteria to be required on applications for birth certificate copies. The second is that "registrars should be furnished with a set of data which must be provided for documents to be acceptable for Federal purposes." Specific items were suggested.

The OIG response. Having carefully considered what Federal actions might be feasible and effective in coordinating efforts to reduce birth certificate fraud, it was concluded that States hold the key to stricter issuance and more tamper-proof documents. The OIG recommendations call for coordinated actions by registrars with the support of their Governors, the National Governors Association and AVRHS. Best practices in collaboration among public and private agencies are listed for others to consider. On the matter of application form criteria, we have referred to the Model Application Form prepared by FACFI which includes many items generally not included on State forms. Finally, we agree it would be useful as a long-range strategy to have Federal agencies agree on minimum information which they would require for birth certificates to be acceptable for Federal purposes. We felt, however, that other actions were more feasible at this time.