
No. 18-35347

**United States Court of Appeals
for the Ninth Circuit**

RYAN KARNOSKI, ET AL.,

Plaintiffs-Appellees,

STATE OF WASHINGTON,

Intervenor-Plaintiff-Appellee,

v.

DONALD J. TRUMP, PRESIDENT OF THE UNITED STATES, ET AL.,

Defendants-Appellants.

**On Appeal from the United States District Court for the Western
District of Washington
Case No. 2:17-cv-01297-MJP**

**PLAINTIFFS-APPELLEES' SUPPLEMENTAL ADDENDUM,
PART 2**

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**UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WASHINGTON AT SEATTLE**

RYAN KARNOSKI, et al.,

Plaintiffs,

v.

DONALD J. TRUMP, in his official capacity as
President of the United States, et al.,

Defendants.

Case No. 2-17-cv-01297-MJP

**DECLARATION OF GEORGE R.
BROWN, M.D., D.F.A.P.A.
IN SUPPORT OF PLAINTIFFS'
MOTION FOR PRELIMINARY
INJUNCTION**

NOTE ON MOTION CALENDAR:
October 6, 2017
ORAL ARGUMENT REQUESTED

I, George R. Brown, M.D., D.F.A.P.A., declare as follows:

1. I have been retained by counsel for Plaintiffs as an expert in connection with the above-captioned litigation.

2. The purpose of this declaration is to offer my expert opinion on: (1) the medical condition known as gender dysphoria; (2) the prevailing treatment protocols for gender dysphoria; (3) the United States military's pre-2016 ban on the enlistment and retention of men and women who are transgender; (4) the subsequent lifting of that ban; and (5) the unfounded medical justifications for banning individuals who are transgender from serving in the United States military.

3. I have knowledge of the matters stated in this declaration and have collected and cite to relevant literature concerning the issues that arise in this litigation.

1 **PROFESSIONAL BACKGROUND**

2 4. I am a Professor of Psychiatry and the Associate Chairman for Veterans Affairs in
3 the Department of Psychiatry at the East Tennessee State University, Quillen College of
4 Medicine. My responsibilities include advising the Chairman; contributing to the administrative,
5 teaching, and research missions of the Department of Psychiatry; consulting on clinical cases at
6 the University and at Mountain Home Veterans Health Administration (“VHA”) Medical Center,
7 where I also hold an appointment; and acting as a liaison between the VHA Medical Center and
8 the East Tennessee State University Department of Psychiatry. The majority of my work
9 involves researching, teaching, and consulting about health care in military and civilian
10 transgender populations.

11 5. I also hold a teaching appointment related to my expertise with health care for
12 transgender individuals and research at the University of North Texas Health Services Center
13 (“UNTHSC”). My responsibilities include teaching and consultation with UNTHSC and the
14 Federal Bureau of Prisons staff regarding health issues for transgender individuals.

15 6. In 1979, I graduated *Summa Cum Laude* with a double major in biology and
16 geology from the University of Rochester in Rochester, New York. I earned my Doctor of
17 Medicine degree with Honors from the University of Rochester School of Medicine in 1983.
18 From 1983-1984, I served as an intern at the United States Air Force Medical Center at Wright-
19 Patterson Air Force Base in Ohio. From 1984-1987, I worked in and completed the United States
20 Air Force Integrated Residency Program in Psychiatry at Wright State University and Wright-
21 Patterson Air Force Base in Dayton, Ohio. A true and correct copy of my Curriculum Vitae is
22 attached hereto as Exhibit A.

23 7. I first began seeing patients in 1983. I have been a practicing psychiatrist since
24 1987, when I completed my residency. From 1987-1991, I served as one of the few U.S. Air
25 Force teaching psychiatrists. In this capacity, I performed more than 200 military disability
26 evaluations and served as an officer on medical evaluation boards at the largest hospital in the
27 Air Force.

1 8. During the last 33 years, I have evaluated, treated, and/or conducted research in
2 person with 600-1,000 individuals with gender disorders, and during the course of research,
3 conducted chart reviews of more than 5,100 additional patients with gender dysphoria. The vast
4 majority of the patients I have worked with have been active duty military personnel or veterans.

5 9. For three decades, my research and clinical practice has included extensive study
6 of the health care for transgender individuals, including three of the largest studies focused on
7 the health care needs of transgender service members and veterans. Throughout that time, I have
8 done research with, taught on, and published peer-reviewed professional publications specifically
9 addressing the needs of transgender military service members. *See* Brown Ex. A (CV).

10 10. I have authored or coauthored 38 papers in peer-reviewed journals and 19 book
11 chapters on topics related to gender dysphoria and health care for transgender individuals,
12 including the chapter concerning gender dysphoria in *Treatments of Psychiatric Disorders* (3d
13 ed. 2001), a definitive medical text published by the American Psychiatric Association.

14 11. In 2014, I coauthored a study along with former Surgeon General Joycelyn Elders
15 and other military health experts, including a retired General and a retired Admiral. The study
16 was entitled “Medical Aspects of Transgender Military Service.” *See* Elders J, Brown GR,
17 Coleman E, Kolditz TA, *Medical Aspects of Transgender Military Service*. ARMED FORCES AND
18 SOCIETY, 41(2): 199-220, 2015; published online ahead of print, DOI: 10.1177/0095327X1454
19 5625 (Aug. 2014) (the “Elders Commission Report”). The military peer-reviewed journal,
20 *Armed Forces and Society*, published the Elders Commission Report. A true and correct copy of
21 that report is attached hereto as Exhibit B.

22 12. I have served for more than 15 years on the Board of Directors of the World
23 Professional Association for Transgender Health (“WPATH”), the leading international
24 organization focused on health care for transgender individuals. WPATH has more than 2,000
25 members throughout the world and is comprised of physicians, psychiatrists, psychologists,
26 social workers, surgeons, and other health professionals who specialize in the diagnosis and
27 treatment of gender dysphoria.

1 13. I was a member of the WPATH committee that authored and published in
2 2011 the current version of the WPATH Standards of Care (“SoC”) (Version 7). The SoC
3 are the operative collection of evidence-based treatment protocols for addressing the health
4 care needs of transgender individuals. I also serve on the WPATH committee that will
5 author and publish the next edition, the Standards of Care (Version 8).

6 14. Without interruption, I have been an active member of WPATH since 1987. Over
7 the past three decades, I have frequently presented original research work on topics relating to
8 gender dysphoria and the clinical treatment of transgender people at the national and
9 international levels.

10 15. I have testified or otherwise served as an expert on the health issues of
11 transgender individuals in numerous cases heard by several federal district and tax courts. A true
12 and correct list of federal court cases in which I have served as an expert is contained in the
13 “Forensic Psychiatry Activities” section of my Curriculum Vitae, which is attached hereto as
14 Exhibit A.

15 16. I have conducted and continue to provide trainings on transgender health
16 issues for the VHA as well as throughout the Department of Defense (“DoD”). After the
17 DoD announced the policy that allowed for transgender individuals to serve openly in the
18 Armed Forces in 2016, I conducted the initial two large military trainings on the provision
19 of health care to transgender service members. The first training in Spring 2016 was for the
20 Marine Corps. The second training in Fall 2016 was for a tri-service (Army, Navy, and Air
21 Force) meeting of several hundred active duty military clinicians, commanders, and Flag
22 officers.

23 17. Since the issuance of DoD Instruction (“DoDI”) 1300.28 in October 2016, I
24 have led trainings for a national group of military examiners (MEPCOM) in San Antonio,
25 Texas and for Army clinicians at Fort Knox, Kentucky. Among other things, DoDI 1300.28
26 implemented the policies and procedures in Directive-type Memorandum 16-005,
27 established a construct by which transgender service members may transition gender while

1 serving, and required certain trainings for the military.

2 18. I have been centrally involved in the development, writing, and review of all
3 national directives in the VHA relating to the provision of health care for transgender
4 veterans. I also coauthored the national formulary that lists the medications provided by the
5 VHA for the treatment of gender dysphoria in veterans. Finally, I regularly consult with
6 VHA leadership regarding the training of VHA clinicians on transgender clinical care of
7 veterans nationally.

8 GENDER DYSPHORIA

9 19. The term “transgender” is used to describe someone who experiences any
10 significant degree of misalignment between their gender identity and their assigned sex at birth.

11 20. Gender identity describes a person’s internalized, inherent sense of who they are
12 as a particular gender (*i.e.*, male or female). For most people, their gender identity is consistent
13 with their assigned birth sex. Most individuals assigned female at birth grow up, develop, and
14 manifest a gender identity typically associated with girls and women. Most individuals assigned
15 male at birth grow up, develop, and manifest a gender identity typically associated with boys and
16 men. For transgender people, that is not the case. Transgender women are individuals assigned
17 male at birth who have a persistent female identity. Transgender men are individuals assigned
18 female at birth who have a persistent male identity.

19 21. Experts agree that gender identity has a biological component, meaning that each
20 person’s gender identity (transgender and non-transgender individuals alike) is the result of
21 biological factors, and not just social, cultural, and behavioral ones.

22 22. Regardless of the precise origins of a person’s gender identity, there is a medical
23 consensus that gender identity is deep-seated, set early in life, and impervious to external
24 influences.

25 23. The American Psychiatric Association’s Diagnostic and Statistical Manual of
26 Mental Disorders (2013) (“DSM-5”) is the current, authoritative handbook on the diagnosis of
27 mental disorders. Mental health professionals in the United States, Canada, and other countries

1 throughout the world rely upon the DSM-5. The content of the DSM-5 reflects a science-based,
2 peer-reviewed process by experts in the field.

3 24. Being transgender is not a mental disorder. *See* DSM-5. Men and women who are
4 transgender have no impairment in judgment, stability, reliability, or general social or vocational
5 capabilities solely because of their transgender status.

6 25. Gender dysphoria is the diagnostic term in the DSM-5 for the condition that can
7 manifest when a person suffers from clinically significant distress or impairment associated with
8 an incongruence or mismatch between a person's gender identity and their assigned sex at birth.

9 26. The clinically significant emotional distress experienced as a result of the
10 incongruence of one's gender with their assigned sex and the physiological developments
11 associated with that sex is the hallmark symptom associated with gender dysphoria.

12 27. Only the *subset* of transgender people who have clinically significant distress or
13 impairment qualify for a diagnosis of gender dysphoria.

14 28. Individuals with gender dysphoria may live for a significant period of their lives
15 in denial of these symptoms. Some transgender people may not initially understand the emotions
16 associated with gender dysphoria and may not have the language or resources for their distress to
17 find support until well into adulthood.

18 29. Particularly as societal acceptance towards transgender individuals grows and
19 there are more examples of high-functioning, successful transgender individuals represented in
20 media and public life, younger people in increasing numbers have access to medical and mental
21 health resources that help them understand their experience and allow them to obtain medical
22 support at an earlier age and resolve the clinical distress associated with gender dysphoria.

23 **TREATMENT FOR GENDER DYSPHORIA**

24 30. Gender dysphoria is a condition that is amenable to treatment. *See* WPATH SoC
25 (Version 7); Elders Commission Report at 9-16; Agnes Gereben Schaefer et al., *Assessing the*
26 *Implications of Allowing Transgender Personnel to Serve Openly*, RAND Corporation (2016) at
27 7 ("RAND Report") (a true and correct copy of the report is attached hereto as Exhibit C).

1 31. With appropriate treatment, individuals with a gender dysphoria diagnosis can be
2 fully cured of *all* symptoms.

3 32. Treatment of gender dysphoria has well-established community standards and is
4 highly effective.

5 33. The American Medical Association (“AMA”), the Endocrine Society, the
6 American Psychiatric Association, and the American Psychological Association all agree that
7 medical treatment for gender dysphoria is medically necessary and effective. *See* American
8 Medical Association (2008), Resolution 122 (A-08); American Psychiatric Association, Position
9 Statement on Discrimination Against Transgender & Gender Variant Individuals (2012);
10 Endocrine Treatment of Transsexual Persons: An Endocrine Society Clinical Practice Guideline
11 (2009); American Psychological Association Policy Statement on Transgender, Gender Identity
12 and Gender Expression Nondiscrimination (2009). Additional organizations that have made
13 similar statements include the American Academy of Child & Adolescent Psychiatry, American
14 Academy of Family Physicians, American Academy of Nursing, American College of Nurse
15 Midwives, American College of Obstetrics and Gynecology, American College of Physicians,
16 American Medical Student Association, American Nurses Association, American Public Health
17 Association, National Association of Social Workers, and National Commission on Correctional
18 Health Care.

19 34. The protocol for treatment of gender dysphoria is set forth in the WPATH SoC
20 and in the Endocrine Society Guidelines.¹ First developed in 1979 and currently in their seventh
21 version, the WPATH SoC set forth the authoritative protocol for the evaluation and treatment of
22 gender dysphoria. This approach is followed by clinicians caring for individuals with gender
23 dysphoria, including veterans in the VHA. As stated above, I was a member of the WPATH
24 committee that authored the SoC (Version 7), published in 2011. A true and correct copy of that
25 document is attached hereto as Exhibit D.

26 _____
27 ¹ Available at [https://academic.oup.com/jcem/article/94/9/3132/2596324/Endocrine-Treatment-
of-Transsexual-Persons-An](https://academic.oup.com/jcem/article/94/9/3132/2596324/Endocrine-Treatment-of-Transsexual-Persons-An).

1 35. Depending on the needs of the individual, a treatment plan for persons diagnosed
2 with gender dysphoria may involve components that are psychotherapeutic (*i.e.*, counseling as
3 well as social role transition – living in accordance with one’s gender in name, dress, pronoun
4 use); pharmacological (*i.e.*, hormone therapy); and surgical (*i.e.*, gender confirmation surgeries,
5 like hysterectomy for those transitioning to the male gender and orchiectomy for those
6 transitioning to the female gender). Under each patient’s treatment plan, the goal is to enable the
7 individual to live all aspects of one’s life consistent with his or her gender identity, thereby
8 eliminating the distress associated with the incongruence.

9 36. There is a wide range in the treatments sought by those suffering from gender
10 dysphoria. For example, some patients need both hormone therapy and surgical intervention,
11 while others need just one or neither. Generally, medical intervention is aimed at bringing a
12 person’s body into some degree of conformity with their gender identity.

13 37. As outlined further below, treatment protocols for gender dysphoria are
14 comparable to those for other mental health and medical conditions, including those regularly
15 treated within the United States military. *See* RAND Report at 8-9; Elders Commission Report at
16 13 (“the military consistently retains non-transgender men and women who have conditions that
17 may require hormone replacement”).

18 PRE-2016 MILITARY POLICY

19 38. Prior to 2016, military policy treated transgender individuals with gender
20 dysphoria differently than people with other curable conditions.

21 *Former Enlistment Policy*

22 39. DODI 6130.03 established the medical standards for accession/entry into military
23 service. Enclosure 4 of the enlistment instruction contains an extensive list of physical and
24 mental conditions that disqualify a person from enlisting in the military. For instance, persons
25 with autism, schizophrenia, or delusional disorders (or a history of treatment for these
26 conditions) are excluded from enlistment. Prior to 2016, that list also contained “change of sex”
27

1 and “transsexualism,” which were outdated references to transgender individuals and individuals
2 with gender dysphoria. *See* Elders Commission Report at 7.

3 40. The enlistment policy allows for the possibility of waivers for a variety of medical
4 conditions. The instruction, however, specifies that entry waivers will not be granted for
5 conditions that would disqualify an individual from the possibility of retention. As discussed
6 further below, because certain conditions related to being transgender (“change of sex”) were
7 formerly grounds for discharge from the military, men and women who are transgender could
8 not obtain medical waivers to enter the military. *Id.* at 7-8.

9 41. Under military instructions, the general purpose of disqualifying applicants based
10 on certain physical and mental conditions is to ensure that service members are: (1) free of
11 contagious diseases that endanger others, (2) free of conditions or defects that would result in
12 excessive duty-time lost and would ultimately be likely to result in separation, (3) able to
13 perform without aggravating existing conditions, and (4) capable of completing training and
14 adapting to military life. *Id.* at 7.

15 42. Because gender dysphoria, as described above, is a treatable and curable
16 condition, unlike other excluded conditions, its inclusion on the list of disqualifying conditions
17 was inappropriate. Individuals with gender dysphoria (or under the language at the time – those
18 who had a “change of sex”) were disqualified from joining the military, despite having a
19 completely treatable, or already treated, condition.

20 43. The enlistment policy treated transgender individuals in an inconsistent manner
21 compared with how the military addressed persons with other curable medical conditions. The
22 result of this inconsistency was that transgender personnel were excluded or singled out for
23 disqualification from enlistment, even when they were mentally and physically healthy.

24 44. For example, persons with certain medical conditions, such as Attention Deficit
25 Hyperactivity Disorder (“ADHD”) and simple phobias, could be admitted when their conditions
26 could be managed without imposing undue burdens on others. Individuals with ADHD are
27 prohibited from enlisting unless they meet five criteria, including documenting that they

1 maintained a 2.0 grade point average after the age of 14. Similarly, individuals with simple
2 phobias are banned from enlisting, unless they meet three criteria including documenting that
3 they have not required medication for the past 24 continuous months.

4 45. In short, even though the DoD generally allowed those with manageable
5 conditions to enlist, the former regulation barred transgender service without regard to the
6 condition's treatability and the person's ability to serve.

7 ***Former Separation Policy***

8 46. The medical standards for retiring or separating service members who have
9 already enlisted are more accommodating and flexible than the standards for new enlistments.

10 47. Until recently, the medical standards for separation were set forth in DoDI
11 1332.38. On August 5, 2014, the DoD replaced DoDI 1332.38 with DoDI 1332.18, which
12 permits greater flexibility for the service branches to provide detailed medical standards.

13 48. The separation instructions divide potentially disqualifying medical conditions
14 into two different tracks. Service members with "medical conditions" are placed into the medical
15 system for disability evaluation. Under this evaluation system, a medical evaluation board
16 ("MEB") conducts an individualized inquiry to determine whether a particular medical condition
17 renders a service member medically unfit for service. If a service member is determined to be
18 medically unfit, the service member may receive benefits for medical separation or retirement, or
19 may be placed on the Temporary Duty Retirement List with periodic reevaluations for fitness to
20 return to duty. While in the U.S. Air Force, I served as an officer on at least two hundred of these
21 MEBs.

22 49. Under the separation instruction, service members with genitourinary conditions,
23 endocrine system conditions, and many mental health conditions are all evaluated through the
24 medical disability system. *See* DoDI 1332.38 §§ E4.8, E4.11, E4.13; AR 40-501 §§ 2-8, 3-11, 3-
25 17, 3-18, 3-31, 3-32; SECNAVIST 180.50_4E §§ 8008, 8011, 8013; U.S. Airforce Medical
26 Standards Directory §§ J, M, Q.

1 50. By contrast, under the separation instructions, a small number of medical and
2 psychiatric conditions are not evaluated through the medical evaluation process. Instead, these
3 conditions are deemed to render service members “administratively unfit.” Service members
4 with “administratively unfit” conditions do not have the opportunity to demonstrate medical
5 fitness for duty or eligibility for disability compensation.

6 51. Under DoDI 1332.38, the “administratively unfit” conditions were listed in
7 Enclosure 5 of the instruction. Since August 5, 2014, when DoDI 1332.18 replaced 1332.38, the
8 “administratively unfit” conditions are determined by the service branches, as set forth in AR 40-
9 501 § 3-35; SECNAVIST § 2016; and AFI36-3208 § 5.11.

10 52. Enclosure 5 of DoDI 1332.38 included, among other conditions, bed-wetting,
11 sleepwalking, learning disorders, stuttering, motion sickness, personality disorders, mental
12 retardation, obesity, shaving infections, certain allergies, and repeated infections of venereal
13 disease. It also included “Homosexuality” and “Sexual Gender and Identity Disorders, including
14 Sexual Dysfunctions and Paraphilias.” *See* Elders Commission Report at 8.

15 53. Similarly, the “administratively unfit” conditions in the service branches included
16 “psychosexual conditions, transsexual, gender identity disorder to include major abnormalities or
17 defects of the genitalia such as change of sex or a current attempt to change sex,” AR 40-501
18 § 3-35(a); “Sexual Gender and Identity Disorders and Paraphilias,” SECNAVIST § 2016(i)(7);
19 and “Transsexualism or Gender Identity Disorder of Adolescence or Adulthood, Nontranssexual
20 Type (GIDAANT),” AFI36-3208 § 5.11.9.5. The service branches retained these bars to service
21 by transgender individuals after DoDI 1332.18 replaced DoDI 1332.38.

22 54. DoDI 1332.14 controlled administrative separations for enlisted persons. Under
23 the instruction, a service member may be separated for the convenience of the government and at
24 the discretion of a commander for “other designated physical or mental conditions.” Before
25 2016, this particular separation category included “sexual gender and identity disorders.” *Id.*

26 55. Because service members with gender dysphoria were deemed to be
27 “administratively unfit,” they were not evaluated by MEBs and had no opportunity to

1 demonstrate that their condition did not affect their fitness for duty. They were disqualified from
2 remaining in the military despite having a completely treatable condition.

3 56. This was inconsistent with the treatment of persons with other curable medical
4 conditions, who are given the opportunity to demonstrate medical fitness for duty or eligibility
5 for disability compensation. For example, mood and anxiety disorders are not automatically
6 disqualifying for retention in military service. Service members can receive medical treatment
7 and obtain relief in accordance with best medical practices. Mood and anxiety disorders result in
8 separation only if they significantly interfere with duty performance and remain resistant to
9 treatment. In contrast, transgender individuals were categorically disqualified from further
10 service without consideration of their clinical symptoms and any impact on their service.

11 57. The result of this inconsistency was that transgender personnel were singled out
12 for separation, even when they were mentally and physically healthy, solely because they were
13 transgender.

14 **OPEN SERVICE DIRECTIVE**

15 58. The DoD lifted the ban on open service by transgender military personnel
16 following a June 30, 2016 announcement made by then-Secretary of Defense Ash Carter (“Open
17 Service Directive”).

18 59. Based on my extensive research and clinical experiences treating transgender
19 individuals over decades, the Open Service Directive is consistent with medical science.

20 60. The Open Service Directive also aligns with the conclusions reached by the
21 RAND National Defense Research Institute, the Elders Commission, and the AMA.

22 61. The RAND Report concluded that the military already provides health care
23 comparable to the services needed to treat transgender individuals: “Both psychotherapy and
24 hormone therapies are available and regularly provided through the military’s direct care system,
25 though providers would need some additional continuing education to develop clinical and
26 cultural competence for the proper care of transgender patients. Surgical procedures quite similar
27

1 to those used for gender transition are already performed within the [Medical Health System] for
2 other clinical indications.” See RAND Report at 8.

3 62. The earlier Elders Commission, on which I served, concluded that “[t]ransgender
4 medical care should be managed in terms of the same standards that apply to all medical care,
5 and there is no medical reason to presume transgender individuals are unfit for duty. Their
6 medical care is no more specialized or difficult than other sophisticated medical care the military
7 system routinely provides.” See Elders Commission Report at 4.

8 63. Additionally, in a unanimous resolution published on April 29, 2015, the AMA
9 announced its support for lifting the ban on open transgender service in the military, based on the
10 AMA’s conclusion that there is no grounding in medical science for such a ban.²

11 ***Enlistment Policy for Transgender Individuals***

12 64. The Open Service Directive’s enlistment procedures – which were adopted but
13 not yet put into effect – are carefully designed to ensure that transgender individuals who enlist
14 in the military do not have any medical needs that would make them medically unfit to serve or
15 interfere with their deployment.

16 65. Under these standards, transgender individuals whose condition was stable for 18
17 months at the time of enlistment would be eligible to enlist, assuming a licensed medical
18 provider certified that they met certain conditions. DTM-16-005 Memorandum and Attachment
19 (June 30, 2016). For example, those seeking to enlist who had been treated with any counseling,
20 cross-sex hormone therapy, or gender confirmation surgeries must have medical confirmation
21 that they have been stable for the last 18 months. Similarly, those applicants taking maintenance
22 cross-sex hormones as follow-up to their transition would also need certification that they had
23 been stable on such hormones for 18 months.

24 ***Retention Policy for Transgender Individuals***

25 66. Under the Open Service Directive, gender dysphoria is treated like other curable
26

27 ² Available at <http://archive.palmcenter.org/files/A-15%20Resoulution%20011.pdf>.

1 medical conditions. Individuals with gender dysphoria receive medically necessary care. Service
2 members who are transgender are subject to the same standards of medical and physical fitness
3 as any other service member.³

4 67. The Open Service Directive also permits commanders to have substantial say in
5 the timing of any future transition-related treatment for transgender service members. The needs
6 of the military can also take precedence over an individual's need to transition, if the timing of
7 that request interferes with critical military deployments or trainings.

8 **MEDICAL JUSTIFICATIONS FOR BANNING**
9 **TRANSGENDER SERVICE MEMBERS ARE UNFOUNDED**

10 68. Based upon: (1) my extensive research and experience treating transgender
11 people, most of whom have served this country in uniform, (2) my involvement reviewing the
12 medical implications of a ban on transgender service members, and (3) my participation in
13 implementing the Open Service Directive allowing transgender individuals to serve openly, it is
14 my opinion that any medical objections to open service by transgender service members are
15 wholly unsubstantiated and inconsistent with medical science and the ways in which other
16 medical conditions are successfully addressed within the military.

17 ***Mental Health***

18 69. Arguments based on the mental health of transgender persons to justify
19 prohibiting individuals from serving in the military are wholly unfounded and unsupported in
20 medical science. Being transgender is not a mental defect or disorder. Scientists have long
21 abandoned psychopathological understandings of transgender identity, and do not classify the
22 incongruity between a person's gender identity and assigned sex at birth as a mental illness. To
23 the extent the misalignment between gender identity and assigned birth sex creates clinically
24 significant distress (gender dysphoria), that distress is curable through appropriate medical care.

25
26
27 ³ Available at https://www.defense.gov/Portals/1/features/2016/0616_policy/Guidance_for_Treatment_of_Gender_Dysphoria_Memo_FINAL_SIGNED.pdf.

1 70. Sixty years of clinical experience have demonstrated the efficacy of treatment of
2 the distress resulting from gender dysphoria. *See* Elders Commission Report at 10 (“a significant
3 body of evidence shows that treatment can alleviate symptoms among those who do experience
4 distress”). Moreover, “empirical data suggest that many non-transgender service members
5 continue to serve despite psychological conditions that may not be as amenable to treatment as
6 gender dysphoria.” *Id.* at 11.

7 71. The availability of a cure distinguishes gender dysphoria from other mental health
8 conditions, such as autism, bipolar disorder, or schizophrenia, for which there are no cures.
9 There is no reason to single out transgender personnel for separation, limitation of service, or
10 bars to enlistment, based only on the diagnosis or treatment of gender dysphoria. Determinations
11 can and should be made instead on a case-by-case basis depending on the individual’s fitness to
12 serve, as is done with other treatable conditions.

13 72. The military already provides mental health evaluation services and counseling,
14 which is the first component of treatment for gender dysphoria. *See* RAND Report at 8.

15 73. Concerns about suicide and substance abuse rates among transgender individuals
16 are also unfounded when it comes to military policy. At enlistment, all prospective military
17 service members undergo a rigorous examination to identify any pre-existing mental health
18 diagnoses that would preclude enlistment. Once someone is serving in the military, they must
19 undergo an annual mental and physical health screen, which includes a drug screen. If such a
20 screening indicates that a person suffers from a mental illness or substance abuse, then that
21 would be the potential impediment to retention in the military. The mere fact that a person is
22 transgender, however, does not mean that person has a mental health or substance abuse problem
23 or is suicidal.

24 ***Hormone Treatment***

25 74. The argument that cross-sex hormone treatment should be a bar to service for
26 transgender individuals is not supported by medical science or current military medical
27 protocols.

1 75. Hormone therapy is neither too risky nor too complicated for military medical
2 personnel to administer and monitor. The risks associated with use of cross-sex hormone therapy
3 to treat gender dysphoria are low and not any higher than for the hormones that many non-
4 transgender active duty military personnel currently take. There are active duty service members
5 currently deployed in combat theaters who are receiving cross-sex hormonal treatment, following
6 current DoD instructions, without reported negative impact upon readiness or lethality.

7 76. The military has vast experience with accessing, retaining, and treating non-
8 transgender individuals who need hormone therapies or replacement, including for gynecological
9 conditions (*e.g.*, dysmenorrhea, endometriosis, menopausal syndrome, chronic pelvic pain, male
10 hypogonadism, hysterectomy, or oophorectomy) and genitourinary conditions (*e.g.*, renal or
11 voiding dysfunctions). Certain of these conditions are referred for a fitness evaluation only when
12 they affect duty performance. *See Elders Commission* at 13.

13 77. In addition, during service when service members develop hormonal conditions
14 whose remedies are biologically similar to cross-sex hormone treatment, those members are not
15 discharged and may not even be referred for a MEB. Examples include male hypogonadism,
16 menstrual disorders, and current, or history of, pituitary dysfunction. *Id.*

17 78. Military policy also allows service members to take a range of medications,
18 including hormones, while deployed in combat settings. *Id.* Under DoD policy only a “few
19 medications are inherently disqualifying for deployment,” and none of those medications are
20 used to treat gender dysphoria. *Id.* (quoting Dept. of Defense, Policy Guidance for Deployment-
21 Limiting Psychiatric Conditions and Medications, 2006 at para. 4.2.3). Similarly, Army
22 regulations provide that “[a] psychiatric condition controlled by medication should not
23 automatically lead to non-deployment.” *See AR 40-501 § 5-14(8)(a).*

24 79. Access to medication is predictable, as “[t]he Medical Health Service maintains a
25 sophisticated and effective system for distributing prescription medications to deployed service
26 members worldwide.” *See Elders Commission* at 13. At least as to cross-sex hormones, clinical
27 monitoring for risks and effects is not complicated, and with training and/or access to

1 consultations, can be performed by a variety of medical personnel in the DoD, just as is the case
2 in the VHA. This is the military services' current practice in support of the limited medical needs
3 of their transgender troops in CONUS (Continental United States) and in deployment stations
4 worldwide.

5 80. The RAND Corporation confirms the conclusions I draw from my experience
6 with the military and the Elders Commission. Specifically, the RAND Report notes that the
7 Medical Health System maintains and supports all of the medications used for treatment of
8 gender dysphoria and has done so for treatment of non-transgender service members. In other
9 words, all of the medications utilized by transgender service members for treatment of gender
10 dysphoria are used by other service members for conditions unrelated to gender dysphoria. *See*
11 RAND Report at 8 (“Both psychotherapy and hormone therapies are available and regularly
12 provided through the military’s direct care system, though providers would need some additional
13 continuing education to develop clinical and cultural competence for the proper care of
14 transgender patients”). Part of my role with the DoD over the past 18 months has been to provide
15 this continuing education.

16 ***Surgery***

17 81. Nor is there any basis in science or medicine to support the argument that a
18 transgender service member’s potential need for surgical care to treat gender dysphoria presents
19 risks or burdens to military readiness. The risks associated with gender-confirming surgery are
20 low, and the military already provides similar types of surgeries to non-transgender service
21 members. *See* Elders Commission Report at 14; RAND Report at 8-9.

22 82. For example, the military currently performs reconstructive breast/chest and
23 genital surgeries on service members who have had cancer, been in vehicular and other
24 accidents, or been wounded in combat. *See* RAND Report at 8. The military also permits service
25 members to have elective cosmetic surgeries, like LeFort osteotomy and mandibular osteotomy,
26 at military medical facilities. *See* Elders Commission Report at 14. The RAND Report notes that
27 the “skills and competencies required to perform these procedures on transgender patients are

1 often identical or overlapping. For instance, mastectomies are the same for breast cancer patients
2 and female-to-male transgender patients.” See RAND Report at 8.

3 83. There is no reason to provide such surgical care to treat some conditions and
4 withhold identical care and discharge individuals needing such care when it is provided to treat
5 gender dysphoria. Based on risk and deployability alone, there is no basis to exclude transgender
6 individuals from serving just because in some cases they may require surgical treatment that is
7 already provided to others.

8 84. The RAND Report also notes the benefit of military medical coverage of
9 transgender-related surgeries because of the contribution it can make to surgical readiness and
10 training. *Id.* (“performing these surgeries on transgender patients may help maintain a vitally
11 important skill required of military surgeons to effectively treat combat injuries during a period
12 in which fewer combat injuries are sustained”).

13 85. The suggestion by some critics that when it comes to enlistment, individuals
14 would join the military just to receive surgical care, is completely unfounded. The level of
15 commitment and dedication to service makes it unlikely that someone would enlist and complete
16 a years-long term of initial service simply to access health care services. Moreover, because
17 medically-necessary care for gender dysphoria is now increasingly available in the civilian
18 context, there would be limited need to join the military in order to obtain treatment.

19 ***Deployability***

20 86. Critics have also cited non-deployability, medical readiness, and constraints on
21 fitness for duty as reasons to categorically exclude transgender individuals from military service.
22 Such arguments are unsubstantiated and illogical.

23 87. Transgender service members – including service members who receive hormone
24 medication – are just as capable of deploying as service members who are not transgender. DoD
25 rules expressly permit deployment, without need for a waiver, for a number of medical
26 conditions that present a much more significant degree of risk in a harsh environment than being
27 transgender. For example, hypertension is not disqualifying if controlled by medication, despite

1 the inherent risks in becoming dehydrated in desert deployment situations. Heart attacks
2 experienced while on active duty or treatment with coronary artery bypass grafts are also not
3 disqualifying, if they occur more than a year preceding deployment. Service members may
4 deploy with psychiatric disorders, if they demonstrate stability under treatment for at least three
5 months. *See* DoDI 6490.07, Enclosure 3.

6 88. Moreover, although a service member undergoing surgery may be temporarily
7 non-deployable, that is not a situation unique to people who are transgender. Numerous non-
8 transgender service members are temporarily or permanently non-deployable, including pregnant
9 individuals, who are not separated as a result. *See* Elders Commission Report at 17.

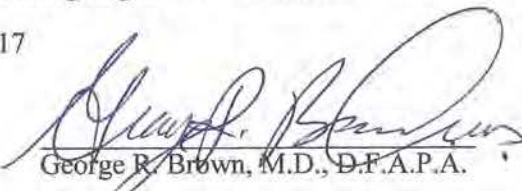
10 89. Finally, the RAND Report ultimately concluded that the impact of open service of
11 men and women who are transgender on combat readiness would be “negligible.” *See* RAND
12 Report at 70. Based on the available evidence of over 18 foreign militaries, RAND found that
13 open service has had “no significant effect on cohesion, operational effectiveness, or readiness.”
14 *Id.* at 60. This includes the experience of Canada, which has permitted open service for over 20
15 years. *Id.* at 52.

16 CONCLUSION

17 90. There is no evidence that being transgender alone affects military performance or
18 readiness. There is no medical or psychiatric justification for the categorical exclusion of
19 transgender individuals from the Armed Forces.

20
21 I declare under penalty of perjury that the foregoing is true and correct.

22 Executed on September 12, 2017

23
24 
George R. Brown, M.D., D.F.A.P.A.

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CERTIFICATE OF SERVICE

The undersigned certifies under penalty of perjury under the laws of the United States of America and the laws of the State of Washington that on September 14, 2017, I caused true and correct copies of the foregoing documents to be served by the method(s) listed below on the following interested parties:

By Hand Delivery:

US Attorney’s Office
700 Stewart St., Suite 5220
Seattle, WA 98101-1271

By Registered or Certified Mail:

Attorney General of the United States
U.S. Department of Justice
950 Pennsylvania Avenue, NW
Washington, DC 20530-0001

Department of Defense
1400 Defense Pentagon
Washington, DC 20301-1400

Secretary of Defense James N. Mattis
1000 Defense Pentagon
Washington, DC 20301-1000

President Donald J. Trump
1600 Pennsylvania Ave. NW
Washington, DC 20500

I hereby certify under the penalty of perjury that the foregoing is true and correct. Executed on September 14, 2017 at Seattle, Washington.

s/Rachel Horvitz
Rachel Horvitz, *Paralegal*

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Exhibit A

CURRICULUM VITAE

GEORGE RICHARD BROWN, MD, DFAPA

Professor of Psychiatry
Associate Chairman for Veterans Affairs
East Tennessee State University

Research, Teaching, Consulting Psychiatrist
James H. Quillen VAMC
Mountain Home
Johnson City, TN

Mailing address:
549 Miller Hollow Road
Bluff City, Tennessee 37618-4103

(423) 676-5291 (cell)
(423) 538-8655 (fax)
Email: BrownGR@etsu.edu

Date of Preparation: August 29, 2017

EDUCATION:

Undergraduate: University of Rochester, Rochester, New York, 1975-1979;
Bachelor of Science with Highest Honors and Distinction in Research, Summa Cum Laude.
Double major, with BS in both biology and geology

Medical School: University of Rochester School of Medicine, Early Acceptance Program
(Rochester Plan), 1979-1983; Doctor of Medicine with Honors; Health Professions Scholarship
Program.

Internship: United States Air Force Medical Center, Wright-Patterson Air Force Base, Ohio,
1983-1984.

Residency: Wright State University - United States Air Force Integrated Residency in Psychiatry,
Dayton, Ohio, 1984-1987.

CREDENTIALS:

FLEX, December, 1983 (Behavioral Sciences, 94%; Psychiatry, 93%).
Full licensure to practice medicine, State of Ohio, December, 1983 to April, 2017; license
#50119; allowed to expire with no intent of practicing in Ohio.
Full licensure to practice medicine, State of Texas, August, 1989 to present; license
#H5847
Full Licensure to practice medicine, Commonwealth of Kentucky, 1993 to 1995,
#30100; allowed to expire with no intent of practicing in Kentucky.
Full licensure to practice medicine, State of Tennessee, 1994-present, license #25192

Psychiatry Resident In-Training Examinations;
1986: 98th percentile - all U.S. residents, psychiatry.
1985: 90th percentile - all U.S. residents, psychiatry.

1984: 98th percentile - all U.S. residents, psychiatry.
1983: 98th percentile - all U.S. residents, psychiatry.
American Board of Psychiatry and Neurology, Part I, April 1988 (92nd percentile); Part II, June 1989; ABPN Certificate #31377.
Electroconvulsive Therapy Administration Certification, 1985-1990.
Courtesy Staff Privileges, Charter Real Hospital, San Antonio, Texas, 1990-1994.
Courtesy Hospital Staff, Bexar County Hospital District, San Antonio, Texas, 1988-1994.
Full Admitting Privileges, Wilford Hall Medical Center, San Antonio, Texas, 1987-1993.
Full Admitting Privileges, James H. Quillen VAMC Hospital, Johnson City, TN, 1994-2016
Basic Life Support Certification, renewed March 2017

PROFESSIONAL EXPERIENCE:

Current Positions:

Professor and Associate Chairman for Veterans Affairs, Department of Psychiatry and Behavioral Sciences, Quillen College of Medicine, East Tennessee State University. 1995-present. Advisory duties to the Chairman, signature authority in absence of the Chair, contributing to administrative, teaching, and research missions of the Department, liaison between the VAMC and ETSU psychiatry administrations.

Research, Teaching, and Resident supervision appointment, James H. Quillen VAMC. February 1, 2016-present. Responsibilities include providing teaching, research services, clinical consultation, and resident supervision/mentoring in the Psychiatry Service.

Clinical Professor of Psychiatry (Adjunct), University of North Texas Health Sciences Center. 2017-present. Clinical privileges at Carswell Federal Correctional Institution in association with UNTHSC appointment. Responsibilities include teaching and consultation with UNTHSC and Federal Bureau of Prisons staff about transgender health issues.

Past Positions:

Staff Psychiatrist, Mental Health Outpatient Clinic, James H. Quillen VAMC. December, 2014-January 31, 2016. Responsibilities included treating veterans with chronic, persistent, mental illnesses in an outpatient setting and providing consultation services to junior staff and residents in psychiatry. Direct supervision of third year psychiatry residents in the Mental Health Clinic.

Transgender Health Care Facility Lead, Mountain Home Health Care System. 2014-January 31, 2016. Responsibilities included providing direct patient care for transgender veterans, providing national training for VHA health care providers learning how to provide transgender health care, direct supervision of other health care providers in teaching evaluation and treatment techniques, leading a multidisciplinary team of health care providers assigned to provide transgender health care in our 70,000 patient health care system.

Program Officer, Health Care Outcomes, Office of Health Equity (10A6), VA Central Office, Washington, D.C. December, 2012, to December, 2014. Responsibilities included researching medical and psychiatric health disparities in vulnerable populations of Veterans treated by the Veterans Health Administration, and assisting top officials in VHA in the development of policies that lead to elimination of health care outcome disparities in these subpopulations. Continued to see patients at Mountain Home VAMC throughout this appointment.

Chief of Psychiatry, James H. Quillen VAMC. November 22, 1995-December 16, 2012. Responsibilities included direct supervision of a staff of 34-42 professional staff, including 24-28 psychiatrists, 2 Clinical Nurse Specialists, and 9-12 psychiatric nurse practitioners. Represented the Department in all meetings requiring the input of the Chief of Service. Attended executive meetings in the Medical Center and University. Contributed to long range planning of services in the Medical Center.

Research Appointment (WOC), VHA Center of Excellence for Suicide Prevention, Canandaigua, New York. 2011-2014. Responsibilities of this position included developing research protocols collaboratively with CoE staff that have national implications related to suicide in VHA.

Director of Psychiatric Research, James H. Quillen VAMC Dept. of Psychiatry. 1994-2012. Responsibilities included creating a research program de novo and leading a research team at the VAMC, teaching resident seminars, didactics, research electives, providing direct patient care for inpatients on research protocols (usually those with severe mental disorders), traveling to conferences to present research findings and providing Grand Rounds to other institutions and medical schools. Major focus of research activities has been working with stigmatized/disenfranchised populations and addressing mental health care aspects and disparities in care.

Staff psychiatrist, Another Chance Recovery Program, Morristown, Tennessee. March 1995-1996. This is an intensive outpatient drug and alcohol treatment program with a heavy emphasis on dual diagnosis patients, outpatient detoxification from chemical dependency, and a blend of the medical and 12-Step approaches to treatment of the chemically dependent patient. One evening clinic per week.

Senior Research Scientist and Director of Psychiatric/Neuropsychiatric HIV Research, Wilford Hall Medical Center, Henry M. Jackson Foundation for the Advancement of Military Medicine, San Antonio, Texas. 1 July 1991 to 1 October 93. Responsibilities included hiring and then directing a team of approximately 15 civilian and military psychiatric researchers conducting HIV-related psychiatric research; Principal Investigator on longitudinal psychiatric natural history study of early HIV infection (males and females), 1989-1993; preparing manuscripts, presenting research findings at national and international meetings; designing and implementing new protocols; interviewing and assisting in the hiring of personnel; managing administrative and personnel issues.

Private practice of adult psychiatry. 1991-November 1993. Part-time practice primarily focusing on sexuality and gender concerns, including endocrine care, and adult psychodynamic psychotherapy.

Consulting Psychiatrist for Quality Assurance and Continuing Quality Improvement Programs:

- 1) Charter Real Partial Hospitalization Program, San Antonio, Texas. 1990 to 12/93. Responsibilities of this part time position included designing and implementing a medical quality assurance program and assisting Utilization Review personnel with implementing efficient resource utilization procedures.
- 2) Colonial Hills Hospital Inpatient Services and Adult Partial Hospitalization Program, San Antonio, Texas. 1992. Responsibilities of this part time position included custom designing a four part program to address QA/CQI concerns on all inpatient units, coordinating the implementation of the program with hospital QA/UR personnel, and quantifying/ databasing physician charting performance to analyze trends.

Staff Psychiatrist, Wilford Hall Medical Center, Lackland Air Force Base, San Antonio, Texas:

1987-1989: Primary responsibility for inpatient ward of 25-33 patients, resident and medical student teaching, and professional presentations. 1040 admissions; average length of stay 13 days.

1989-1991: Outpatient Clinic service, responsible for evaluations and treatment of adult outpatients; supervision of PGY-3 residents in psychiatry and other staff working in the clinic (social workers, psychologists, and mental health technicians). Medical support for comprehensive Smoking Cessation Clinic.

1989-1991: Director of Psychiatric Research, half-time position; developed a research program primarily targeting psychiatric resident involvement with research and related activities, including presentations at regional and national professional meetings. Active in conducting research, reviewing and approving protocols, research design, editing publications submitted from the Department of Psychiatry, and organizing symposia; interviewing and selecting official for research personnel for multicenter collaborative HIV research grant.

ACADEMIC APPOINTMENTS:

Professor of Psychiatry (1998-present), East Tennessee State University, Quillen College of Medicine. VA Academic Faculty appointment.

Clinical Professor of Psychiatry (Adjunct), University of North Texas Health Sciences Center, Fort Worth, Texas (2017-present).

Adjunct Professor of Psychology, University of Tennessee at Knoxville (1997). Served on doctoral dissertation committee as supervisor and mentor for doctoral candidate in clinical psychology.

Associate Professor of Psychiatry (1994-1998), East Tennessee State University, Quillen College of Medicine. Full time geographic faculty appointment. Renewal of previously awarded academic ranking. Activities include serving on numerous committees (see below), teaching residents, providing electives, working collaboratively with staff to conduct new research projects, interviewing residency and faculty candidates.

Clinical Associate Professor of Psychiatry (1992-1994), University of Texas Health Science Center at San Antonio, San Antonio, Texas. 1987 to 1994. Primary responsibility of this position was teaching medical students and residents in individual, group, and lecture settings; provision of psychodynamic psychotherapy supervision. Lectures and seminars include core material on sexual dysfunction, treatment of paraphilias, gender identity disorders, homosexuality, and psychiatric aspects of HIV infection.

Clinical Associate Professor of Psychiatry (1992-1996), Uniformed Services University for the Health Sciences, School of Medicine, Bethesda, Maryland. Primary responsibility of this position was teaching medical students from the University who travel to San Antonio for clinical rotations in psychiatry and serving as a visiting lecturer for USUHS.

Full time faculty, Department of Psychiatry, Wilford Hall Medical Center, Lackland Air Force Base, San Antonio, Texas, 1987 to 1991. Adjunct clinical faculty, Department of Psychiatry, 1991 to 1993. Responsibilities included supervising psychiatric residents involved in research activities, sponsoring Distinguished Visiting Professors in conjunction with the Department, and teaching core didactic lectures and seminars.

Assistant Clinical Instructor, Wright State University School of Medicine, 1983-1987. Primary

responsibility of this position was teaching medical students during clinical rotation in psychiatry.

Chief Resident in Psychiatry, November, 1986 to March, 1987, with administrative, teaching, and research responsibilities.

CONSULTATION EXPERIENCE:

Psychiatric Liaison and Consultant to Oncology Unit, Good Samaritan Hospital, Dayton, Ohio, 1985.

Clinical Supervisor and Psychiatric Consultant to Montgomery County Juvenile Court Diversion Program, Dayton, Ohio, 1986-1987.

Consultation/Liaison Rotation, Keesler AFB, MS, 1986.

Psychiatric Consultant to the United States Air Force Child Abuse Task Force (convened by the Surgeon General of the Air Force), 1989-1991.

Lorain Correctional Institution, psychiatric consultant for inmate mental health evaluations and treatment, July-August 1993.

State of Tennessee Mental Health and Mental Retardation, appointed as consultant to develop Best Practice Guidelines for all State programs for Bipolar Disorder.

Health Ed, The Patient Education Agency: consultant for development of patient education materials for chronic mental illnesses, 2006-2007.

Consultant to Batavia Independent School District in assisting on-the-job gender transition for a transgender high school teacher, 2006.

Consultant to Port Ewan/Kingston BOCES School Program in assisting on-the-job transition for a transgender principal, 2007.

Consultant to the Federal Bureau of Prisons on policies relating to medical management of transgender inmates, 2009, 2014.

Consultant to Department of Defense on policy and medical issues related to transgender service members, 2016-present.

Faculty consultant to Carswell Federal Correctional Institution, Fort Worth, Texas, on transgender health issues, 2017-present.

Research Consultant to Michael Goodman, MD, Principal Investigator, PCORI Grant to study transgender health issues, Emory University, 2014-2016.

Department of Justice, National Institute of Corrections, 2017-present.

Department of Veterans Affairs, LGBT Veterans Program, Washington, DC, 2016-present.

SPECIALIZED TRAINING EXPERIENCES:

School of Aerospace Medicine, Course I, Brooks AFB, San Antonio, Texas, 1981.

Administrative Course for Chief Residents, Tarrytown, New York, June, 1985.

Combat Casualty Care Course, San Antonio, Texas, 1985.

Consultation and Liaison Psychiatry, Keesler AFB, Biloxi, Mississippi, 1986.

Center for the Treatment of Impotence, Case Western Reserve University, Cleveland, Ohio, July, 1986.

Forensic Psychiatry Course and associated clinical work, 6 months, 1986-87; ongoing case work in forensic psychiatry as expert witness and legal consultant, 1987-present.

Gender Identity Clinic, Case Western Reserve University, Cleveland, Ohio, July, 1986.

Paraphilias Clinic, Case Western Reserve University, Cleveland, Ohio, July, 1986.

Chemical Dependency Program, Samaritan Hall, Dayton, Ohio, August, 1986.

Advanced Study of Gender and Sexual Disorders, Institute of Living, Hartford, Connecticut, April, 1987.

Electroconvulsive Therapy Administration Training, Jan-June, 1985; June, 1987.

SCID training seminar, September, 1989.

American Board of Psychiatry and Neurology Examiner, 1991-present.

Administrative psychiatry and leadership training, James H. Quillen VAMC, 1996 to 2012.
Physician Executive Training, American College of Physician Executives, (PIM-I Course, 31 hours; PIM-II Course, 31 hours, PIM-III Course, 31 hours), 1998-1999.
Masters and Johnson workshop on trauma, sexual compulsivity/addiction treatment, 11 hours, December, 2003.
Forensic Workshop on sex offenders, National Council on Sexual Addiction and Compulsivity, October, 2002
Forensic workshops, including PREA implementation, managing hunger strikes, mental health issues in prison, sponsored by National Commission on Correctional Health Care, 2010, 2012.
Forensic workshops, including 3 hours of training on medical and legal aspects of providing health care for transgender inmates, sponsored by National Commission on Correctional Health Care, 2015.

COMMITTEE AND BOARD ACTIVITIES:

Mohonasen Public School Board Member, Schenectady, New York, 1974-1975.
Social Chairman, Wright State University Psychiatry Residency, 1984.
Dayton Representative to the Member-in-Training Committee of the Ohio Psychiatric Association, 1984-1986.
Chairman, Member-in-Training Committee, Ohio Psychiatric Association, 1986-1987.
Chairman, Member-in-Training Committee, Dayton Psychiatric Society, 1985-1987.
Peer Review Committee, Ohio Psychiatric Association, 1986-1988.
Long Range Planning Committee, Ohio Psychiatric Association, 1986-1987.
American Psychiatric Association, Area IV Resident Caucus, Ohio Representative, 1987.
American Psychiatric Association, Committee of Residents of the Council on Medical Education and Career Development, Ohio Representative, 1986-1987.
Ohio Psychiatrist's Political Action Committee, Board of Directors, 1987.
Bexar County Psychiatric Society Committee on AIDS, 1990-1993.
World Professional Association for Transgender Health (WPATH) Committee to Revise the Standards of Care, 1990-present; Cochairman of Standards of Care Revision Committee, 2001-2005.
Psychiatric Consultant to the Board of Directors, Boulton and Park Society, San Antonio, Texas, 1988-1998.
President-elect, Society of Air Force Psychiatrists, 1990-1991.
Board of Directors, Alamo Area Resource Center (AIDS/HIV Service Organization), 1991-1992.
Board of Advisors, American Educational Gender Information Service (Atlanta, Georgia), 1992-1998.
Quality Assurance Committee, Texas Society of Psychiatric Physicians, 1992-1993.
Professional Standards Committee, Texas Society of Psychiatric Physicians, 1992-1993.
Board of Directors, Harry Benjamin International Gender Dysphoria Association (WPATH), 1993-1997; 2001-2007
Ethics Committee, Tennessee Psychiatric Association, 1994-present.
Advisory Committee on Publications and Advertising, Southern Medical Association, 1994-1996.
Councilor to the Executive Committee, Tennessee Psychiatric Association, East Tennessee Region, 1995-2005.
Vice-Chairman, Section on Neurology and Psychiatry, Southern Medical Association, 1995-1996.
President, New Health Foundation, 2001-2003.
Secretary of the Section on Neurology and Psychiatry, Southern Medical Association, 1997-2000.
American Psychiatric Association PKSAP and Medical Education Committees, appointed by Herb Sachs, M.D. and Harold Eist, M.D. (APA Presidents), 1997-2001.
Scientific Affairs Committee, Southern Medical Association, 1997-1999.

Consultant to the Joint Commission on Public Affairs, American Psychiatric Association, appointed by Rod Munoz, M.D. (APA President), 1998-1999.
Scientific Program Committee, Southern Psychiatric Association, 1999-2000.
Resident Award Committee, Southern Psychiatric Association, 1997-2009.
Ethics Committee; HIV Committee; Harry Benjamin International Gender Dysphoria Association, 1999-2005
Board of Directors, New Health Foundation, Chicago, IL, 2000-present.
Tennessee Department of Mental Health and Retardation Adult Committee on Best Practices (responsible for recommending guidelines for treatment of bipolar disorder), 2000-2003.
Associate Counselor for Tennessee, Southern Medical Association, 2000-2008.
Resident Award Committee, Southern Psychiatric Association, 2003-2009.
Board of Directors, James H. Quillen VAMC Research Corporation, 2003-2010.
HBIGDA Biennial Symposium Scientific Meeting Committee, 2006-2007.
Board of Regents, Southern Psychiatric Association, 2006.
Southern Medical Association, Section Secretary for Psychiatry and Neurology, 2004-2008.
Scientific Review Committee, World Professional Association for Transgender Health Symposium, 2007-2009; 2015-present.
Board of Regents, Second Year, Southern Psychiatric Association, 2007.
Chairman, Board of Regents, Southern Psychiatric Association, 2009.
WPATH Board of Directors, 3 terms totaling 13 years, with last term 2014 (mandatory rotation off the board).
Secretary-Treasurer, World Professional Association of Transgender Health, 2007-2009.
DSM-V workgroup on Gender Identity Disorders (WPATH advisory work group to American Psychiatric Association DSM-V GID task force), 2009.
World Health Organization advisory committee for ICD-11 (gender identity disorders), 2011-present.
Department of Veterans Affairs Transgender Directive Communication Plan Education Group, 2011-2012.
VHA Transgender Training Workgroup, Patient Care Services, 2012- present.
Numerous VA Central Office national workgroups and committees, including the workgroup to add birth sex and gender identity data fields to all VA medical records, 2012-present.
Commissioner, Palm Center Commission on Transgender Military Service, Appointed by Joycelyn Elders, MD, 2013 to 2014.

PROFESSIONAL ORGANIZATIONS:

American Psychiatric Association (1983-2015); #044933, Fellow, 1998; Distinguished Fellow, 2003
Association for the Advancement of Psychotherapy (1985-1993)
World Professional Association for Transgender Health (1986-present)
Ohio Psychiatric Association (1983-1987)
Texas Society of Psychiatric Physicians (1988-1994)
Tennessee Psychiatric Association (1994-2015)
American Medical Students Association (1977-1987)
American Medical Association (1983-1988; 2015-present)
Ohio State Medical Association (1983-1987)
Montgomery County Medical Society (1983-1987)
Dayton Psychiatric Society (1983-1987)
Society of United States Air Force Psychiatrists (1983-1991)
Bexar County, Texas, Psychiatric Society (1987-1990)
Southern Medical Association (1994-2010)
Southern Psychiatric Association (1997-2009)
New Health Foundation (advocacy organization for transgendered health care; 1996-present)

American Psychological Association Society for the Psychological Study of Men and Masculinity,
Division 51, 1996-2000.

AWARDS AND SPECIAL RECOGNITION:

Valedictorian, Mohonasen High School, Schenectady, New York, 1975.
New York State Regents Scholarship, 1975-1979.
Bausch and Lomb Science Award and Scholarship, 1975-1979.
Phi Beta Kappa, junior year selection, 1977.
Donald Charles Memorial Award for Research in Biology, 1978.
Recognition for Highest Grade Point Average, Department of Biology-Geology, University
of Rochester, 1979.
Dean's Letters of Commendation for Academic Achievement, University of Rochester, 1975-
1983.
Letter of Commendation for Excellence in Pathology, University of Rochester, 1981.
Alpha Omega Alpha Medical Honor Society, University of Rochester, 1983.
Wright State University Department of Psychiatry selectee for fellowship in the Group for the
Advancement of Psychiatry (GAP), 1984.
Wright State University Department of Psychiatry nominee for Laughlin Fellowship of the
American College of Psychiatrists, 1985, 1986.
Physician's Recognition Award of the American Medical Association, 1986 to present.
President's Award of the Ohio Psychiatric Association for outstanding service to the
organization, 1987.
Chairman's Recognition Award For Scholarship and Research, Wright State University
Department of Psychiatry, 1987.
Air Force Training Ribbon, 1980.
Air Force Outstanding Unit Decoration, 1987; first oak leaf cluster additional award, 1990.
Air Force Expert Marksman Ribbon, 1988.
Air Force Achievement Medal for research accomplishments, 1990.
1990 American Academy of Psychosomatic Medicine Dlin Fischer Award for Significant
Achievement in Clinical Research; corecipient.
Who's Who Among Human Services Professionals, 1990 to present.
West's Who's Who in Health and Medical Services, 1991 to present.
Marquis Who's Who of Board Certified Medical Specialists, 1992-present.
Bexar County Medical Society Certificate of Appreciation, 1991.
Air Force Meritorious Service Medal for distinguished clinical and research service to the
Department of Psychiatry, Wilford Hall Medical Center, 1991.
Air Force National Defense Ribbon, Desert Storm Campaign, 1991.
Mohonasen High School Hall of Fame for Lifetime Achievement, 1992 inductee.
Health Care Professional of the Year Award, Boulton and Park Society, San Antonio, Texas,
1992-93.
Special Citation Award, Society of Behavioral Medicine, with Coyle C, et al., for
presentation at 1993 Society of Behavioral Medicine Annual Meeting, 1993.
Institute for Legislative Action, 1995 Honor Role.
Sterling Who's Who of Health Care Professionals, 1995.
Southern Medical Association 1995 Award for Medical Excellence (Best Scientific Oral
Presentation in Neurology and Psychiatry), \$1,000 Scholarship prize, 1995.
Janssen Clinical Scholar, 1995.
Mountain Home VAMC Group Special Contribution Award, 1995, 1997.
Marquis Who's Who in the South and Southwest, 1996-1998.
Marquis Who's Who in Medicine and Healthcare, 1997-1998.
Certificate of Appreciation, ETSU Psychiatry Residents, 1997, 1998, 1999.
Fellow, American Psychiatric Association, 1998-2002.
Resident Special Recognition Award, June, 2000.
Distinguished Fellow, American Psychiatric Association, January, 2003

Special Group Contribution Award, VAMC, 2003
Secretary of Defense Certificate of Recognition, Cold War Military Service, 2003
VA Performance Award, 2005
First Annual Irma Bland Award for Excellence in Teaching Residents, presented by the American Psychiatric Association, May, 2005
Special Contribution Award, Mountain Home VAMC, for assisting in obtaining over 2.5 million in new program monies from VA Central Office RFP process, April 26, 2006
Top Psychiatrists of 2006, Consumer Research Council selectee
ETSU Resident Recognition Award for "dedication to the Resident's Journal Club", 2006
Fellow, Southern Psychiatric Association, 2006
ETSU Psychiatry Faculty Mentor of the Year Award, 2007
Cambridge Who's Who, Executive and Professional Registry, 2007
Southern Medical Association, Third Place Award for Scientific Poster Presentation, Dallas, Texas, December 5, 2009
Twenty-five year U.S. Government service award, January 10, 2010
Joint Commission recognition : "Top Performers on Key Quality Measures" (contributor), 2011
Robert W. Carey Quality Performance Excellence Award (contributor), 2011; Department of Veterans Affairs award using Baldrige criteria
James H. Quillen VAMC selected as VA to be featured in the Commonwealth Fund's article on successful efforts to improve patient safety (contributor), 2011
Gender Identity Research and Education Society (GIRES) 2011 award to the 34 members of the Standards of Care Revision Committee for their work on the WPATH Standards of Care, 7th Version.
Robert W. Carey Quality Trophy Award, Mountain Home VAMC. This is the highest level of the Carey Award for those VAMC's seeking performance excellence using the Baldrige Criteria. Awarded by the Secretary of the VA to the leadership team of which I was a Part, 2012.
Recognized by LGBT Health journal in March, 2016 as having first-authored the #1 and #3 most read articles in that journal since its inception.

UNIVERSITY/VA COMMITTEE ACTIVITIES:

Learning Resources Advisory Committee (ETSU), 1995-1996.
Psychiatric Residency Training Committee /Educational Policy Committee (ETSU), 1993-2017.
Peer Review Committee (VAMC), 1995-1996.
Chairman and Founder, Psychiatric Grand Rounds and Visiting Professor Program (ETSU), 1993-1997; 2003-2004.
Clinical Executive Board (VAMC), 1995-2012.
Research and Development Committee, Dean's Appointment (VAMC), 1996-1998.
Chairman, VAMC Research and Development Committee, 1999-2000.
Co-Chairman, Mental Health Council (VAMC), 1995-2009.
Academic Partnership Committee (ETSU), member, 1995-2012.
Facility Master Plan and Space Utilization Committee (VAMC), 1995-2010.
Professional Standards Board (VAMC), 1995-2012.
Safety Committee, Department of Psychiatry, Chairman (VAMC)
ETSU Psychiatry Promotion and Tenure Committee, 1998-present.
Resident Selection Committee, ETSU Psychiatry Program, 1998-2012.
Chairman, VAMC Research and Development Committee, 2001-2002.
Veterans Health Affairs, VISN 9, Budget and Finance Committee, 2002-2004.
Institutional Review Board (ETSU/VAMC), member, 1996-2003; served as acting chair as needed.
Cameron University Department of Psychology, Dissertation Committee Consultant for Beth Ryan, Masters Thesis, 2004-2005 (gender identity disorder research).
VISN 9 Mental Health Leadership Committee.
ETSU/VAMC Subcommittee on Graduate Medical Education, 2008-2012.

Vanderbilt University Department of Nursing, Dissertation Committee member and consultant for Gerald Meredith, 2009-2010.
VA Transgender Directive Education Workgroup; VACO workgroup to advise the Undersecretary, VHA, on how to educate and implement the 2011 and 2013 Directives on providing Healthcare to transgender and intersex Veterans, 2011-present.
Office of Health Equity (VACO), Health Equity Coalition, 2013-2014.
Numerous research committees and advisory panels for health equity research projects being conducted in VA, 2012-2015.
Chairman, Educational Policy Committee (Residency Training Committee), East Tennessee State University Department of Psychiatry, 2015-2016.
Self-Identified Gender Identity Data Field Training Workgroup (National VA work group to change electronic medical records data collection to include self-identified gender identity), 2012-present.
Research Committee, East Tennessee State University Department of Psychiatry, 2015-present.

FORENSIC PSYCHIATRY ACTIVITIES:

1. Military court proceedings, two occasions as expert witness at trial; U.S. Air Force, U.S. Army, c.1990-1992
2. Military Physical Evaluation Board Proceedings, expert testimony, 2/8/02
3. Farmer v. Hawk, United States District Court for the District of Columbia, expert opinion by affidavit on behalf of plaintiff, 1999
4. Yolanda Burt v. Federal Bureau of Prisons/Moritsugu, United States District Court for the District of Columbia, deposition testimony on behalf of plaintiff, 2000
5. Kosilek v. Maloney, 221 F.Supp 2d 156,186 (D.Mass. 2002), expert witness by trial testimony on behalf of plaintiff, 2001
6. Family Court expert witness trial testimony, Missouri, (custody issues for transgendered parent),1993
7. Thompson v. Idaho Department of Corrections (prison medical care Issues), consultant on behalf of plaintiff, 2002 (citation: Linda Patricia Thompson v. Dave Paskett, et al., Case No. CV00-388-S-BLW)
8. State of Missouri Medical Board, expert opinion by affidavit on behalf of physician, 10/2001
9. State of Tennessee Medical Board, expert opinion by affidavit on behalf of physician, 5/2002
10. Military Administrative Hearing, consultant, U.S. Army, December, 2002
11. Oiler v. Winn-Dixie Louisiana, Inc; USDC, Eastern District of Louisiana, No. 00-3114 "L" (3); consultant on behalf of defendant, 2001-2002
12. Moore v. State of Minnesota, consultant and deposition testimony on behalf of defendant, Attorney General's Office, State of Minnesota, 2003
13. Woods v. US Air Force, administrative discharge board, consultant, San Antonio, TX, 2003
14. Ophelia Azriel De'Lonta vs. Ronald Angelone and Prison Health Services, Inc. (Virginia Department of Corrections) United States District Court, Western District of Virginia, 330 F.3d 630,635 (4th Cir 2003) deposition testimony on behalf of plaintiff, 2003
15. Malpractice case, Tennessee, for defendant (primary care physician) consultant, 2004-2005
16. Josef v. Ontario Minister of Health, Attorney General of Ontario representing Her Majesty the Queen in Right of Ontario; Ontario Superior Court of Justice; expert opinion affidavit and consultant on behalf of plaintiff, 2004-2007.
17. Nubel v. New Jersey Board of Nursing, consultant and deposition testimony for defendant, 2004-2005
18. Malpractice case, Tennessee, consultant for defendant (psychiatrist), 2004-2005
19. Malpractice case, Kentucky, consultant for defendants (psychiatrists), 2005-2006
20. Kosilek v. Mass. Department of Corrections/ Kathleen Dennehy, expert witness by trial

- testimony and consultant on behalf of plaintiff, 2005-2006 (*Kosilek v. Spencer*, 889 F.Supp.2d 190 (D. Mass. Sept. 4, 2012); "*Kosilek II*."
21. *Gammett v. Idaho Department of Corrections*, expert opinion affidavit and consultant for plaintiff, 2005-2007 (*Gammett v. Idaho State Bd. of Corrections*, No. CV05-257-S-MHW, 2007 WL 2186896 (D. Idaho July 27, 2007))
 22. *Isaak v. Idaho Department of Corrections*, consultant, and deposition testimony on behalf of plaintiff, 2006-2008
 23. *May v. State of Tennessee and multiple codefendants*; consultant on behalf of defendant, Attorney General's Office, State of Tennessee, 2006
 24. *Fields/Sundstrom v. Wisconsin Department of Corrections*, consultant and deposition testimony on behalf of plaintiff, 2007 (*Fields v. Smith*, 653 F.3d 550 (7th Cir. 2011))
 25. *Palmer v. State of TN*; malpractice case; consultant and deposition testimony for defendant, Attorney General's Office, State of Tennessee 2007
 26. *Spray v. Temp Agency*, consultant and expert opinion affidavits on behalf of plaintiff, 2007
 27. *O'Donnabhain v. Internal Revenue Service/Department of the Treasury*, expert witness by trial testimony on behalf of plaintiff, 2007 (*O'Donnabhain v. Commissioner*, 134 T.C. No. 4 (Feb. 2, 2010)).
 28. *Battista v. Mass. Department of Corrections/Kathleen Dennehy*, consultant and expert opinion affidavit for plaintiff, 2008-2011.
 29. *Plumley v. State of TN*; malpractice case; consultant for defendant, 2009.
 30. *Kolestani v. State of Idaho*, capital murder case, consultant and expert opinion affidavit for public defender's office, 2009.
 31. *Smith v. St. Mary's Medical Center*, medical malpractice case, consultant for defendant, 2009-2011, expert witness by jury trial testimony, 2011.
 32. *Finch aka Destiny v. Idaho Department of Corrections*, consultant for plaintiff, 2010-2011.
 33. *Soneeya v. Clarke*, Civil Action No. 07-12325 (NG), Massachusetts, consultant for plaintiff, 2011. (see also *Soneeya v. Spencer*, 851 F.Supp.2d 228 (D. Mass. 2012))
 34. *Hoyle v. Saha*, malpractice case; consultant for defendant, 2011- 2014.
 35. *Champouillon v. State of TN*; malpractice case; consultant for defendant, 2012-present.
 36. *Equivel v. State of Oregon*; access to transgender health care for Oregon State employees; consultant to Lambda Legal, 2012.
 37. *Kosilek v. MA DOC*, expert witness for plaintiff, 2012-present; ("*Kosilek III*").
 38. *Binney v. South Carolina DOC*, consultant and expert opinion by affidavit for plaintiff, 2013-present.
 39. *De'Lonta v. Harold W. Clarke et al. (Virginia Department of Corrections)*, consultant and expert opinion by affidavit to plaintiff, 2013-2014.
 40. *U.S. and Tudor v. Southeastern Oklahoma State University*, expert consultant for plaintiff and the Department of Justice (Title VII discrimination case), by declaration for plaintiff, 2015-present.
 41. *Mott v. State of Kansas*, consultant and expert opinion by affidavit for plaintiff (birth certificate change), 2015-2016.
 42. *Fuller v. MA Department of Corrections*; expert opinion by affidavit and deposition, for plaintiff, 2015-2016.
 43. *Franklin v. Hardy, et al. (Illinois Department of Corrections)*; expert opinion by affidavit, for plaintiff, 2015-2016.
 44. *Dunn et al. v. Dunn et al. (Alabama Department of Corrections)*, expert consultant for plaintiff, 2016-2017.
 45. *Keohane v. Jones (Florida Department of Corrections)*, Case No.4:16-cv-511-MW-CAS, N. D. Fla, expert opinion by affidavit, deposition, and trial testimony for plaintiff, 2016-2017.
 46. *Rodgers v. State of Florida*, Case #1998CF274, expert opinion by affidavit for defendant, 2016-present.
 47. *U.S. v. State of North Carolina, North Carolina Department of Public Safety, & University of North Carolina (HB2)*; 1:16-CV-00425, expert opinion by affidavits, for plaintiff (DOJ, Civil Rights Division, and ACLU), 2016-2017. Case dropped by Attorney General Sessions.
 48. *Hicklin v. Lombardi, et al.*, File No. 3587.53, (Missouri Department of Corrections, Corizon),

consultant for defendants (Corizon), 2017-present.

49. U.S. v. John Patrick Price, expert opinion by affidavit for defendant (Federal Public Defender, Western NC), 2017-present.

50. Jane Does 1-5 v. Donald J. Trump, James Mattis, et al, case number 17-cv-1597, District Columbia, expert opinion by declaration for plaintiffs, 2017-present.

PUBLICATIONS:

1. Brown G R: Morphologic complexity and its relationship to taxonomic rates of evolution. J Undergrad Res, 3:139-168, 1978.
2. Brown G R: Stadol dependence: another case. JAMA, 254(7):910, 1985.
3. Brown G R: Letter to the Editor. Newsletter of the Ohio Psychiatric Association, 10(1):8, 1986.
4. Brown G R: Resident Rounds. Column for Newsletter of the Ohio Psychiatric Association. 10(2), 10(3), 11(1),11(2), 1986-1987.
5. Brown G R: Anorexia nervosa complicated by Mycobacterium xenopi pulmonary infection. J Nerv Ment Dis, 175(10):629-632, 1987.
6. Brown G R: Mycobacterium xenopi infection complicating anorexia nervosa. Proceedings of the 29th Annual Meeting of American College of Physicians (Air Force Regional Meeting), 22-25 March, 1987.
7. Brown G R: Buspar, a new anxiolytic. Letter to the Editor, Journal of the Ohio State Medical Association, Spring, 1987.
8. Brown G R: Transsexuals in the military: flight into hypermasculinity. Abstract. Proceedings of the 10th International Symposium on Gender Dysphoria (Amsterdam, The Netherlands) 7 June, 1987.
8. Brown G R: Transsexuals in the military: flight into hypermasculinity. Arch Sex Behav, 17(6):527-537, 1988.
10. Brown G R: Therapeutic effect of silence: application to a case of borderline personality disorder. Current Issues in Psychoanalytic Practice, 4(3-4):123-131, 1988.
11. Brown G R: Bioethical issues in the management of gender dysphoria. Jefferson J Psychiatry, 6(1):33-44, 1988.
12. Brown G R, Rundell J R: Psychiatric disorders at all stages of HIV infection. Proceedings of the 1988 Annual Session of the Texas Medical Association (San Antonio, Texas), May, 1988.
13. Brown G R, Rundell J R: Suicidal tendencies in HIV-seropositive women. Am J Psychiatry, 146(4):556-557, 1989.
14. Brown G R, Collier L: Transvestites' women revisited: a nonpatient sample. Arch Sex Behav, 18(1):73-83, 1989.
15. Brown G R, Pace J: Hypoactive sexual desire disorder in HIV-seropositive individuals. JAMA, 261(17):2305, 1989.
16. Brown G R: Prospective study of psychiatric morbidity in HIV-seropositive women. Psychosom Med, 51:246-247, 1989.
17. Brown G R: Current legal status of transsexualism in the military. (Letter) Arch Sex Behav, 18(4):371-373, 1989.
18. Rundell J R, Brown G R: Use of home test kits for HIV is bad medicine. JAMA, 262(17):2385-2386, 1989.
19. Rundell J R, Brown G R, Paolucci S L: Psychiatric diagnosis and attempted suicide in HIV-infected USAF personnel. Abstract. Proceedings of the Fifth International Conference on AIDS (Montreal, Canada), June, 1989.
20. Brown G R: Current legal status of transsexualism in the military. Abstract. Proceedings of the Eleventh Inter-national Symposium on Gender Dysphoria (Cleveland, Ohio), September, 1989.
21. Brown G R: A review of clinical approaches to gender dysphoria. J Clin Psychiatry, 51(2):57-64, 1990.

22. Pace J, Brown G R, Rundell J R, et al.: Prevalence of psychiatric disorders in a mandatory screening program for infection with human immunodeficiency virus: A pilot study. Milit Med, 155:76-80, 1990.
23. Rundell J R, Brown G R: Persistence of psychiatric symptoms in HIV seropositive persons. Am J Psychiatry, 147(5):674-675, 1990.
24. Praus D, Brown G R, Rundell J R, et al.: Associations between CSF parameters and high degrees of anxiety or depression in USAF personnel infected with HIV. J Nerv Ment Dis, 178(6):392-395, 1990.
25. Brown G R, Rundell J R: Prospective study of psychiatric morbidity in HIV-seropositive women without AIDS. Gen Hosp Psychiatry, 12:30-35, 1990.
26. Brown G R: The transvestite husband. Med Aspects Human Sexuality, 24(6):35-42, 1990.
27. Drexler K, Brown G R, Rundell J R: Psychoactive drug use and AIDS. JAMA, 263(3):371, 1990.
28. Brown G R, Rundell J R: Psychiatric morbidity in HIV-seropositive women without AIDS. Proceedings of the 143rd Annual Meeting of the American Psychiatric Association, pages 75-76 (New York, New York), May, 1990.
29. Rundell J R, Ursano R, Brown G R: HIV infection and perception of social support. Proceedings of the 143rd Annual Meeting of the American Psychiatric Association, page 76 (New York, New York), May, 1990.
30. Rundell J R, Brown G R, McManis S, et al.: Psychiatric predisposition and current psychiatric findings in HIV-infected persons. Proceedings of the Sixth International Conference on AIDS (San Francisco, California), June, 1990.
31. Drexler K, Rundell J R, Brown G R, et al.: Suicidal thoughts, suicidal behaviors, and suicide risk factors in HIV-seropositives and alcoholic controls. Proceedings of the Sixth International Conference on AIDS (San Francisco, California), June, 1990.
31. Brown G R: The inpatient database as a technique to prevent junior faculty burnout. Acad Psychiatry, 14(4):224-229, 1990.
32. Rundell J R, Wise M, Brown G R, et al: Relative frequency of HIV disease as a cause of mood disorder in a general hospital. Proceedings of the 1990 Update on Neurological and Neuropsychological Complications of HIV Infection, page PSY-4 (Monterrey, California), June, 1990.
33. Rundell J R, Praus D, Brown G R, et al: CSF parameters, immune status, serum viral titers, anxiety, and depression in HIV disease. Proceedings of the 1990 Update on Neurological and Neuropsychological Complications of HIV Infection, page PSY-5 (Monterrey, California), June, 1990.
34. Brown G R: Clinical approaches to gender dysphoria. Abstract. Psychiatry Digest, 5:9-10, 1990.
35. Brown G R, Rundell J R, Temoshok L, et al: Psychiatric morbidity in HIV-seropositive women: Results of a three year prospective study. Proceedings of the 37th Annual Meeting of the American Academy of Psychosomatic Medicine, 1990.
36. Rundell J R, Brown G R, Kyle K, et al: Methods employed by and length of knowledge of HIV-seropositivity of HIV-infected suicide attempters. Proceedings of the 37th Annual Meeting of the American Academy of Psychosomatic Medicine, 1990.
37. Brown G R: Unzufriedenheit mit dem eigenen Geschlecht:Klinische Behandlungsmöglichkeiten. Abstract for European readership. Psychiatry Digest, 10:3-4, 1990.
38. Brown G R, Anderson B W: Credibility of patients in psychiatric research. Amer J Psychiatry, 148(10):1423-1424, 1991.
39. Brown G R, Anderson B: Psychiatric morbidity in adult inpatients with childhood histories of physical and sexual abuse. Amer J Psychiatry, 148(1):55-61, 1991.
40. Plotnick E, Brown G R: Use of intravenous haloperidol in nonviolent severely regressed adult psychiatric inpatients. Gen Hosp Psychiatry, 13:385-390, 1991.
41. Brock I, Brown G R, Jenkins R: Affect and health locus of control in early HIV infection. Proceedings of the 144th Annual Meeting of the American Psychiatric Association, 79, 1991.
42. Brock I, Brown G R, Jenkins R: Early HIV infection and health locus of control. Proceedings

- of the 144th Annual Meeting of the American Psychiatric Association, 79, 1991.
43. Brown G R, Pace J, Brock I, et al: Psychiatric morbidity in HIV-seropositive military women. Proceedings of the 144th Annual Meeting of the American Psychiatric Association, 208, 1991.
 44. Pace J, Brown G R: Factors associated with length of inpatient psychiatric hospitalization in a military medical center. Proceedings of the 144th Annual Meeting of the American Psychiatric Association, 95, 1991.
 45. Plotnick E, Brown G R: Sexual functioning in HIV-positive women without AIDS. Proceedings of the 144th Annual Meeting of the American Psychiatric Association, 80-81, 1991.
 46. Hicks D, Stasko R, Rundell J, Norwood A, Brown G R: Psychiatric treatment in early HIV disease. Proceedings of the 144th Annual Meeting of the American Psychiatric Association, 208, 1991.
 47. McManis S, Brown G R, Rundell J, et al: Subtle, early cognitive impairment in HIV disease. Proceedings of the 144th Annual Meeting of the American Psychiatric Association, 77-78, 1991.
 48. McManis S, Brown G R, Rundell J, et al: Cognitive impairment and CSF values in HIV disease. Proceedings of the 144th Annual Meeting of the American Psychiatric Association, 78, 1991.
 49. McManis S, Brown G R, Zachary R, et al: Cognitive impairment and gender in HIV-positive persons. Proceedings of the 144th Annual Meeting of the American Psychiatric Association, 78, 1991.
 50. Carey M, Jenkins R, Brown GR, et al: Gender differences in psychosocial functioning in early stage HIV patients. Proceedings of the 7th International Conference on AIDS, M.B. 4230, 1:447, 1991.
 51. McManis S, Brown G R, Zachary R, et al: Neuropsychiatric impairment early in the course of HIV infection. Proceedings of the 7th International Conference on AIDS, M.B. 2064, 1:198, 1991.
 52. Brown G R, Rundell J, Pace J, et al: Psychiatric morbidity in early HIV infection in women: results of a 4 year prospective study. Proceedings of the First International Conference on Biopsychosocial Aspects of HIV Infection, p 22, 1991.
 53. Brown G R, Kendall S, Zachary R, et al: Psychiatric and psychosocial status of US Air Force HIV-infected personnel. Proceedings of the First International Conference on Biopsychosocial Aspects of HIV Infection, p 121, 1991.
 54. Brown G R, Zachary R, McManis S, et al: Gender effects on HIV-related neuropsychiatric impairment. Proceedings of the First International Conference on Biopsychosocial Aspects of HIV Infection, p 125, 1991.
 55. Temoshok L, Smith M, Brown G R, Jenkins R: Perceptions of zidovudine (AZT) and cooperation with treatment or clinical trials. Proceedings of the First International Conference on Biopsychosocial Aspects of HIV Infection, p 198, 1991.
 56. Jenkins R, Patterson T, Brown G R, Temoshok L: Social functioning in early stage HIV patients. Proceedings of the First International Conference on Biopsychosocial Aspects of HIV Infection, p P12, 1991.
 57. Zachary R, Coyle C, Kendall S, Brown G R: Living with HIV: Mechanisms for coping with psychological distress. Proceedings of the First International Conference on Biopsychosocial Aspects of HIV Infection, p P13, 1991.
 58. Brown G R, Rundell J, McManis S, Kendall S, Jenkins R: Neuropsychiatric morbidity in early HIV disease: Implications for military occupational function. Proceedings of the Aerospace Medicine Symposium on Allergic, Immunological, and Infectious Disease Problems in Aerospace Medicine, NATO Advisory Group for Aerospace Research and Development, AGARD-CP-518, (paper 16):1-14, 1992.
 59. Brown G R: Single USAF AIDS center offers unique opportunity to research biopsychosocial aspects of HIV infection. San Antonio, M.D., 1(4):8-9,14-15, 1991.
 60. Rundell J, Mapou R, Temoshok L, Brown G R: An overview of the U.S. military HIV testing policy. Proceedings of the American Psychological Association Annual Meeting, August, 1991, page 277.

61. Brown G R: The transvestite husband. J Gender Studies, 13(1):14-19, 1991.
62. Rundell J R, Kyle K, Brown G R, Thomassen J: Factors associated with suicide attempts in a mandatory HIV-testing program. Psychosomatics, 33(1):24-27, 1992.
63. Beighley P, Brown G R: Medication refusal in psychiatric inpatients in the military. Military Med, 157:47-49, 1992.
64. McManis S, Brown G R, Zachary R, et al: Screening for subtle neuropsychiatric deficits early in the course of HIV infection. Psychosomatics, 34(5):424-431, 1993.
65. Brown G R, Kendall S, Ledsy R: Sexual dysfunction in HIV-seropositive women without AIDS. J Psychol Human Sexuality, 7(1-2):73-97, 1995.
66. Brock I, Brown G R: Psychiatric length of stay determinants in a military medical center. Gen Hosp Psychiatry, 15(6):392-398, 1993.
67. Brown G R, Rundell J, McManis S, Kendall S, Jenkins R: Neuropsychiatric morbidity in early HIV disease: Implications for military occupational function. Vaccine, 11(5):560-569, 1993.
68. Brown G R, Rundell J: Prospective study of psychiatric aspects of early HIV infection in women. Gen Hosp Psychiatry, 15:139-147, 1993.
69. Brown G R, Rundell J, McManis S, Kendall S, Zachary R, Temoshok L: Prevalence of psychiatric disorders in early stages of HIV infection in United States Air Force Personnel. Psychosomatic Medicine, 54:588-601, 1992.
70. Beighley P, Brown G R, Thompson J: DSM-III-R brief reactive psychosis among Air Force recruits. J Clin Psychiatry, 53(8):283-288, 1992.
71. Brown G R: Letter to the editor. Amer J Psychiatry, 149(4):541, 1992.
72. Lothstein L M, Brown G R: Sex reassignment surgery: current concepts. Integ Psychiatry, 8(1):21-30, 1992.
73. Brown G R, Zachary R, Rundell J R: Suicidality before and after HIV seroconversion in men with early stage disease. Proceedings of the 50th Anniversary International Meeting of the American Psychosomatic Society, 43, 1992.
74. Brock I, Brown G R, Butzin C: Predictors of psychiatric inpatient length of stay. Proceedings of the 145th Annual Meeting of the American Psychiatric Association, New Research Volume, 101, 1992.
75. Rundell J R, Brown G R, Jenkins R, Temoshok L: Social support, psychiatric morbidity, and HIV disease. CME Syllabus and Proceedings of the 145th Annual Meeting of the American Psychiatric Association, 281, 1992.
76. Plotnick E, Brown G R: IV haloperidol in severe nonviolent psychosis. Psychiatry Drug Alerts, 6(5):40, 1992.
77. Goethe K, Richie D, Brown G R, Kendall S: Longitudinal neuropsychological findings in HIV-positive males. Proceedings of the 8th International AIDS Conference, Vol. 2, Abstract PuB 3770, Amsterdam, The Netherlands, 1992.
78. Brown G R, Zachary R, McManis S, Coyle C, Kendall S, Kozjak J: Stability of personality disorder diagnoses in early HIV infection. Proceedings of the 8th International AIDS Conference, Vol 3, Abstract PuB 7063, Amsterdam, The Netherlands, 1992.
79. Mapou R, Goethe E, Law W, Kendall S, Rundell J, Brown G R, Nannis E, et al.: Minimal impact of self-reported mood on neuropsychological performance in HIV-infected military personnel. Proceedings of the 8th International AIDS Conference, Vol 3, Abstract PuB 7338, Amsterdam, The Netherlands, 1992.
80. Nannis E, Temoshok L, Jenkins R, Rundell J, Brown G R, Patterson T: Noncompliance with zidovudine: Psychosocial factors. Proceedings of the 8th International AIDS Conference, Vol 3, Abstract PuB 7377, Amsterdam, The Netherlands, 1992.
81. Brown G R: 106 women in relationships with crossdressing men: a descriptive study from a nonclinical setting. Arch Sex Behav, 23(5), 515-530, October, 1994.
82. Nannis E, Temoshok L, Jenkins R, Blake S, Sharp E, Jenkins P, Brown G, Patterson T, Coyle C, Brandt U, Johnson C: Gender differences in transmission risk behavior, affect, and social support in HIV positive individuals. Proceedings of the Fourteenth Annual Meeting of The Society of Behavioral Medicine, San Francisco, CA, 1993, #D17; Annals of Behavioral Medicine 15:S105.
83. Coyle C, Blake S, Brown GR, Ledsy R, Temoshok L: Methodological issues in assessing

- risk behaviors in an HIV seropositive military sample (Special Citation Award). Proceedings of the Fourteenth Annual Meeting of The Society of Behavioral Medicine, San Francisco, CA, March, 1993, #D02. Also in *Annals of Behavioral Medicine* 15:S101.
84. Zachary R, Brown GR, Kendall S, Coyle C, McManis S: Psychosocial stressors and vulnerability to psychiatric distress in early-stage HIV. Proceedings of the Fourteenth Annual Meeting of The Society of Behavioral Medicine, San Francisco, CA, March, 1993, #D08.
 85. Suter E, Cassem E, Murray G, Brown G R, et al: Violence in America-Effective solutions. *Journal of the Medical Association of Georgia* 84(6):253-263, 1995.
 86. Brown G R: Use of methylphenidate in treating the cognitive decline associated with HIV disease. *Intl J Psychiatry Med*, 25(1):21-37, 1995.
 87. Brown G R: Teen transvestites. *Psychiatric Times*, Letter to the Editor, 11(11):9, 1994.
 88. Brown G R: New onset of sexual dysfunction in HIV-seropositive women: Results of a prospective study. Proceedings of the 88th Annual Scientific Meeting of the Southern Medical Association, November 3, 1994, page S54.
 89. Brown G R: Cross-dressing men lead double lives. *Menninger Letter*, April, 1995.
 90. Richards J, McManis S, Brown G R: Personality disorders in HIV-positive persons: association with other measures of psychiatric morbidity. (abstract) Proceedings of the Annual Meeting of the American Psychiatric Association, NR1, page 53, Philadelphia, PA, May 23, 1994.
 91. Brown G R, Wise T, Costa P, Herbst J, Fagan P, Schmidt C: Personality characteristics and sexual functioning of 188 cross-dressing men. *J Nerv Ment Disease*, 184(5):265-273, 1996.
 92. Brown G R: The transvestite husband. *Tapestry* 72:52-54, 1995 (substantially similar to publication #26 above).
 93. Brown G R, Wise T, Costa P: Personality characteristics and sexual functioning of 188 American transgendered men: Comparison of patients with nonpatients. Proceedings of the 14th Harry Benjamin International Gender Dysphoria Symposium, pages 12-13, 1995.
 94. Brown G R, Radford M, Greenwood K, Matthew H: Sertindole Hydrochloride: A novel antipsychotic with a favorable side effect profile. *Southern Medical Journal*, (abstract), 88(10):S58, 1995.
 95. Brown G R, Radford M: Sertindole Hydrochloride: A novel antipsychotic with a favorable side effect profile. *Southern Medical Journal*, 90(7):691-693, 1997.
 96. Zimbroy D, Kane J, Tamminga C, et al: Controlled, dose-response study of sertindole and haloperidol in the treatment of schizophrenia. *Amer J Psychiatry*, 154(6):782-791, 1997.
 97. Cenicerros S, Brown G R, Swartz C: Tattoos, body piercing, and psychiatric disorders. Proceedings of the Fourteenth Annual ETSU Student Research Forum, abstract 501; winner of the best scientific poster in resident/fellow category, 1998.
 98. Cenicerros S, Brown G R, Swartz C: Tattoos, body piercing, and psychiatric disorders. Proceedings of the Annual Meeting of the American Psychiatric Association, Toronto, Canada, June 1, 1998.
 99. Cenicerros S, Brown G R: Acupuncture: A review of its history, theories, and indications. *Southern Medical Journal* 91(12):1121-1125, 1998.
 100. Levine S, Brown G R, Coleman E, et al.: The Standards of Care for Gender Identity Disorders. *International Journal of Transgenderism*, 2(2):2-20, 1998.
 101. Cenicerros S, Brown GR, Swartz,C: Tattoos, body piercing, and psychiatric disorders. *Southern Medical Journal* 91(10):S52-53, 1998.
 102. M N Miller, B E Miller, R Chinouth, B Coyle, GR Brown: Increased premenstrual dosing of nefazodone relieves premenstrual magnification of depression: a double-blind, crossover study. Proceedings of the 1999 Annual Meeting of the Society for Neuroscience, Miami Beach, Florida.
 103. Brown G R: Gender identity comorbid with dissociative identity disorder. Proceedings of the XVI Biennial Symposium of the Harry Benjamin International Gender Dysphoria

- Association, London, England, August, 1999.
104. Levine SB, Brown G R, Coleman E, et al.: The newly revised Standards of Care for Gender Identity Disorders. J Sex Educ Therapy 24(3):117-127, 1999.
 105. McKenzie D, Brown G R: A study of internet usage. Southern Medical Journal 93(10):S83, 2000.
 106. M N Miller, B E Miller, R Chinouth, B Coyle, GR Brown: Increased premenstrual dosing of nefazodone relieves premenstrual magnification of depression. Depression and Anxiety 15:48-51, 2002.
 107. Best Practice Guidelines, Adult Behavioral Health Services, Tennessee Department of Mental Health and Developmental Disabilities, Task Force coauthor (Chairman, Cliff Tennison), July 2002.
 108. Brown GR: Application of the HBGDA Standards of Care to the Prison Setting: Recent Victories for Transgender Care in the USA. Proceedings of the 18th Biennial Symposium of the HBGDA, Gent, Belgium, 2003.
 109. Ettner R, Brown GR, White T, Shah BJ: Family and Systems Aggression Towards Therapists Working with Transgendered Clients. . Proceedings of the 18th Biennial Symposium of the HBGDA, Gent, Belgium, 2003.
 110. Brown G R: Mental disorders among military personnel. American Journal of Psychiatry, letter to the editor, 160(6):1190-1191, 2003.
 111. Brown G R, McBride L, Williford W, Bauer M: Impact of childhood sexual abuse on bipolar disorder. Proceedings of the 5th International Conference on Bipolar Disorders, Pittsburgh, PA, 2003.
 112. Brown G R, Bauer M, McBride L, Williford W: Impact of childhood abuse on disease course in veterans with bipolar disorder. Southern Medical Journal Abstract Supplement 96(10):S34-S35, 2003.
 113. Brown G R: Tinnitus: The ever-present tormentor. The Hearing Journal 57(4):52-53, 2004.
 114. Ettner R, Brown G R, White T, Shah B: Transgender client aggression towards therapists. Proceedings of the XIX Biennial Symposium of the Harry Benjamin International Gender Dysphoria Association, p. 61, Bologna, Italy, April 9, 2005.
 115. Brown G R: Gender identity disorder comorbid with dissociative identity disorder: review of the literature and 7 year followup case presentation. Proceedings of the XIX Biennial Symposium of the Harry Benjamin International Gender Dysphoria Association, p. 80-81, Bologna, Italy, April 9, 2005.
 116. Brown G R, Bauer M S, McBride L, Williford W O: Impact of childhood abuse on the course of bipolar disorder: A replication study in U.S. veterans. Journal of Affective Disorders 89:57-67, 2006.
 117. Ettner R, White T, Brown G R, Shah, B: Transgender client aggression towards therapists. International Journal of Transgenderism, 9(2): 1-7, 2006. DOI: 10.1300/J485v09n02_01
 118. Bauer M, McBride L, Williford W, Glick H, Kinoshian B, Altshuler L, Beresford T, Kilbourne A, Sajatovic, M, Brown G R, et al: Collaborative Care for Bipolar Disorder, Part I: Intervention and Implementation in a Multi-Site Randomized Effectiveness Trial, Psychiatric Services, 57(7):927-936, 2006.
 119. Bauer M, McBride L, Williford W, Glick H, Kinoshian B, Altshuler L, Beresford T, Kilbourne A, Sajatovic, M, Brown G R, et al: Collaborative Care for Bipolar Disorder, Part II: Impact, Clinical Outcome, Function, and Costs, Psychiatric Services 57(7):937-945, 2006. [Selected by journal for accompanying editorial, 57:909]
 120. Brown G: Autocastration and Autopenectomy as Surgical Self-treatment in Incarcerated Persons with Gender Identity Disorder. Proceedings of the XX Biennial Symposium of the World Professional Association for Transgender Health, Chicago, Illinois, September, 2007.
 121. Belkin A, Whitten T, Brown G, Melms, M: Gender Identity and the Military. Abstract. International Journal of Transgenderism 10(3):174, 2008.
 122. Brown G, McDuffie E: Healthcare policies addressing transgender inmates in prison systems in the United States, Journal of Correctional Healthcare, 15(4):280-291, 2009. DOI: 10.1177/1078345809340423; online version: <http://jcx.sagepub.com/cgi/content/abstract/15/4/280>.

123. Brown G: Recommended revisions to the World Professional Association for Transgender Health's Standards of Care section on medical care for incarcerated persons with GID, International Journal of Transgenderism, 11(2):133-139, 2009. DOI: [10.1080/15532730903008073](https://doi.org/10.1080/15532730903008073).
124. McDuffie E, Brown G: 70 Veterans with Gender Identity Disturbances: A Descriptive Study, International Journal of Transgenderism, 12(1), 2010. DOI: [10.1080/15532731003688962](https://doi.org/10.1080/15532731003688962).
125. Brown G: Autocastration and autopenectomy as surgical self-treatment in incarcerated persons with gender identity disorder, International Journal of Transgenderism, 12(1):31-39, 2010. DOI: [10.1080/15532731003688970](https://doi.org/10.1080/15532731003688970).
126. Brown GR, McDuffie E: 70 Veterans with Gender Identity Disturbances: A Descriptive Study. (published abstract), Southern Medical Journal. 102(12):E10, December 2009. DOI: [10.1097/SMJ.0b013e3181c0401d](https://doi.org/10.1097/SMJ.0b013e3181c0401d)
127. Rachlin K, Dhejne C, Brown G: The Future of GID NOS in the *DSM 5*: Report of the GID NOS Working Group of a Consensus Process Conducted by the World Professional Association for Transgender Health. International Journal of Transgenderism 12(2):86-93, 2010. DOI: [10.1080/15532739.2010.509209](https://doi.org/10.1080/15532739.2010.509209)
128. Crivera C, DeSouza C, Kozma C, Dirani R, et al: Resource utilization in patients with schizophrenia who initiated risperidone long-acting therapy: results from the schizophrenia outcomes utilization relapse and clinical evaluation (SOURCE), BMC Psychiatry 11:168, 2011 (contributor as Site Principal Investigator, but not author; refer to acknowledgments) .
129. Macfadden W, DeSouza C, Crivera C, Kozma C, et al: Assessment of effectiveness measures in patients with schizophrenia initiated on risperidone long-acting therapy: the SOURCE study results. BMC Psychiatry 11:167, 2011 (contributor as Site Principal Investigator, not author; refer to Acknowledgements section)
130. Ettner R, White T, Brown G: Family and systems aggression toward therapists. International Journal of Transgenderism, 12(3):139-143, 2010. DOI: [10.1080/15532739.2010.514218](https://doi.org/10.1080/15532739.2010.514218).
131. King R, Brown G, McCreia C: Voice parameters that result in identification or misidentification of biological sex in male-to-female transgender veterans. International Journal of Transgenderism, 13(3):117-130, 2012.
132. Coleman E, Bockting W, Botzer M, Cohen-Kettenis P, DeCuypere G, Feldman J, Fraser L, Green J, Knudson G, Meyer WJ, Monstrey S, Adler RK, Brown GR, Devor AH, Ehrbar R, Ettner R, Eyler E, Garofalo R, Karasic DH, Lev AI, Mayer G, Meyer-Bahlburg H, Hall BP, Pfaefflin F, Rachlin K, Robinson B, Schechter LS, Tangpricha V, van Trotsenburg M, Vitale A, Winter S, Whittle S, Wylie KR, Zucker K: Standards of Care for the Health of Transsexual, Transgender, and Gender-Nonconforming People, Version 7, International Journal of Transgenderism, 13:4,165-232 (2012). <http://dx.doi.org/10.1080/15532739.2011.700873>
133. Blossnich, J., Brown, G.R., Shipherd, J.C., Kauth, M., Piegari, R.I., & Bossarte, R. Prevalence of Gender Identity Disorder (GID) and suicide risk among transgender veterans utilizing Veterans Health Administration (VHA) care. Poster presented at the 140th Annual Meeting & Exposition of the American Public Health Association, San Francisco, CA, October 30, 2012.
134. Blossnich J, Brown GR, Shipherd J, Kauth M, Piegari RI, Bossarte R: Prevalence of Gender Identity Disorder (GID) and suicide risk among transgender veterans utilizing Veterans Health Administration (VHA) care. American Journal of Public Health, 103(10):27-32, 2013.
135. Brown GR: Qualitative analysis of transgender inmates' correspondence: Implications for Departments of Correction. Journal of Correctional Health Care, 20(4):334-342, 2014.
136. Brown GR: Qualitative analysis of transgender inmates' letters: Implications for transgender healthcare disparities. Proceedings of the GLMA 31st Annual Conference, page 56, September, 2013.
137. Blossnich J, Brown GR, Wojcio S, Jones KT, Bossarte RM: Mortality among

- veterans with transgender-related diagnoses in the Veterans Health Administration, FY2000-2009. LGBT Health, 1(4):269-276, 2014.
138. Kauth M, Shipherd J, Lindsay J, Blossnich J, Brown GR, Jones KT: Access to Care for Transgender Veterans in VHA: 2006-2013. American Journal of Public Health, 104(S4):S532-4, 2014.
 139. Brown GR, Jones KT: Racial health disparities in a cohort of 5,135 transgender veterans. J Racial Ethnic Health Disparities, 1:257-266, 2014; published online ahead of print, doi: 10.1007/s40615-014-0032-4, July 16, 2014.
 140. Elders J, Brown GR, Coleman E, Kolditz TA: Medical aspects of transgender military service. Armed Forces and Society, 41(2): 199-220, 2015; published online ahead of print, DOI: 10.1177/0095327X14545625, August, 2014.
 141. Brown GR, Jones KT: Mental health and medical outcome disparities in 5,135 transgender veterans: a case-control study. Proceedings of the 32nd Annual Conference of the Gay and Lesbian Medical Association, September 11, 2014, Baltimore, MD, page 49.
 142. Brown GR, Jones KT: Incidence of breast cancer in a cohort of 5,135 transgender veterans. Breast Cancer Research and Treatment, 149(1): pp 191-198, 2015; published online ahead of print, DOI: 10.1007/s10549-014-3213-2, 2014.
 143. Brown GR, Jones KT: Health correlates of criminal justice involvement in 4,793 transgender veterans. LGBT Health, 2(4):297-305, 2015. DOI: 10.1089/lgbt.2015.0052
 144. Brown GR: Breast cancer in transgender veterans: A ten case series. LGBT Health, 2(1):77-80, 2015.
 145. Shipherd JC, Kauth MR, Firek AF, Garcia R., Mejia S, Laski SJ, Walden B, Perez-Padilla S, Lindsay JA., Brown G, Roybal L, Keo-Meier C, Knapp H, Johnson L, Reese RL, & Byne W: Interdisciplinary transgender veteran care: Development of a core curriculum for VHA providers. Transgender Health, 1(1):54-62, 2016.
 146. Brown GR, Jones KT: Mental health and medical outcome disparities in 5135 transgender veterans receiving health care in the Veterans Health Administration: A case-control study. LGBT Health. 3(2):122-131, 2016.
 147. Feldman J, Brown G, et al: Priorities for transgender medical and mental health care research. Current Opinion in Endocrinology, Diabetes, and Obesity, February 2016 DOI: 10.1097/MED.0000000000000229
 148. Brown GR, Jones KT: Health correlates of criminal justice involvement in 4,793 transgender veterans. Abstract publication, Proceedings of the Annual National Conference on Correctional Health Care, p43, abstract 505, 2015.
 149. Blossnich J, Kauth M, Shipherd J, Gao S, Gordon A, Marsiglio M, Brown GR, Fine M: Mental health of transgender veterans in US states with and without discrimination and hate crime legal protection. Amer J Pub Health. 106(3):534-540, 2016 DOI: 10.2105/AJPH.2015.302981
 150. Reisner S, Deutsch M, Bhasin S, Bockting W, Brown GR, Feldman J, et al: Advancing methods for US transgender health research. Current Opinion in Endocrinology, Diabetes, and Obesity. February 2016 DOI: 10.1097/MED.0000000000000229
 151. Brown GR, Jones KT: Utilization of pharmacy benefits by transgender veterans receiving care in the Veterans Health Administration. In preparation, 2017.
 152. Bukowski L, Blossnich J, Shipherd J, Kauth M, Brown GR, et al: Exploring rural disparities in medical diagnoses among veterans with transgender-related diagnoses utilizing Veterans Health Administration Care. Medical Care, Med Care. 55 Suppl 9 Suppl 2:S97-S103. doi: 10.1097/MLR.0000000000000745, 2017.
 153. Blossnich J, Marsiglio M, Dichter M, Gao S, Gordon A, Shipherd J, Kauth M, Brown GR, Fine M: Impact of social determinants of health on medical conditions among transgender veterans. American Journal of Preventive Medicine. Published on line ahead of print, February 1, 2017 DOI: <http://dx.doi.org/10.1016/j.amepre.2016.12.019>; 52.4 (2017): 491-498, 2017.
 154. Blossnich, J, Cashy J, Gordon A, Shipherd J, Kauth M, Brown GR, Fine M: Hints in the

haystack: Using electronic medical record data to validate transgender identity. J Amer Informatics Assoc, in review, 2017.

BOOK CHAPTERS:

1. Brown G R: Therapeutic Effect of Silence. In Streaan H (ed.): Psychoanalytic Technique, Haworth Press, New York, 1988.
2. Brown G R: Gender reassignment: Psychiatric, endocrinologic, and surgical management (with Leiter E, Futterweit W). Chapter 68. In Webster G, Kirby R, King L, Goldwasser B (eds.): Reconstructive Urology, Blackwell Scientific Publications, London, 1992.
3. Goldschmidt M, Temoshok L, Brown G R: Women and HIV/AIDS. In Niven C, Carroll D (Eds.): The Health Psychology of Women, Harwood Academic Publishers, London, 1993.
4. Brown G R, Philbrick K: Sexual and Gender Identity Disorders in the Consultation-Liaison Psychiatry Setting. In Rundell J, Wise M (Eds.): Textbook of Consultation-Liaison Psychiatry, APA Press, Washington, D.C., 1996.
5. Brown G R: Transvestism. Chapter 71, pages 1977-2000. In Gabbard G (Ed.): Treatments of Psychiatric Disorders: The DSM-IV Edition, APA Press, Washington, D.C., 1995.
6. Brown G R: Women in the Closet: Relationships with Transgendered Men. In Denny D (Ed.): Current Concepts in Cross-Gender Identity: A New Synthesis, Chapter 21, pp. 353-371, Garland Press, New York, 1998.
7. Brown G R, Kendall S, Ledsky R: Sexual Dysfunction in HIV-Seropositive Women Without AIDS. In Ross M (Ed): HIV/AIDS and Sexuality, Haworth Press, New York, 73-98, 1995.
8. Brown G R: Gender Disorders and Sexual Dysfunctions. In Berkow R (Ed): The Merck Manual, 17th (Centennial) Edition, Merck Research Labs, Rahway, N.J., 1999.
9. Brown G R: Gender Disorders and Sexual Dysfunctions. In Berkow R (Ed): The Merck Manual of Medical Information, Home Edition, Merck Research Labs, Rahway, N.J., 1997.
10. Brown G R, Philbrick K: Sexual and Gender Identity Disorders in the Consultation-Liaison Psychiatry Setting. In Rundell J, Wise M (Eds.): Concise Guide to the Textbook of Consultation-Liaison Psychiatry, APA Press, Washington, D.C., 1999.
11. Brown G R: Transvestism. In Gabbard G and Atkinson S (Eds.): Synopsis of Treatments of Psychiatric Disorders, Second Edition, APA Press, Washington, D.C., 829-836, 1996.
12. Brown G R: Transvestism and Gender Identity Disorders. . In Gabbard G (Ed.): Treatments of Psychiatric Disorders, Third Edition, APPI, Washington, D.C., Chapter 73, pages 2007-2067, 2001.
13. Brown G R, Gass G, Philbrick K: Sexual and Gender Identity Disorders in the Consultation-Liaison Psychiatry Setting. In Rundell J, Wise M (Eds.): Textbook of Consultation-Liaison Psychiatry, Second Edition, APA Press, Washington, D.C. Chapter 22, pages 455-476, 2002.
14. Brown G R, Cenicerros S: Human Sexuality in Health and Disease. In Wedding D (Ed.): Behavior and Medicine, 3rd Edition, Hogrefe & Huber, Seattle, Chapter 12, pages 171-183, 2001.

15. Brown G R: Sexuality. In Beers M (Ed): The Merck Manual of Medical Information, Home Edition, 2nd Edition, Merck Research Labs, Rahway, N.J., 2003.
16. Brown GR, Haaser RC: Sexual Disorders in the General Hospital Setting. In Levenson J (ed): Consultation-Liaison Psychiatry, American Psychiatric Press Inc., Washington, D.C., Chapter 17, pages 359-386, 2004.
17. Brown G R: Gender Disorders and Sexual Dysfunctions. In Berkow R (Ed): The Merck Manual of Medical Information, 18th edition, Chapter 203, Merck Research Labs, Rahway, N.J., 2006.
18. Rahimian J, Bergman J, Brown G R, Cenicerros S: Human Sexuality. In Wedding D and Stuber M (Ed): Behavior and Medicine, 4th Edition, Hogrefe & Huber, Seattle, Chapter 12, 2006 (currently being used as the core textbook in a number of medical school curricula, including ETSU).
19. Brown GR: Gender Disorders and Sexual Dysfunctions. The Merck Manual of Women's and Men's Health. Simon & Schuster, Pocket Books, Chapter 2, pages 21-29, 2007.
20. Brown G R: Gender Disorders and Sexual Dysfunctions. In Berkow R (Ed): The Merck Manual of Medical Information, 19th edition, Chapter 203, Merck Research Labs, Rahway, NJ, July, 2011.
21. Brown G R: Sexual Disorders. In Berkow R (Ed): The Merck Home Health Handbook, Second Edition, Chapter 135, pages 627-630, Merck Research Labs, Whitehouse Station, NJ, 2009.
22. Rahimian J, Bergman J, Brown G R, Cenicerros S: Human Sexuality. In Wedding D and Stuber M (Ed): Behavior and Medicine, 5th Edition, Hogrefe & Huber, Seattle, Chapter 12, pages 153-164, 2010 (currently being used as the core textbook in a number of medical school curricula).
23. Brown G R: Gender Dysphoria and Sexual Dysfunctions. In Berkow R (Ed): The Merck Manual of Medical Information, 20th edition, Merck Research Labs, Rahway, NJ, , on line open access textbook chapter available at: <http://www.merckmanuals.com/professional/psychiatric-disorders/sexuality,-gender-dysphoria,-and-paraphilias/gender-dysphoria-and-transsexualism>, 2016.
24. Brown G R: Gender Dysphoria and Sexual Dysfunctions. In Berkow R (Ed): The Merck Manual of Medical Information, Home Edition, 20th edition, Merck Research Labs, Rahway, NJ, on line open access textbook chapter available at: <http://www.merckmanuals.com/home/mental-health-disorders/sexuality/gender-dysphoria-and-transsexualism>, 2016.
25. Shipherd J, Kauth M, Brown GR: Implementing a Transgender Care Policy in a National Healthcare System. Chapter 13, in Shipherd J and Kauth M (Eds): Adult Transgender Care: An Interdisciplinary Approach for Training Mental Health Professionals, Routledge, in press, 2017.

BOOK REVIEWS:

Garner D M, Garfinkel P E (eds.): Diagnostic Issues in Anorexia Nervosa and Bulimia Nervosa. Reviewed for Journal of Nervous and Mental Diseases, 177(5):307-308, 1989.

Kanas N: Group Therapy for Schizophrenic Patients. Reviewed for Psychiatric Times, June, 1997.

PROFESSIONAL PUBLICATIONS REVIEWED/EDITED:

Reviewer, Journal of Clinical Psychiatry, 1987 to present
Reviewer, Psychosomatics, 1989 to present
Reviewer, Journal of AIDS, 1990 to 2001
Reviewer, Psychology and Health, 1992
Editorial Board, San Antonio M.D., 1991-1993
Reviewer, International Journal of Psychiatry in Medicine, 1994-2006
Reviewer, CNS Drugs, 1995-2002.
Reviewer, Southern Medical Journal, 1995-2013
Reviewer, AIDS Patient Care, 1996-2003
Editorial Board, International Journal of Transgenderism, 1997-present
Reviewer, Federal Practitioner, 2000-present
Reviewer, Journal of the American Geriatrics Society, 2000-2003
Reviewer, Bipolar Disorders, 2005-2017
Reviewer, Journal of Sexual Medicine, 2009-present
Reviewer, European Psychiatry, 2010-present
Reviewer, International Journal of Sexual Health, 2011-present
Reviewer, American Journal of Public Health, 2011-present
Editorial Board, LGBT Health, 2013-present
Reviewer, Canadian Medical Association Journal, 2013-present
Reviewer, Suicide and Life-Threatening Behavior, 2015-present
Editorial Board, Transgender Health, 2015-present
Reviewer, Journal of Correctional Healthcare, 2017-present
Reviewer, Breast Cancer Research and Treatment, 2017-present

PRESENTATIONS:

Behavioral Medicine Lecture Series, Kettering Medical Center, Kettering, Ohio. Ten parts. January 24-June 25, 1985.
"Sex Reassignment Surgery: Surgical Cure or Well-Meaning Mutilation?", Good Samaritan Hospital, Dayton, Ohio. March 5, 1985.
"The Difficult Patient: Recognition, Understanding, and Management", The Marriott Hotel, Dayton, Ohio. March 6, 1985, (Category I, CME credit).
"Transsexualism: Literature Review and Case Report", Wright State University, Dayton, Ohio. March 19, 1985.
"Pseudoseizures: When is a Jerk not a Fit?", Bergamo Conference Center, Kettering, Ohio. April 19, 1985. (Category I, CME credit).
"Transsexualism: What Sex am I?", University Center, Wright State University, Dayton, Ohio. September 17, 1985.
"Transsexualism and the Military", Good Samaritan Hospital, Dayton, Ohio. March 18, 1986.
"Clinical Utility of the House-Tree-Person Test", Diversion Program, Dayton, Ohio. April 9, 1986.
"The Silent Mitwelt", Bergamo Conference Center, Kettering, Ohio. April 18, 1986. (Category I, CME credit).
"Clinical Recognition of Alexithymia", Diversion Program, Dayton, Ohio. June 3, 1986.
"Male-to-Female Transsexualism - Case Study", Case Western Reserve University, Cleveland, Ohio. July 18, 1986.
"Zoophilia: Literature Review and Case Study", Case Western Reserve University, Cleveland, Ohio. July 31, 1986.
"Neuropsychiatry of Alexithymia", Good Samaritan Hospital, Dayton, Ohio. October 14, 1986.
"Penile Auto-Injection: New Treatment for Organic Impotence", Diversion Program, Dayton, Ohio. August 12, 1986.

- "Gender Identity Development in Children and Adolescents", Diversion Program, Dayton, Ohio. August 26, 1986.
- "Paraphilias", Good Samaritan Hospital Seminar, Dayton, Ohio. November 17, 1986.
- "Introduction to Gender Disorders", Good Samaritan Hospital, Dayton, Ohio. December 15, 1986, January 5, 1987.
- "Strategic Psychotherapy, Part I", Wright State University, Department of Psychiatry, Dayton, Ohio. December 23, 1986.
- "Strategic Psychotherapy, Part II", Wright State University, Department of Psychiatry, Dayton, Ohio. December 30, 1986.
- "Transsexualism: Dilemmas in Diagnosis", Good Samaritan Hospital, Dayton, Ohio. January 19, 1987.
- "Transsexualism: Live Interview Presentation", Wright State University, Department of Psychiatry, Dayton, Ohio. January 20, 1987.
- "Anxiety Disorders: New Treatment Approaches", Wright State University, Department of Family Practice, Dayton, Ohio. January 29, 1987.
- "Gender Dysphoria", Wright State University Medical School, Dayton, Ohio. February 10, 1987.
- "Bioethical Issues in Sex Reassignment", Good Samaritan Hospital, Dayton, Ohio. February 2, 1987.
- "Mycobacterium xenopi Pulmonary Infection Complicated by Anorexia Nervosa", presentation at the 29th Annual Meeting of the Society of Air Force Physicians, New Orleans, Louisiana. March 23, 1987.
- "The Transsexual Flight into Hypermasculinity", presentation at the Tenth International Symposium on Gender Dysphoria, Amsterdam, The Netherlands. June 10, 1987.
- "Grand Rounds: Gender Disorders", Institute of Living, Hartford, Connecticut, April 30, 1987.
- "Affective Disorders", three hour lecture series, Wilford Hall Medical Center, San Antonio, Texas, September, 1987.
- "Grand Rounds: Transsexualism", Maine Medical Center, Portland, Maine, November 4, 1987.
- "Opportunistic Infection in Anorexia Nervosa", 34th Annual Meeting of The Academy of Psychosomatic Medicine, Las Vegas, Nevada, November 14, 1987.
- "Grand Rounds: Gender Disorders, An Overview", Wilford Hall Medical Center, San Antonio, Texas, December 17, 1987.
- "Women Who Marry Transvestites", accepted for presentation at XXI Annual Meeting of AASECT, San Francisco, California, April 26, 1988 (no funding available).
- "Psychiatric Manifestations of HIV Infection", Texas Medical Association Annual Session, San Antonio, Texas, May 13, 1988.
- "Introduction to Gender Disorders", University of Texas Health Science Center, San Antonio, Grand Rounds, September 27, 1988.
- "Transsexualism and Gender Disorders", Bexar County Psychiatric Society, San Antonio, Texas, October 18, 1988.
- "Psychiatric Diagnoses in HIV-seropositive Air Force Personnel", Maine Medical Center, Portland, Maine, November 5, 1988.
- "Symposium on HIV-seropositivity and Psychiatry", Program Coordinator, Behavioral Health Sciences Symposium, Sheppard AFB, Wichita Falls, Texas, November 8, 1988.
- "Childhood Gender Disorders", Laurel Ridge Hospital, San Antonio, Texas, January 24, 1989.
- "Prospective Study of Psychiatric Morbidity in HIV-seropositive Women", Annual Meeting of the American Psychosomatic Society, San Francisco, California, March 10, 1989.
- "Psychiatric Findings in HIV-seropositive Air Force Women", Walter Reed Army Institute of Research, Bethesda, Maryland, March 31, 1989.
- "Psychiatric findings in HIV-seropositive persons in a mandatory HIV screening program", (abstract and poster session, with J Rundell, S Paolucci), Fifth International Conference on AIDS, Montreal, Canada, June 5, 1989.
- "Alcohol Use and HIV-seropositivity", (poster presentation, with K Drexler, J Rundell),

- American Psychiatric Association Annual Meeting, San Francisco, California, May, 1989.
- "Current Legal Status of Transsexualism in the Military Setting", Eleventh International Symposium on Gender Dysphoria, Cleveland, Ohio, September, 1989.
- "Grand Rounds: Transsexualism in the Military", Wilford Hall Medical Center, December 14, 1989 (videotape available on request).
- "Psychosexual and Gender Disorders", 6 session advanced seminar for psychiatric residents, University of Texas Health Science Center, San Antonio, January to February, 1990.
- "Update on HIV Psychiatric Research in the USAF: 1990", Behavioral Health Sciences Symposium, Wichita Falls, Texas, 25 April, 1990.
- "Psychiatric Morbidity in HIV-seropositive Women without AIDS", 143rd Annual Meeting of the American Psychiatric Association, New York, May 14, 1990.
- "HIV Infection and Perception of Social Support", (Rundell, Ursano, Brown), 143rd Annual Meeting of the American Psychiatric Association, New York, May 14, 1990.
- "Relative Frequency of HIV Disease as a Cause of Mood Disorder in a General Hospital", (Rundell, Brown), Neurological and Neuropsychological Complications of HIV Infection Conference, Monterrey, California, June 17, 1990.
- "CSF Parameters, Immune Status, Serum Viral Titers, Anxiety, and Depression in HIV Disease", (Rundell, Praus, Brown), Neurological and Neuropsychological Complications of HIV Infection Conference, Monterrey, California, June 17, 1990.
- "CSF Findings and Request for Psychiatric Examination in HIV-Infected Patients", (Rundell, Brown, et al.), poster presentation, Neurological and Neuropsychological Complications of HIV Infection Conference, Monterrey, California, June 17-19, 1990.
- "Methods Employed by and Length of Knowledge of HIV-Seropositivity of HIV-infected Suicide Attempters", (Rundell, Brown, Kyle, et al.), 37th Annual Meeting of the Academy of Psychosomatic Medicine, Phoenix, Arizona, November 18, 1990.
- "Psychiatric Morbidity in HIV-seropositive Women: Results of a Three Year Prospective Study", (Brown, Rundell, Temoshok, et al.), 37th Annual Meeting of the Academy of Psychosomatic Medicine, Phoenix, Arizona, November 16, 1990.
- "Psychiatric Issues in the Evaluation of Spouses of Cross-dressers," Fairfax Hospital, Falls Church, Virginia, November 30, 1990.
- "Measurement of Negative Affect in HIV-seropositive Individuals," (Jenkins, Carey, Temoshok, Brown, et al.), 12th Annual Meeting of The Society of Behavioral Medicine, Washington, D.C., March 20, 1991.
- "Psychiatric and Neuropsychiatric Morbidity in Early HIV Disease," Grand Rounds presentation with S. McManis, University of Texas Health Science Center, San Antonio, Texas, April 30, 1991.
- "Neuropsychiatric Impairment Early in the Course of HIV Infection," (McManis, Brown, Zachary, et al.), 7th International Conference on AIDS, Florence, Italy, June 17, 1991.
- Nine presentations/new research posters/symposia presented at the 144th Annual Meeting of the American Psychiatric Association, New Orleans, Louisiana, May 11-15, 1991 (see Publications section, #50-58, for titles).
- Two presentations at the 7th International Conference on AIDS, Florence, Italy, June 15-17, 1991 (see Publications section, #59-60, for titles).
- "Methodological Advantages of Comprehensive Multidisciplinary Consultation-Liaison Psychiatry Research: HIV Research as a Model," (Rundell, Temoshok, Brown, et al.), Annual Meeting of the Academy of Psychosomatic Medicine, Atlanta, Georgia, October 17, 1991.
- "HIV Psychiatric Research in the Air Force," Grand Rounds presentation, Mayo Clinic, Rochester, Minnesota, July 9, 1991.
- "Neuropsychiatric Morbidity in early HIV Disease: Implications for Military Occupational Function," (Brown, Rundell, McManis, Kendall), Aerospace Medicine Symposium on Allergic, Immunological, and Infectious Disease Problems in Aerospace Medicine, NATO Advisory Group for Aerospace Research and

- Development Conference, Rome, Italy, October, 1991; presented by J. Rundell in my absence due to lack of funding.
- Four oral presentations and two poster presentations at the First International Conference on the Biopsychosocial Aspects of HIV Infection, Amsterdam, The Netherlands, 22-25 September, 1991 (see Publications section, #61-66, for titles).
- "Biopsychosocial HIV Research in the U.S. Military," Invited Grand Rounds presentation, University of South Dakota School of Medicine, Sioux Falls, South Dakota, October 25, 1991.
- "Biopsychosocial Issues in Treating HIV-seropositive Women," Fairfax Hospital Evening CME Lecture Series, Falls Church, Virginia, December 11, 1991.
- "Psychiatric Issues in Women with HIV," Fairfax County Health Department, Falls Church, Virginia, December 12, 1991.
- "Suicidality in Men with Early HIV Disease," American Psychosomatic Society 50th Annual Meeting, New York, New York, April 1, 1992.
- USAF HIV "Train-the-Trainer" Course; course organizer, presenter, and comprehensive course assessment (pretest, posttests), San Antonio, Texas, April 7-9, 1992.
- "Clinical Utility and Diagnostic Sensitivity of the Michigan Alcoholism Screening Test in Patients with HIV Disease," (Rundell, Brown), Annual Meeting of the Academy of Psychosomatic Medicine, San Diego, CA, October 31, 1992.
- "Longitudinal Neuropsychological Findings in HIV Positive Males," (Goethe, Richie, Brown, et al), 8th International AIDS Conference, Amsterdam, The Netherlands, July 20, 1992.
- "HIV and Women: Challenge for the 90's," Grand Rounds presentation, Geisinger Medical Center, Danville, PA, August 6, 1992.
- "Psychosocial Dimensions of Depression in Early HIV Disease," (Jenkins R, Rundell J, Brown G, Law W, Temoshok L), Annual Meeting of the American Psychological Association, Washington, D.C., August 15, 1992.
- "Psychiatric Presentations of HIV Disease," AIDS and Mental Health Program sponsored by San Antonio VA and UTHSC-SA, Corpus Christi, TX, September 18, 1992.
- "Major Depression in HIV Disease Before AIDS: Clinical Features and Associated Factors," (Rundell J, Brown G, Jenkins R, Kendall S, Temoshok L), Annual Meeting of the Academy of Psychosomatic Medicine, San Diego, CA, 29 October, 1992.
- "HIV Risk Behavior Surveys in the U.S. Military -- What Have We Learned?," Wilford Hall Medical Center Scientific Group Meeting, San Antonio, TX, 16 November 1992.
- "Biopsychosocial Aspects of Early HIV Disease in Women," Grand Rounds, Michigan State University/St. Lawrence Hospital, Lansing, MI, 18 December 1992.
- "Methodological Issues in Assessing Risk Behaviors in an HIV Sero-positive Military Sample," (Coyle C, Blake S, Brown GR, Ledsky R, Temoshok L), Special Citation Poster Presentation, Proceedings of the Fourteenth Annual Meeting of the Society of Behavioral Medicine, San Francisco, CA, March 10, 1993.
- "Gender differences in transmission risk behavior, affect, and social support in HIV-positive individuals," (Nannis E, Temoshok L, Jenkins R, Blake S, Sharp E, Jenkins P, Brown G, Patterson T, Coyle C, Brandt U, Johnson C), Proceedings of the Fourteenth Annual Meeting of The Society of Behavioral Medicine, San Francisco, CA, March 10, 1993.
- "Psychosocial stressors and vulnerability to psychiatric distress in early-stage HIV," (Zachary R, Brown GR, Kendall S, Coyle C, McManis S), Proceedings of the Fourteenth Annual Meeting of The Society of Behavioral Medicine, San Francisco, CA, March 10, 1993.
- "Establishing databased research in an academic department of psychiatry," invited address to the Department of Psychiatry, Jefferson Medical College, College of Physicians, Philadelphia, PA, April 30, 1993.
- Two Workshops, three poster sessions, 1993 Annual Meeting of the American Psychiatric Association, San Francisco, CA, May 22-24, 1993.
- "Treating Depression in Early HIV Disease," Grand Rounds, Oklahoma University

- School of Medicine, Oklahoma City, OK, December 1, 1993.
- "Diagnosis and Treatment of Transvestism," Tulane University School of Medicine, Department of Psychiatry presentation, December 2, 1993.
- "Psychiatric Disorders in Early HIV Disease," Grand Rounds, Tulane University School of Medicine, New Orleans, LA, December 3, 1993.
- "Diagnosis and Treatment of Gender Identity Disorders," invited presentation at Keesler Air Force Base Medical Center, Biloxi, MS, January 13, 1994.
- "Personality Disorders in HIV-positive Persons: Association with Other Measures of Psychiatric Morbidity," poster presentation, (Richards J, McManis S, Brown G), Annual Meeting of the American Psychiatric Association, Philadelphia, PA, May 23, 1994.
- "Psychiatric Issues in HIV/AIDS," invited presentation, Huntsville Mental Health Community, Huntsville Space and Science Center, Huntsville, AL, November 12, 1994.
- "Diagnosis and Treatment of Gender Identity Disorders," Grand Rounds, Tulane University School of Medicine, New Orleans, LA, April 29, 1994.
- "Management of Depression in Early HIV Disease," Upper East Tennessee Psychiatric Association Meeting, Kingsport, TN, June 2, 1994.
- "Sertindole in the Treatment of Chronic Schizophrenia: a Phase III Controlled Trial," Grand Rounds, East Tennessee State University, Johnson City, TN, September 30, 1994.
- "New Onset of Sexual Dysfunction in HIV-seropositive Women: Results of a Prospective Study," 88th Annual Scientific Assembly of the Southern Medical Association, Orlando, Florida, November 3, 1994.
- "Gender Identity Disorders in the VAMC Setting," Grand Rounds, Atlanta VAMC, December 13, 1994.
- "Managing Depression in Early Stage HIV Disease," Grand Rounds, Salem VAMC, December 22, 1994.
- "Biopsychosocial Aspects of HIV Disease in Men," Invited Speaker, Mississippi Pharmacists Association MidWinter Meeting, Jackson, MS, February 12, 1995.
- "Biopsychosocial Aspects of HIV Disease in Men," Invited Speaker, Mississippi Pharmacists Association MidWinter Meeting, Oxford, MS, February 19, 1995.
- "Biopsychosocial Aspects of HIV Disease in Women," Grand Rounds, East Tennessee State University, Johnson City, TN, March 17, 1995.
- "Managing Insomnia," primary care provider educational meeting, Bristol, TN, May 22, 1995.
- "Diagnosis and Treatment of Gender Identity Disorders: DSM-IV Approach," Grand Rounds, Geisinger Medical Center, Danville, PA, June 15, 1995.
- "Psychosocial Characteristics of 739 Transgendered Men," (Brooks G, Brown GR, Askew J), 41st Annual Meeting of the Southeastern Psychological Association, Savannah, GA, March 12, 1995.
- "Personality Characteristics and Sexual Functioning of 188 American Transgendered Men: Comparison of Patients with Nonpatients." 14th Harry Benjamin International Gender Dysphoria Symposium, Irsee/Ulm Germany, September 9, 1995.
- "Sertindole HCl: A Novel Antipsychotic With a Favorable Side Effect Profile." 89th Scientific Assembly of the Southern Medical Association, Kansas City, Missouri, November 17, 1995.
- "Long term Safety of Treatment with Sertindole, a Novel Antipsychotic." (Radford M, Brown GR, Matthew H) poster, 89th Scientific Assembly of the Southern Medical Association, Kansas City, Missouri, November 17, 1995.
- "Diagnosis and Newer Treatments for Schizophrenia." Invited Presentation. Central Appalachia Services, Kingsport, TN, December 7, 1995.
- "Personality and Sexuality in Transvestism." Grand Rounds, University of Texas Health Sciences Center, San Antonio, Texas, December 12, 1995.
- "HIV/AIDS and Sexuality." Grand Rounds, Wilford Hall Medical Center, San Antonio,

- Texas, December 14, 1995.
- "How Research Can Enhance Your Career." Invited Presentation to Department of Psychiatry, Wilford Hall Medical Center, San Antonio, Texas, December 13, 1995.
- "Conducting Research With Stigmatized Populations." Journal Club Presentation, University of Texas Health Sciences Center, Department of Psychiatry, San Antonio, Texas, December 12, 1995.
- "Sexuality in HIV/AIDS." Grand Rounds, Bowman Gray Medical School, Department of Psychiatry, Wake Forest University, Winston-Salem, North Carolina, January 19, 1996.
- "Gender Identity Disorders." Grand Rounds, Lakeshore Mental Health Institute, Knoxville, Tennessee, February 14, 1996.
- "New Approaches to the Management of Schizophrenia," Helen Ross McNabb Center, Knoxville, Tennessee, February 14, 1996.
- "Diagnosis and Management of Gender Dysphoria," Grand Rounds, University of Alabama at Birmingham, March 5, 1996.
- "Depression and Primary Care," Morristown, TN Primary Care Provider's CE Group, Morristown, TN, June 27, 1996.
- "Personality and Sexuality in Transgendered Men," paper presentation, American Psychological Association, Toronto, Canada, August 13, 1996.
- "Gender Identity Disorders," paper presentation at Southern Psychiatric Association Annual Meeting, Santa Fe, New Mexico, September 25, 1996.
- "Sleep Disorders," Grand Rounds, Salisbury VAMC, Salisbury, North Carolina, August 21, 1996.
- "Depression in Primary Care Settings," Nurse Practitioner-Physician Assistant Association of Northeast Tennessee, Johnson City, Tennessee, September 11, 1996.
- Visiting Professorship, Menninger Clinic and Foundation; included Grand Rounds, case presentation and discussion, meetings with residents and staff; Topeka, KS, October 10-11, 1996.
- "New Approaches to the Treatment of Schizophrenia," Grand Rounds, Lakeshore Mental Health Institute, Knoxville, Tennessee, October 30, 1996.
- "HIV Disease in Women: Sexual Manifestations," symposium presentation at Academy of Psychosomatic Medicine Annual Meeting, San Antonio, Texas, November 14, 1996.
- "HIV and Sexuality," Grand Rounds, Atlanta VAMC/Emory University, Atlanta, Georgia, December 3, 1996.
- "Santa Claus is a Cross-Dresser (and so are his little elves)," invited address for the Upper East Tennessee Psychiatric Association, a component of the Tennessee District Branch of the American Psychiatric Association, Johnson City, TN, December 9, 1996.
- "Depression and Sexuality," Tazewell County Medical Society, Richlands, Virginia, March 25, 1997.
- "Identifying and Treating Depression in Primary Care," Annual Meeting of the Nurse Practitioner's and Physician's Assistants of East Tennessee, Johnson City, TN, March 25, 1997.
- "Managing Sexual Side Effects of Antidepressant Treatment," Harlan County Medical Society, Harlan, Kentucky, March 11, 1997.
- "Depression and Intimacy," Chatanooga Psychiatric Society, Chatanooga, TN, April 21, 1997.
- "Depression and Sexuality," Lakeshore Mental Health Institute Grand Rounds, Knoxville, TN, April 9, 1997.
- "Managing Sexual Side Effects of Antidepressants," Southern Highlands Pharmacist's Society, Abingdon, Virginia, April 29, 1997.
- "Transgendered Families," Lakeshore Mental Health Institute Grand Rounds, Knoxville, TN, April 30, 1997.
- "Depression and Intimacy," Buchanan County Medical Society, Grundy, VA, May 8, 1997.
- "Depression, Sexuality, and Treatment," Highlands Psychiatric Society, Abingdon, VA, May 9, 1997.

- "Managing Sexual Side Effects of Antidepressants in Primary Care," Chatanooga Family Practice Association, Chatanooga, TN, May 20, 1997.
- "Double Trouble: Depression and Anxiety in Primary Care," LeFlore County Medical Center, Greenwood Mississippi, May 29, 1997.
- "HIV and Sexuality," ETSU Medicine and Sexuality Symposium, Johnson City, TN, June 13, 1997.
- "Depression and Sexuality," ETSU Medicine and Sexuality Symposium, Johnson City, TN, June 13, 1997.
- "Transgenderism," Grand Rounds, Overlook Mental Health Center, Knoxville, TN, June 25, 1997.
- "Managing Sexual Side Effects of Antidepressants in Primary Care," Wise County Medical Society, Norton, Virginia, July 11, 1997.
- "APA Guideline on the Treatment of Schizophrenia," Smoky Mountain Chapter of the Tennessee Psychiatric Association, Knoxville, TN, July 22, 1997.
- "Nicotine Dependence: Kicking the Habit," August Monthly Meeting of the Tricities Nurse Practitioner-Physician Assistants Association, Johnson City, TN, August 14, 1997.
- "Biopsychosocial Issues in Women with HIV Disease," Monthly Meeting of OB-GYN Society of Tricities, Johnson City, TN, August 26, 1997.
- "Revision of the HBGDA Standards of Care: Opportunities and Controversies," Biannual Meeting of the Harry Benjamin International Gender Dysphoria Association, Vancouver, British Columbia, Canada, September 11, 1997.
- "Anxiety and Depression in Primary Care: Double Trouble," Primary Care Grand Rounds, Fort Campbell, KY, October 1, 1997.
- "Treatment Guidelines for Schizophrenia," Psychiatry Grand Rounds, Lexington VAMC, Lexington, KY, September 17, 1997.
- "Gender Dysphoria in the Military Setting," Grand Rounds, Wilford Hall Medical Center, San Antonio, TX, December 18, 1997.
- "Clinical Issues in Transgendered Families," Grand Rounds, University of Texas Health Sciences Center, San Antonio, December 16, 1997.
- "Depression and Sexuality," Southwest Virginia Counsel of Nurse Practitioners, Abingdon, Virginia, November 1, 1997.
- "Depression and Anxiety Disorders in Primary Care," Annual Meeting of the Nurse Practitioner Physician Assistant Association of Northeast TN, Johnson City, TN, February 23, 1998.
- "Differentiating SSRI's in Clinical Practice," Richmond Psychiatric Society Meeting, Richmond, VA, January 22, 1998.
- "Gender Identity Disorders," Grand Rounds, University of VA, Roanoke, VA, February 19, 1998.
- "Smoking Cessation: Modern Approaches," Monthly Meeting of the East TN Hospital Pharmacists Association, Kingsport, TN, February 24, 1998.
- "Identification and Treatment of Gender Dysphoria Syndromes," Grand Rounds, University of Mississippi, Jackson, MS, February 27, 1998.
- "Gender Dysphoria Syndromes in Primary Care," Nurse Practitioner Physician Assistant Association of Northeast TN, Kingsport, TN, March 19, 1998.
- "Treatment Guidelines for Schizophrenia," Grand Rounds, University of Kentucky, Louisville, KY, April 23, 1998.
- "Gender Identity Disorders," Grand Rounds, University of Alabama at Huntsville, Huntsville, AL, May 21, 1998.
- "Nicotine Reduction Strategies," Grand Rounds, Southwest Virginia Mental Health Institute, Marion, VA, May 27, 1998.
- "Depression and Anxiety Management in Primary Care," East Tennessee State University Dept. of Psychiatry Symposium on "Psychiatry in the Trenches", Johnson City, TN, June 12, 1998.
- "Managing Depression in Primary Care," Grand Rounds, Internal Medicine Department, East Tennessee State University, Johnson City, TN, June 16, 1998.

- "Mood Disorders in Women," Roanoke Psychiatric Society, Roanoke, VA, June 17, 1998.
- "Gender Identity Disorders," Grand Rounds, Loyola University Strich School of Medicine, Chicago, IL, June 18, 1998.
- "Standards of Care for Gender Identity Disorders," Grand Rounds, University of Louisiana, Baton Rouge, LA, July 21, 1998.
- "Depression and Sexuality," Fall Symposium of the Mental Health Association of Knoxville, September 11, 1998.
- "Pharmacotherapy of Agitation in the Elderly," Kentucky Pharmacists' Association, Lexington, Kentucky, September 20, 1998.
- "Women and Mood/Anxiety Disorders," monthly meeting of the Nurse Practitioners-Physician Assistants, Johnson City, TN, October 1, 1998.
- "Killing the Bore: How to Give Effective Medical Presentations That Keep an Audience Awake," Grand Rounds, ETSU Dept. of Psychiatry, Johnson City, TN, October 16, 1998.
- "Pharmacologic Management of Agitation in the Elderly," Detroit Psychiatric Society, Detroit, Michigan, December 22, 1998.
- "Nicotine Dependence: Kicking the "Habit," Wise County Medical Society, Wise, Virginia, January 14, 1999.
- "Mood Disorders in Women," Chatanooga Psychiatric Society, Chatanooga, TN, January 18, 1999.
- "From Menarche to Menopause: Mood and Anxiety Disorders in Women," Greene County Medical Society, Greeneville, TN, February 2, 1999.
- "From Menarche to Menopause: Mood and Anxiety Disorders in Women," Annual Meeting of the TriCities Nurse Practitioner-Physician Assistant Association, Johnson City, TN, February 23, 1999.
- "Comparison of Risperidone and Olanzapine: RIS-112 Study," Upper East TN Psychiatric Society, Johnson City, TN, March 4, 1999.
- "New Directions in Treating Schizophrenia," CME, Inc. sponsored faculty member, Los Angeles, California, March 27, 1999.
- "Pharmacologic Management of Agitation in Dementia," University of Alabama Pharmacotherapeutics Conference, Huntsville, AL, April 24, 1999.
- "Mood and Anxiety Disorders in Women," University of Alabama Pharmacotherapeutics Conference, Huntsville, AL, April 24, 1999.
- "Behavioral Problems in Dementia," Grand Rounds, Alvin York VAMC, Murfreesboro, TN, April 29, 1999.
- "Pharmacological Management of Agitation in Dementia," Grand Rounds, Lakeshore Mental Health Institute, Knoxville, TN, May 7, 1999.
- "Psychiatric Disorders in Women," Women's Health Symposium, University of Alabama, Huntsville, AL, May 14, 1999.
- "Loxitane: A New Look at an Old Drug," Lakeshore Mental Health Institute, Knoxville, TN, June 4, 1999.
- "Psychiatric Disorders in Women," University of Tennessee at Knoxville, OB-GYN Grand Rounds, June 4, 1999.
- "Working With Transgendered Clients," workshop presented at A Search for New Understanding of Lesbian, Gay, and Bisexual Issues, East Tennessee State University, Johnson City, TN, September 24, 1999.
- "Optimizing Treatment for Schizophrenia", CME, Inc. Symposium, Cleveland, Ohio, September 25, 1999.
- "Diagnosis and Treatment of Depression in Primary Care," Grand Rounds, James H. Quillen VA Medical Center-ETSU Department of Medicine, Johnson City, TN, September 28, 1999
- "Gender Identity Disorder," Annual Meeting of the Southern Psychiatric Association, Hot Springs, Virginia, September 30, 1999.
- "Management of Insomnia," Annual Meeting of the Tennessee Association of Physicians' Assistants, Gatlinburg, TN, October 12, 1999.
- "Sexual Dysfunction in Primary Care Practice," Behavioral Health in Primary Care Symposium,

- East Tennessee State University, Johnson City, TN, October 16, 1999.
- “Management of Insomnia: New Directions,” monthly meeting of the Upper East Tennessee Psychiatric Association, Bristol, TN, October 19, 1999.
- “Depression and Anxiety in Women Through the Life Cycle,” Johnson City Women’s Health Center Grand Rounds, Johnson City, TN, October 27, 1999.
- “Selecting Antidepressant Treatment,” invited presentation and panel discussion, New Orleans Academy of Internal Medicine, January 10, 2000.
- “Managing Insomnia in Primary Care,” Grand Rounds, Holston Valley Medical Center, Kingsport, TN, January 31, 2000.
- “Gender Identity Disorders,” Grand Rounds, University of Cincinnati, Cincinnati, OH, January 26, 2000.
- “Selecting Antidepressants in Primary Care,” Rural Health Cooperative, Kingsport, TN, February 7, 2000.
- Visiting Professor, Loyola University Medical School, Chicago, IL (two presentations), February 10, 2000.
- “Managing Insomnia in the New Millennium,” Annual Meeting of the East TN Nurse Practitioner’s and Physicians’ Assistants Association, Johnson City, TN, February 22, 2000.
- “Sexual Dysfunction in Primary Care,” Annual Meeting of the East TN Nurse Practitioner’s and Physicians’ Assistants Association, Johnson City, TN, February 22, 2000.
- “Depression and PTSD in Women,” Grand Rounds, Department of OB-GYN, University of Tennessee, Knoxville, March 17, 2000.
- “Depression and Anxiety in Primary Care Practice,” Grand Rounds, Department of Internal Medicine, University of Tennessee, Knoxville, March 16, 2000.
- “Diabetes, Glucose Regulation, and Schizophrenia,” Upper East Tennessee Psychiatric Society, Johnson City, TN, April 13, 2000.
- “Sexual Dysfunction in Primary Care Practice,” Annual Meeting of the Tennessee Osteopathic Medicine Association, Chattanooga, TN, May 7, 2000.
- “Diabetes, Weight Gain, and Schizophrenia,” Grand Rounds, Lakeshore Mental Health Institute, Knoxville, TN, July 20, 2000.
- “Bipolar Disorder: Monotherapy versus Combination Therapy”, national CME Category I lecture series sponsored by Medical Education Resources and Curry, Martin, and Schiavelli, to 17 cities between May and November, 2000.
- “Managing Depression and Anxiety Disorders,” invited presentation to the Annual Meeting of the Tennessee Academy of Family Practice, Jackson, TN, August 19, 2000.
- “Managing Insomnia,” monthly meeting of the Tazwell County Medical Society, Richlands, Virginia, August 23, 2000.
- “Sexual Dysfunction,” Grand Rounds, ETSU Department of OB/GYN, Johnson City, TN, September 6, 2000.
- “Depression and Sexuality,” Grand Rounds, Holston Valley Hospital, Bristol, TN, September 25, 2000.
- “Depression and Anxiety in Primary Care: Case Conference/Grand Rounds,” Southern Medical Association Annual Meeting, Orlando, Florida, November 2, 2000.
- “Depression in Primary Care Settings,” Hamblen County Medical Society, Morristown, TN, November 21, 2000.
- “Sleep Disorders,” Nurse Practitioners-Physicians Assistant Association Monthly Meeting, Johnson City, TN, December 7, 2000.
- “CD-ROM Workshop, Anxiety and Depression”, Annual Meeting of the Holston Valley Nurse Practitioners-Physicians Assistants Association, Johnson City, TN, February 26, 2001.
- “The Harry Benjamin Standards of Care in Prison: Benefits for Transsexual Healthcare,” International Foundation for Gender Education Annual Symposium, Chicago, IL, March 24, 2001.
- “Why Internists Should Care About Treating Depression,” Grand Rounds, Department of Internal Medicine, ETSU, Johnson City, TN, April 3, 2001.
- “Antidepressants: Effective Side Effect Management,” Annual Meeting of the Tennessee Osteopathic Medicine Association, Memphis, TN, April 21, 2001.
- “Gender Identity Disorder: Management,” invited presentation, Smokey Mountain Chapter of the

- Tennessee Psychiatric Association, Knoxville, TN, April 24, 2001.
- "Gender Identity Disorder," Grand Rounds, Department of Psychiatry, Memphis VAMC, May 24, 2001.
- "Antipsychotic Efficacy Uncompromised by Side Effects," Grand Rounds, Department of Psychiatry, UT Memphis, May 25, 2001.
- "Sexual Dysfunctions in Primary Care," International Medical Update Symposium, Johnson City, TN, August 2, 2001.
- "Diagnosis and Treatment of Gender Dysphoria," Grand Rounds, Department of Psychology, James H. Quillen VAMC, August 3, 2001.
- "Management of Bipolar Disorder," Grand Rounds, Meharry Medical College, Nashville, TN, August 21, 2001.
- "Medical Treatment of Agitation in Dementia," Fall Symposium of the Mental Health Association of Knoxville, September 13, Knoxville, TN.
- "Monotherapy vs. Combination Therapy in the Management of Mania," Fall Symposium of the Mental Health Association of Knoxville, September 14, Knoxville, TN
- "Optimizing Treatment for Bipolar Disorder," quarterly meeting of the Upper East Tennessee Psychiatric Association, Johnson City, TN, September 20, 2001.
- "Gender Identity Disorders: Diagnosis and Management," Grand Rounds, Institute of Living/Hartford Hospital Departments of Psychiatry and Psychology, Hartford, CT, October 17, 2001.
- "Gender Identity Disorder Complicated by Dissociative Identity Disorder: Report of a Successful Case," XVII Symposium of the Harry Benjamin International Gender Dysphoria Association, Galveston, TX, November 3, 2001.
- "Mood Disorders in Women," monthly meeting of the TriCities Nurse Practitioners Association, Johnson City, TN, December 10, 2001.
- "Substance Use Disorders Complicating Common Psychiatric Disorders," Grand Rounds, Holston Valley Hospital, Bristol, TN, December 18, 2001.
- "Women's Health Issues in Psychiatry," OB-GYN Grand Rounds, East Tennessee State University, Johnson City, TN, May 8, 2002.
- "Matching the Neurotransmitter to the Patient," ½ day CME presentation, World Medical Conferences, Jackson, Mississippi, May 18, 2002.
- "Matching the Neurotransmitter to the Patient," ½ day CME presentation, World Medical Conferences, Albany, New York, June 1, 2002.
- "Killing the Bore: How to Give Effective Medical Presentations That Keep People Awake," Grand Rounds, Dept. of Psychiatry, ETSU, Johnson City, TN, August 9, 2002.
- "Current Issues in Treatment of Dementia," Roanoke Psychiatric Society, Roanoke, VA, June 26, 2002.
- "Comfort Foods: Should We Just Surrender Now?," Northeast Tennessee Nurse Practitioner's Association Annual Meeting, Bristol, TN, September 14, 2002.
- "Gender Identity Disorders: Diagnosis and Management," Psychiatry Grand Rounds, University of Florida, Gainesville, Florida, September 20, 2002.
- "Gender Identity Disorders: Diagnosis and Management," Psychiatry Grand Rounds, Meharry Medical College, Nashville, TN, October 9, 2002.
- "New Issues in the Management of Bipolar Disorder," Grand Rounds, Lakeshore Mental Health Institute, Knoxville, TN, October 5, 2002.
- "Pharmacological Management of Dementia," Psychiatry Grand Rounds, Western State Hospital, Staunton, Virginia, March 19, 2003.
- "Appropriate Use of Antipsychotics in Primary Care Practice," Tricounty Medical Society Meeting, Johnson City, TN, April 3, 2003.
- "Appropriate Use of Antipsychotics in Primary Care Practice," 2003 Primary Care Conference, Johnson City, TN, April 1, 2003.
- "Pharmacological Management of Dementia," Grand Rounds, Gaston Memorial Hospital, Gastonia, NC, May 13, 2003.
- "Brown G R, McBride L, Williford W, Bauer M: Impact of childhood sexual abuse on bipolar disorder. Proceedings of the 5th International Conference on Bipolar Disorders, Pittsburgh, PA, 2003 (poster presented by Dr. Bauer in my absence).

- "Aripiprazole Use in Psychiatry," Grand Rounds, Lakeshore Mental Health Institute, Knoxville, TN, August 22, 2003.
- "Use of Anticonvulsants in Psychotic Disorders," Tennessee Psychiatric Association, Smoky Mountain Chapter Meeting, Knoxville, TN, August 28, 2003.
- "Application of the Harry Benjamin International Gender Dysphoria Association's Standards of Care to the Prison Setting: Recent Victories for Transgender Healthcare in the USA," 18th Biennial Symposium of the HBIAGDA, Gent, Belgium, September 11, 2003.
- "Family and Systems Aggression Towards Therapists Working with Transgendered Clients," 18th Biennial Symposium of the HBIAGDA, Gent, Belgium, September 12, 2003.
- "Impact of Childhood Abuse on Disease Course in Veterans with Bipolar Disorder," 97th Annual Meeting of the Southern Medical Association, Atlanta, Georgia, November 8, 2003.
- "Gender Dysphoria: Diagnosis and Management," Grand Rounds presentation, Marshall Medical School, Huntington, West Virginia, January 9, 2004.
- "Gender Dysphoria: Diagnosis and Management," Grand Rounds presentation, Catawba State Hospital, Roanoke, Virginia, March 17, 2004.
- "Treatment Resistant Schizophrenia," Grand Rounds presentation, Broughton State Hospital, Morganton, North Carolina, March 25, 2004.
- "Antipsychotic Use in Geriatric Populations," Grand Rounds presentation, Tampa VAMC, Tampa, Florida, April 23, 2004.
- "Gender Identity Disorders," Grand Rounds presentation, University of TN College of Medicine, Memphis, TN, May 14, 2004.
- "Overcoming Barriers to Treatment Success in Chronic Mental Illnesses," Grand Rounds, Salisbury VAMC, Salisbury, NC, June 3, 2004.
- "Dissociative Identity Disorder Comorbid with Gender Identity Disorder: Review of the Literature and Long-term Case Presentation," Southern Psychiatric Association, Savannah, Georgia, October 2, 2004.
- "Bipolar Disorder in Primary Care," CME Cat 1 presentation, Knoxville, TN, December 1, 2004.
- "Bipolar Disorder and Impulsive Aggression in Primary Care Settings," CME Cat 1 presentation to Tricities Nurse Practitioner Association, December 16, 2004.
- "Overcoming Barriers to Treatment in Chronic Mental Illnesses," North Carolina Advanced Practice Nurses Association, Greensboro, NC, February 13, 2005.
- "Bipolar Disorder in the Primary Care Setting: What to do?," 9th Annual Update for Nurse Practitioners, Johnson City, TN, March 21, 2005.
- "Current Controversies in the Use of SSRI's," TriCounty Medical Society, Johnson City, TN, May 5, 2005.
- "Transgender client aggression towards therapists," XIX Biennial Symposium of the Harry Benjamin International Gender Dysphoria Association, Bologna, Italy, April 9, 2005.
- "Gender identity disorder comorbid with dissociative identity disorder: review of the literature and 7 year followup case presentation. XIX Biennial Symposium of the Harry Benjamin International Gender Dysphoria Association, Bologna, Italy, April 9, 2005.
- "Current Controversies in the Use of SSRI's," CME symposium, Southern Medical Association 9th Annual Scientific Symposium, San Antonio, TX, November 12, 2005.
- "Gender Identity Disorder: Diagnosis and Management," Grand Rounds, University of South Florida, Tampa, Florida, January 6, 2006 (Videotaped version of presentation available at www.TheCJC.com).
- "Gender Identity Disorders," East Tennessee State University Women's Health Program, CME Cat 1 symposium, Johnson City, TN, March 24, 2006.
- "Update on Bipolar Disorder," Millennium Center, CME Cat I program, Johnson City, TN, March 31, 2006.
- "Dealing with Chronic Mental Illness: Barriers to Treatment Success," Southside Virginia Psychiatric Society Quarterly Meeting, Richmond, Virginia, April 3, 2006.
- "Management of Gender Identity Disorders," Intermountain Psychological Association, invited presentation, Johnson City, TN, June 8, 2006.
- "Transgender Health Issues," Emory and Henry Lyceum Series, Emory, Virginia, September 18, 2006.
- "Impact of Childhood Abuse in Veterans with Bipolar Disorder," 65th Annual Scientific Meeting of

- the Southern Psychiatric Association, Baltimore, Maryland, September 29, 2006.
- "Appropriate Use of Antipsychotics in Primary Care Settings," 100th Annual Meeting of the Southern Medical Association, Charlotte, NC, October 14, 2006.
- "Impact of Childhood Abuse on the Course of Bipolar Disorder," Keynote speaker, Perspectives In Health, Texas Department of State Health Services Annual CME Symposium, Austin, Texas, October 27, 2006.
- "Autocastration as Surgical Self-Treatment in Incarcerated Persons with Gender Identity Disorder," Southern Psychiatric Association Annual Meeting, Memphis, TN, August, 2007.
- "Autocastration as Surgical Self-Treatment in Incarcerated Persons with Gender Identity Disorder," XX Biennial Symposium of the World Professional Association for Transgender Health, Chicago, Illinois, September, 2007.
- "Gender Identity Disorders in the Military and VA," Panel discussion and presentation. XX Biennial Symposium of the World Professional Association for Transgender Health, Chicago, Illinois, September, 2007.
- "Diagnosis and Treatment of Gender Identity Disorders," Mountain Update on Psychiatry, ETSU CME Symposium, October 19, 2007.
- "Voice Parameters That Result in Identification or Misidentification of Biological Gender in Male-to-Female Transgender Veterans," poster presentation at the First Annual Gender Spectrum Health Fair, Sponsored by the Alliance for Gender Awareness, Inc and Rutgers Office of Social Justice Education LGBT Communities Rutgers University College, New Brunswick, NJ, November 8, 2007 (with R King et al, coauthors).
- "Voice Parameters That Result in Identification or Misidentification of Biological Gender in Male-to-Female Transgender Veterans," poster presentation at the XX Biennial Symposium of the World Professional Association for Transgender Health, Chicago, Illinois, September, 2007 (with R King, et al, coauthors).
- "Voice Parameters That Result in Identification or Misidentification of Biological Gender in Male-to-Female Transgender Veterans," poster presentation at the Southern Medical Association Annual Scientific Meeting, Nashville, TN, September, 2008 (presented by E McDuffie on behalf of Brown, King, et al, coauthors).
- "Evaluation and Management of Gender Identity Disorders," Cat I, 1.5 hour CME program, Annual Meeting of the Alaska Psychiatric Association, Alyeska, Alaska, April 18, 2009.
- "Forensic Issues and Case Presentations on GID," Cat I, 1.5 hour CME program, Annual Meeting of the Alaska Psychiatric Association, Alyeska, Alaska, April 18, 2009.
- "70 Veterans with Gender Identity Disturbances: A Descriptive Study," XXI Biennial Symposium of the World Professional Association for Transgender Health, Oslo, Norway, June 18, 2009.
- "70 Veterans with Gender Identity Disturbances: A Descriptive Study", Annual Scientific Meeting of the Southern Medical Association, Dallas , Texas, December 4, 2009.
- "Overview of Autocastration and Surgical Self Treatment in Prisons", National Commission on Correctional Healthcare Annual Meeting, October 10, 2010, Las Vegas, Nevada (invited two hour CME CAT I program)
- "Autocastration- Overview and Case Series Presentation," Grand Rounds, East Tennessee State University, Johnson City, TN, April 29, 2011.
- "Providing Healthcare for Transgender and Intersex Veterans," Live Meeting Series broadcast nationally by VA Talent Management System. Co-Presenters Leonard Pogache, MD, Meri Mallard, RN; CME category I credit for each of 3 programs completed, November 22 (2 programs) and November 30, 2011.
- "PBM Guidelines for Providing Care for Transgender and Intersex Veterans," copresenter with Lisa Longo, Pharm.D, Live Meeting Series broadcast nationally by VA Talent Management System, May 10 and May 14, 2012.
- "Providing Culturally Competent Care for Transgender Veterans," invited Keynote address at Houston VAMC for symposium (CEU accredited) on LGBT Veteran healthcare, Houston, TX, August 17, 2012.
- "Update on Version 7 of the WPATH Standards of Care," invited Keynote address for Mountain Area Health Education Center's Southeastern Summit on Transgender Healthcare,

- Category 1 CME accredited, Asheville, NC, August 24, 2012.
- "History of Transgender Healthcare in the Department of Veterans Affairs," invited Keynote address for Mountain Area Health Education Center's Southeastern Summit on Transgender Healthcare, Category 1 CME accredited, Asheville, NC, August 25, 2012.
- "Qualitative Analysis of Transgender Inmates' Correspondence: Implications for Health Services in Departments of Correction", National Commission on Correctional Healthcare Annual Meeting, October 14, 2012, Las Vegas, Nevada (invited one hour CME CAT I program).
- "Cross Sex Hormonal Treatment for Transgender Veterans," national Live Meeting for Women's Health Program, Department of Veterans Affairs, July 16, 2013.
- "Transgender Health Care Training for VA Health Care Providers", 3 hours Category 1 CME accredited, Minneapolis, MN, September 26, 2013.
- "Sex Reassignment Options", national presentation to VA SCAN-ECHO and regional consultation teams responsible for VA transgender health consultations, July 2, 2013.
- "Access to Care for Gender Dysphoric Inmates: Issues and Cases," Invited plenary speaker for the 21st Annual Forensic Rights and Treatment Conference, sponsored by Drexel University College of Medicine, Category 1 CME credit (1.5 hours), Harrisburg, PA, December 5, 2013.
- "Forensic Aspects of Transgender Health Care in Prison," Grand Rounds, East Tennessee State University, Category 1 CME, March 7, 2014.
- "Health Disparities Research: Suicidality in Gender Minorities as a Research Model," Grand Rounds, East Tennessee State University, Category 1 CME credit, May 20, 2014.
- "Sex reassignment surgeries: female-to-male," national presentation to VA SCAN-ECHO and regional consultation teams responsible for VA transgender health consultations, Cat I CME, June 24, 2014.
- "Sex reassignment surgeries: male-to-female," national presentation to VA SCAN-ECHO and regional consultation teams responsible for VA transgender health consultations, Cat I CME, July 8, 2014.; December 2, 9, 16, 23, 2014; February 24, 20-15.
- "Medico-Legal Aspects of Providing Transgender Healthcare for Inmates," invited 2.5 hour presentation for national training program in LGBT healthcare for the Federal Bureau of Prisons, September 4, 2014.
- "Mental health and medical outcome disparities in 5,135 transgender veterans: a case-control study," 32nd Annual Conference of the Gay and Lesbian Medical Association, Category 1 CME credit, Baltimore, MD, September 11, 2014.
- "Mental health and medical outcome disparities in 5,135 transgender veterans: a case-control study," Vanderbilt University Grand Rounds, Department of Psychiatry, Cat 1 CME credit, Nashville, TN, September 26, 2014.
- "Mental health and medical outcome disparities in 5,135 transgender veterans: a case-control study," Drexel University Grand Rounds, Department of Psychiatry, Cat 1 CME credit, Philadelphia, PA, October 23, 2014.
- "Pharmacotherapy issues with gender dysphoria," College of Psychiatric and Neuropsychiatric Pharmacists, Annual Meeting, Cat I CME credit, Tampa, FL, April 19, 2015.
- "Lesbian, gay, bisexual, and transgender (LGBT) sociopolitical indicators and mental health diagnoses among transgender Veterans receiving VA care. Blosnich, J.R., Marsiglio, M.C., Gao, S., Gordon, A.J., Shipherd, J.C., Kauth, M., Brown, G.R., Fine, M.J. (2015, July). Department of Veterans Affairs Health Services Research & Development/Quality Enhancement Research Initiative National Conference, Philadelphia, PA, July, 2015.
- "Killing the Bore: How to Give Effective Medical Presentations," East Tennessee State University Department of Psychiatry and Behavioral Sciences Grand Rounds (Cat I CME), May 1, 2015.
- "Sex reassignment surgeries: male-to-female," national presentation to VA SCAN-ECHO and regional consultation teams responsible for VA transgender health

- consultations, Cat I CME, July 21, July 28, 2015
- “Sex reassignment surgeries: female-to-male,” national presentation to VA SCAN-ECHO and regional consultation teams responsible for VA transgender health consultations, Cat I CME, September 15, September 22, 2015.
- “Transgender military service: Moving past ignorance in DoD and VHA,” invited Keynote Address, Rush Medical University, Cat I CME credit, Chicago, IL, October 9, 2015.
- “Health correlates of criminal justice involvement in 4,793 transgender veterans. Poster Presentation at the Annual National Conference on Correctional Health Care, Denver, CO, October 18, 2015.
- “Open Transgender Military Service: Health Considerations,” presentation to medical leadership of the USMC, Washington, DC, by videolink, January 27, 2016.
- “Sex reassignment surgeries; masculinizing and feminizing,” national presentations to VA SCAN-ECHO and regional consultation teams responsible for VA transgender health consultations, Cat I CME, June 7 and 28, 2016.
- “Orange is not the new black—yet,” Symposium on prison transgender mental health care and update on recent court cases supporting access to transgender health care in US prisons, 24th Biennial Scientific Symposium of the World Professional Association for Transgender Health, Amsterdam, The Netherlands, Cat I CME (1.5 hours), June 20, 2016.
- “Harry Benjamin Plenary Lecture,” invited Keynote address for the 24th Biennial Scientific Symposium of the World Professional Association for Transgender Health, Amsterdam, The Netherlands, Cat 1 CME, June 18, 2016. Available at www.wpath2016.com, timer marker 4:20.
- “Health correlates of criminal justice involvement in 4,793 transgender veterans. Poster Presentation at the 24th Biennial Scientific Symposium of the World Professional Association for Transgender Health, Amsterdam, The Netherlands, Cat I CME, June 18, 2016.
- “Breast cancer in a cohort of 5,135 transgender veterans over time,” 24th Biennial Scientific Symposium of the World Professional Association for Transgender Health, Amsterdam, The Netherlands, Cat 1 CME, June 20, 2016.
- “Impact of social determinants of health on medical conditions among transgender Veteran,” Blosnich J, Marsiglio M, Dichter M., Gao S., Gordon M, Shipherd J, Kauth M, Brown G, Fine M. VA HSR&D Field-Based Meeting to Engage Diverse Stakeholders and Operational Partners in Advancing Health Equity in the VA Healthcare System. Philadelphia, PA, September, 2016
- “Current and past military context and overview of transgender military service,” Caring for Transgender Persons in a Changing Environment, Walter Reed National Military Medical Center and Uniformed Services University of the Health Sciences, Bethesda, MD, Cat I CME, 13 September, 2016.
- “State of the Science: Current VHA research findings, policies, and transgender health care delivery model,” Caring for Transgender Persons in a Changing Environment, Walter Reed National Military Medical Center and Uniformed Services University of the Health Sciences, Bethesda, MD, Cat I CME, September 13, 2016.
- “Social determinants of health and their associations with medical conditions among transgender veterans,” presented by first author John Blosnich, Ph.D., Field-Based Meeting to Engage Diverse Stakeholders and Operational Partners in Advancing Health Equity in the VA Healthcare System, Philadelphia, PA, September 20, 2016.
- “Update on the Mountain Home Transgender Veteran Research Protocol,” Grand

Rounds, East Tennessee State University, Johnson City, TN, Cat 1 CME, September 23, 2016.

"History of transgender people in the military," Southeastern Transgender Health Summit 2016 Overcoming Barriers, Mountain Area Health Education Center, Asheville, NC, Cat 1 CME, September 25, 2016.

"Update on VA care for transgender veterans and summary of research." Southeastern Transgender Health Summit 2016 Overcoming Barriers, Mountain Area Health Education Center, Asheville, NC, Cat 1 CME, September 25, 2016.

"Transgender inmates in prison: perspectives from expert witnesses," Symposium Chair and presenter, United States Professional Association for Transgender Health, First Scientific Meeting, Los Angeles, CA, Cat 1 CME (1.5 hours), February 3, 2017.

"Changes in prescriptions of cross-sex hormones and psychotropic medications for 4,409 transgender veterans receiving services at VHA facilities," United States Professional Association for Transgender Health, First Scientific Meeting, Los Angeles, CA, Cat 1 CME, February 3, 2017.

"Sex reassignment surgeries; masculinizing and feminizing," national presentations to VA SCAN-ECHO and regional consultation teams responsible for VA transgender health consultations, Cat I CME, 4 hours, February 21, 28; May 9, 16, 2017.

"Transgender Health Care, Research, and Regulations in the Department of Defense," 4 hour/half day CME Cat I symposium (solo presenter), 2017 USMEPCOM Medical Leadership Training Seminar, San Antonio, TX, May 2, 2017.

"Transgender Health Care, Research, and Regulations in the Department of Defense," 4 hour CME Cat I symposium (solo presenter), Department of the Army, Fort Knox, KY, July 25, 2017.

"Transgender Health in the Prison Setting: Medical and Legal Issues," Oklahoma Department of Corrections statewide training workshop, Oklahoma City, OK, August 21, 2017.

SYMPOSIA ORGANIZED AND/OR MODERATED:

1. Psychosocial Aspects of HIV Disease in the Military, organizer/moderator/ presenter, Wichita Falls, Texas, 25 April, 1990.
2. Full Day Roundtable Symposium on Atypical Antipsychotics, organizer/moderator, Excerpta Medica, Asheville, North Carolina, 22 April, 1995.
3. Mountain Update on Anxiety Disorders, Course Director, East Tennessee State University, Blowing Rock, North Carolina, 28-29 April, 1995.
4. Medicine and Sexuality Course, Course Director, East Tennessee State University and James H. Quillen VAMC, Johnson City, TN, 13 June, 1997.
5. Half Day audiotaped symposium moderator/organizer on Innovative Uses of Atypical Antipsychotics, Excerpta Medica, Blackberry Inn, Townsend, TN, 16 November, 1997.
6. Novel Uses of Atypical Antipsychotics, Symposium Moderator, Marriot Griffin Resort, Janssen Research Foundation, Lexington, KY, 4 December, 1998.
7. Novel Uses of Atypical Antipsychotics, Symposium Moderator, Blackberry Inn, Townsend, TN, 10 April, 1999.

8. Psychiatry and Neurology Poster Session Moderator for Southern Medical Association's 97th Annual Scientific Assembly, Atlanta, Georgia, November 6, 2003.
9. Moderator for East Tennessee State University Department of Psychiatry monthly Journal Club/Critical Evaluation of the Literature series, 2002-2011.

TELEVISED and TAPED MEDIA EVENTS:

WKPT local television interview on sleep disorders, Johnson City, 1995.

TNN (The Nashville Network), filmed winning an international revolver competition and then interviewed on silhouette handgun shooting, Oakridge, TN, 1998.

CME, Inc. audiotaped faculty presentations as advertised in "Psychiatric Times," various cities and topics.

Channel 5, London, England; documentary on psychiatric aspects of firearms, 2004.

"Cruel and Unusual", documentary on transgender health care issues in the prison setting, 2005 release, available from jbaus@aol.com; aired on Women's Entertainment channel on July 2, 2007

ABC 20/20, "Becoming Diane" segment on gender identity disorders, October 12, 2005.

The Carter Jenkins Center, www.thecjc.org, taped CME cat I lecture available on the internet, "Evaluation and Management of Gender Identity Disorder," January 6, 2006.

CNN, Kosilek Trial testimony/interview, June 1, 2006.

CNBC, "The Big Idea with Donny Deutsch," interview, June 6, 2006.

PBS News Hour, Transgender Soldiers Gain Ground as US Military Transitions, May 9, 2016, <http://www.pbs.org/newshour/bb/transgender-soldiers-gain-ground-as-u-s-military-transitions/>

Multiple Psychiatry Grand Rounds completed at ETSU, 2010-present, available at the ETSU CME Office website, www.etsu.edu/CME

RESEARCH PROJECTS AND GRANT SUPPORT:

Principal Investigator, "Phase III Comparison of Two Doses of Risperidone For Acute Exacerbations of Chronic Schizophrenia." Inpatient setting, grant support from Janssen Pharmaceutica, approximately \$50,000. Completed 1996.

Principal Investigator, Sexual Functioning and Personality Characteristics of Transgendered Men in a Nonclinical Setting. Collaboration with Tom Wise, M.D. (Chair, Dept. of Psychiatry, Fairfax Hospital, Falls Church, VA), Peter Fagan, Ph.D. (Johns Hopkins Sexual Behaviors Consultation Unit), and Paul Costa, Ph.D. (NIMH). Completed 1990-1995.

DSM-IV Reliability Field Trials, Site Coordinator, 10 investigators, completed in 1995.

Principal Investigator, Psychosocial Adjustment of Spouses of Transgendered Men; study involving long-term support group work and nationwide questionnaire data collection from 1986 to 1997. Completed. Private non-profit organization grant support received.

Coinvestigator, International Study of 800 Transgender Men: The Boulton and Park Experience. 1988-1992. This was the largest community based survey study of transgender people in the U.S. conducted to date. Completed.

Principal Investigator, "A Double-Blind, Placebo-Controlled, Dose-Response Comparison of the Safety and Efficacy of Three Doses of Sertindole and Three Doses of Haloperidol in Schizophrenic Patients." Phase III trial, inpatient setting. Grant support by Abbott Laboratories, approximately \$60,000 over one year. Completed 1994-1995. Contributed to FDA consideration of Serlect for U.S. marketing, 1996-1997.

Principal Investigator, "An Open Label, Long Term, Safety Study of Sertindole in Schizophrenic Patients." Phase II trial, outpatient setting. Grant support from Abbott Laboratories, approximately \$50,000 over two years. Completed 1996.

Principal Investigator, "Biopsychosocial Natural History Study of HIV Infection in the USAF." RO-1 equivalent grant from Henry M. Jackson Foundation for the Advancement of Military Medicine, approximately \$2,000,000. Completed 1987-1993, including pilot data collection.

Unrestricted Educational Grants, \$19,000, for Mountain Update on Anxiety Disorders CME conference (SKB, Lilly, Mead-Johnson), 1995.

Unrestricted Educational Grants totaling approximately \$30,000 annually in support of the VAMC/ETSU Psychiatry Grand Rounds and Visiting Professor Program, 1994-2000; 2002-2006. Grant funding following CME guidelines and administered through the ETSU Office of Continuing Education.

Principal Investigator, "Double-Blind Crossover Study of Zolpidem and Temazepam in Elderly, Hospitalized Patients." Funded through Psychiatry Research Fund, Mountain Home VAMC, and Chair of Excellence in Geriatrics, ETSU. Approved study, ultimately closed due to lack of appropriate subjects available for recruitment.

Principal Investigator, "A Randomized, Double-Blind Placebo Controlled Study of Risperidone for Treatment of Behavioral Disturbances in Subjects with Dementia." Collaboration with R. Hamdy, Cecile Quillen Chair of Excellence in Geriatrics, approximately \$100,000 at full recruitment, 1995-1997; completed.

Associate Investigator, "Use of Nefazodone in Depressed Women with Premenstrual Amplification of Symptoms: a Pilot Study." Principal Investigator: Merry Miller, M.D. \$5,000 pilot study grant, 1996-1999; completed.

Associate Investigator, "Voice Characteristics Associated with Gender Misidentification: A Pilot Study." Principal Investigator: Robert King, M.A. Unfunded study in data analysis phase, 2001-2005; completed in 2007.

Principal Investigator, Johnson City site, VA Cooperative Study #430, "Reducing the Efficacy-Effectiveness Gap in Bipolar Disorder." Health services research conducted at 12 sites nationwide. Grant for this site's operations total \$435,000 over five years of study, 1997-2003; completed.

Coinvestigator, "Treatment for Erectile Disorder with Viagra in a VA Population: Efficacy and Patient and Partner Satisfaction." Principal Investigator: William Finger, Ph.D. Approximately \$30,000 total grant over two year period, 2000-2001; study concluded.

Principal Investigator, Johnson City site, "A Multicenter, Randomized, Double-Blind, Placebo Controlled Study of Three Fixed Doses of Aripiprazole in the Treatment of Institutionalized Patients with Psychosis Associated with Dementia of the Alzheimer's Type." Phase III clinical

trial, sponsored by Bristol-Meyers Squibb, 2000-2001, \$174,000 at full recruitment. Extension phase, 42 weeks, separate grant at maximum of \$232,800. Approved April, 2000; completed.

Coinvestigator, "Effects of zaleplon on postural stability in the elderly." Principal Investigator: Faith Akin, Ph.D. \$1000 grant for subject recruitment expenses, 2000-2001.

Principal Investigator, James H. Quillen VA site, "ZODIAK study; An International, Multicenter Large Simple Trial (LST) To Compare the Cardiovascular Safety of Ziprasidone and Olanzapine." Pfizer Pharmaceuticals, approximately \$20,000 at full recruitment. Approved April, 2002, recruitment completed and closed in 2004. Results published: Strom B, Eng S, Faich G, et al: comparative mortality associated with ziprasidone and olanzapine in real-world use among 18,154 patients with schizophrenia: The ziprasidone Observational Study of Cardiac Outcomes (ZODIAC). Amer J Psychiatry 168(2):193-201, 2011.

Coinvestigator, "Survey of Family and Systems Aggression Against Therapists." Unfunded study, completed between 2002 and 2003; Randi Ettner, Ph.D., Principle Investigator; completed.

Coinvestigator, "Effect of Olanzapine on the Auditory Gating Deficit in Patients with Schizophrenia." Principal Investigator: Barney Miller, Ph.D. Investigator-initiated study funded by Lilly, approximately \$85,000. 2002. Study did not recruit subjects at ETSU and was closed 2003.

Principal Investigator, multicenter study, "The SOURCE Study: Schizophrenia Outcomes, Utilization, Relapse, and Clinical Evaluation." Janssen Research, \$100,000 grant at full recruitment (two year open label followup study of risperidone Consta), 2005-2007; second highest recruitment of 43 centers in multicenter study. Completed. See publications from this study under the Publications section, numbers 128 and 129.

Coauthor on grants to VA Central Office for program enhancements to mental health programs at Mountain Home VAMC; approximately \$2,000,000 received for additional staff and support for residential treatment programs and PTSD clinic expansion, 2006-2007.

Principal Investigator in conjunction with Herbert Meltzer, MD, Vanderbilt University, "High Dose Risperidone Consta for Patients with Schizophrenia with Unsatisfactory Response to Standard Dose Risperidone or Long-Acting Injectable." Phase IV study of outpatients with schizophrenia who are partially responsive to risperidone oral and/or long-acting injectable, using a double-blind methodology to study doses between 50 and 100 mg every two weeks. Site funding of approximately \$100,000. 2008-2010. Approved by ETSU IRB but negotiations between sponsor and Department of Veterans Affairs were not completed on intellectual property rights. Study not initiated at Mountain Home VAMC.

Principal Investigator (Everett McDuffie, MD, coinvestigator), "Descriptive study of veterans with gender identity disturbances: Characteristics and comorbidities, 1987-2007." Unfunded study that is first to characterize a population of 75 U.S. veterans with gender identity disturbances over a 20 year time frame. Completed 2009.

Principal Investigator: "Analysis of State and Federal Prison Directives Related to Transgender Inmate Medical Care and Placement." Unfunded review of existing prison policies through the end of 2007. Completed 2008.

Principal Investigator: "Qualitative Analysis of Concerns of Transgender Inmates in the United States. Unfunded analysis of 129 letters from self-identified transgender inmates across the US." Completed 2012.

Coinvestigator, "Prevalence and Suicidality in Transgender Veterans"; coinvestigator with collaborators at the VA Center of Excellence for Suicide Prevention. 2011-2013. Completed;

publication of results in October, 2013.

Principal Investigator, "Assessing Health Outcomes, Health Care Utilization, and Health Disparities in Transgender Veterans Receiving Care in the Veterans Health Administration." Approved by ETSU IRB 7/1/13; protocol remains open. Six manuscripts published; one in preparation.

Consultant, Patient-Centered Outcomes Research Institute grant on transgender healthcare outcomes (STRONG), Michael Goodman, MD, Principal Investigator, Emory University, 2014-present.

References available upon request.

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Exhibit B

Article

Medical Aspects of Transgender Military Service

M. Joycelyn Elders¹, George R. Brown²,
Eli Coleman³, Thomas A. Kolditz⁴,
and Alan M. Steinman⁵

Armed Forces & Society
1-22

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Abstract

At least eighteen countries allow transgender personnel to serve openly, but the United States is not among them. In this article, we assess whether US military policies that ban transgender service members are based on medically sound rationales. To do so, we analyze Defense Department regulations and consider a wide range of medical data. Our conclusion is that there is no compelling medical reason for the ban on service by transgender personnel, that the ban is an unnecessary barrier to health care access for transgender personnel, and that medical care for transgender individuals should be managed using the same standards that apply to all others. Removal of the military's ban on transgender service would improve health outcomes, enable commanders to better care for their troops, and reflect the military's commitment to providing outstanding medical care for all military personnel.

Keywords

transgender service members, medical care, mental health, “don’t ask, don’t tell”

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Introduction

At least eighteen countries allow transgender personnel to serve openly, but the United States is not among them.¹ When “don’t ask, don’t tell” was overturned in 2011, gay, lesbian, and bisexual personnel were allowed to serve openly, but regulations banning transgender military service remained in place. Unlike the rationales that justified excluding gays, lesbians, and bisexuals, and that emphasized operational issues including readiness, cohesion, recruitment and morale, the rules barring transgender military service are, for the most part, embedded in medical regulations, and are premised on assumptions about the medical fitness of transgender personnel.² Despite the repeal of “don’t ask, don’t tell,” and the fact that the Veterans Health Administration (VHA) enacted a 2011 policy mandating the provision of health care benefits to transgender veterans, medical regulations that bar the service of transgender personnel have not been updated.³ In this article, we conduct the first-ever analysis of the plausibility of rationales that justify regulations prohibiting transgender service.⁴ After a brief introduction, we discuss Defense Department regulations barring transgender service as well as the four medical rationales that justify them. Then, we assess the plausibility of each rationale.

The term *transgender* is a broad, umbrella term that refers to individuals who do not identify with the physical gender that they were assigned at birth.⁵ There are an estimated 700,000 transgender American adults, representing 0.3 percent of the nation’s adult population. While some military regulations and legal cases that we discuss refer to *transsexuals*, and while some transgender people use the term transsexual to describe someone who lives permanently with a gender different from their sex at birth, many view the term as outdated and no longer use it, which is why we use the term transgender in this article.

There is no single medical treatment for transgender individuals who undergo gender transition. Surgical transition refers to the use of gender-confirming surgery to change one’s gender while medical transition refers to the use of surgery and/or cross-sex hormone therapy (CSH) to do so. Survey data indicate that 76 percent of transgender individuals have had cross-sex hormone therapy and that only a small minority have had genital reconstructive surgery.⁶ The transition period for most people lasts between one and six months.⁷

Scholars estimate that 15,500 transgender individuals serve in the US armed forces, including 8,800 in the active component and 6,700 in the National Guard and Reserve components, and that 134,000 veterans are transgender.⁸ Transgender adult citizens are more than twice as likely as non-transgender Americans (2.2 percent transgender vs. 0.9 percent non-transgender) to serve currently in the military.⁹ We are only aware, however, of approximately two dozen service members who have been discharged because of their transgender identity in recent years.¹⁰

Defense Department Regulations Barring Transgender Service

Transgender individuals are not allowed to enlist or serve in the US armed forces, and the rules barring their participation in the military are articulated in medical regulations that govern accession and retention. Medical standards for enlistment and retention are designed to ensure that service members are free of conditions that would interfere with duty performance, endanger oneself or others, or impose undue burdens for medical care, and current regulations contain a list of disqualifying conditions that preclude applicants from joining or remaining in the military. Accession regulations that are articulated in Department of Defense Instruction (DODI) 6130.03, *Medical Standards for Appointment, Enlistment, or Induction in the Military Services* disqualify physical conditions including “abnormalities or defects of the genitalia including but not limited to change of sex, hermaphroditism, pseudo-hermaphroditism, or pure gonadal dysgenesis” and “learning, psychiatric, and behavioral” conditions such as “current or history of psychosexual conditions, including but not limited to transsexualism, exhibitionism, transvestism, voyeurism, and other paraphilias.”¹¹ Thus, the accession prohibition against transgender military service includes both a physical component barring “change of sex” and a psychological component barring “psychosexual conditions, including but not limited to transsexualism.”

Retention regulations contained in DODI 1332.14, *Enlisted Administrative Separations* include “sexual gender and identity disorders” as grounds for administrative separation at the discretion of a commander.¹² Even though retention regulations do not include a physical component such as “change of sex,” gender-confirming surgery would surely be taken as evidence of a “sexual gender and identity disorder” and would thus subject any service member who changed their gender surgically to discharge. Even transgender service members who do not wish to take hormones, have surgery, or undergo any other aspect of gender transition are subject to discharge under the psychological components of the accession and retention regulations.

Medical regulations generally allow for waivers of accession standards under some circumstances. Under DODI 6130.03, the services shall “Authorize the waiver of the standards [for entry] in individual cases for applicable reasons and ensure uniform waiver determinations.”¹³ Service-specific implementing rules affirm the possibility of accession waivers. By Army rules, for example, “Examinees initially reported as medically unacceptable by reason of medical unfitness . . . may request a waiver of the medical fitness standards in accordance with the basic administrative directive governing the personnel action.”¹⁴

While accession standards allow for the possibility of waivers, they also specify that accession waivers will not be granted for conditions that would disqualify an individual for the possibility of retention: “Waivers for initial enlistment or appointment, including entrance and retention in officer procurement programs, will not be

granted if the applicant does not meet the retention standards.”¹⁵ As discussed previously, because some conditions related to transgender identity are grounds for discharge, and because recruiters cannot waive a condition upon enlistment that would be disqualifying for retention, transgender individuals cannot obtain medical waivers for entrance into the military.

We conducted a comprehensive review of all Department of Defense (DOD)-wide as well as Army and Navy/Marine regulations governing transgender service, but we do not address service-specific rules here because they are largely consistent with DOD-wide regulations discussed in this section.¹⁶ Air Force medical standards governing enlistment and retention were removed from public access upon the latest revision of Air Force Instruction 48-123, *Medical Examinations and Standards*, in November 2013.

US military policies that ban transgender service members do not include rationales that explain why the armed forces prohibit them from serving, although the policies are embedded in comprehensive medical and other regulations that are designed to preserve health and good order. While regulations do not offer reasons for banning transgender service members, several transgender individuals have challenged the policy in court and military representatives have presented rationales via testimony and affidavit. In *Doe v. Alexander*, a federal district court noted “evidence that transsexuals would require medical maintenance to ensure their correct hormonal balances and continued psychological treatment and that the army would have to acquire the facilities and expertise to treat the endocrinological complications which may stem from the hormone therapy. The army might well conclude that those factors could cause plaintiff to lose excessive duty time and impair her ability to serve in all corners of the globe.”

In testimony for *Leyland v. Orr*, an Air Force consulting physician testified that assigning individuals who had undergone a sex change operation to remote geographic areas “would be equivalent to placing an individual with known coronary artery disease in a remote location without readily available coronary care.” Finally, in *DeGroat v. Townsend*, an Air Force consulting physician stated that “Individuals who have undergone sex change procedures would not be qualified for world-wide service” in part because they could be “without access to potentially acute specialized tertiary medical care, which would only be available at major medical centers. Overall, it is neither in the best interest of the individual patient to have their access to necessary health care limited during potential Air Force duties nor is it in the best interest of the Air Force to have to provide the medical care that these individuals may require.”¹⁷

The regulations, in short, appear to be premised on the notion that in four different ways, transgender personnel are not medically fit and that addressing their medical needs would place an undue burden on commanders and doctors. Specifically, the regulations appear to be justified by the notions that (1) transgender personnel are too prone to mental illness to serve, (2) cross-sex hormone therapy is too risky for medical personnel to administer and monitor, (3) gender-confirming surgery is too

complex and too prone to postoperative complications to permit, and (4) transgender personnel are not medically capable of deploying safely.¹⁸ We address each of these rationales in turn.

Mental Health

Some of the regulatory provisions that prohibit transgender service emphasize psychological factors. In turn, scholars have found that some transgender service members report poor mental health. One recent study concluded that the transgender community faces “elevated rates of suicide, risk for HIV infection, exposure to trauma, and other health challenges.”¹⁹ In a sample of 1,261 transgender respondents with prior military service, 40 percent had attempted suicide. Among seventy veterans evaluated for gender identity disorder between 1987 and 2007, 4 percent “had actively harmed their genitals,” 61 percent “revealed a history of serious suicidal thoughts,” and 43 percent “had additional psychiatric diagnoses exclusive of [gender identity disorder].”²⁰

Despite such data, arguments based on mental health are not convincing rationales for prohibiting transgender military service for two reasons. First, and as discussed in greater detail subsequently, DODI 6130.03, the document that lays out medical standards that bar service for transgender personnel, is based on the outdated view that simply having a transgender identity is a mental illness.²¹ Indeed, scientists have abandoned psychopathological understandings of transgender identity, and no longer classify gender nonconformity as a mental illness. Second, in contrast to rules categorically barring all transgender personnel regardless of fitness for duty, military regulations governing most psychological conditions strike a careful balance between admitting those whose conditions can be managed without imposing undue burdens on commanders or doctors while excluding those whose conditions would impair their service. Given that many service members diagnosed with a range of psychological conditions are allowed to serve and, as discussed subsequently, having a transgender identity is no longer considered a mental illness, it is implausible to suggest that the military must ban transgender personnel because they are not mentally fit to serve.

While mental health professionals used to consider transgender identity as a mental illness, this is no longer the case. In the newest edition of the *Diagnostic and Statistical Manual (DSM-5)*, a comprehensive classification of psychological conditions and mental disorders that reflects the most up-to-date medical understandings, gender identity disorder has been replaced with gender dysphoria, a diagnostic term that refers to an incongruence between a person’s gender identity and the physical gender that they were assigned at birth, and to clinically significant distress that may follow from that incongruence.²² While gender identity disorder was pathologized as an all-encompassing mental illness, gender dysphoria is understood as a condition that is amenable to treatment.²³ And mental health professionals agree that not all transgender individuals suffer from dysphoria. In addition, the World Health

Organization's Working Group on the Classification of Sexual Disorders and Sexual Health (WGCSDSH) has recommended that the forthcoming version of the *International Statistical Classification of Diseases and Related Health Problems (ICD-11)*, due for publication in 2015, "abandon the psychopathological model of transgender people based on 1940's conceptualizations of sexual deviance."²⁴

The reclassification of transgender identity in both *DSM* and *ICD* is based, in part, on the understanding among scientists and medical practitioners that distress can be the result of prejudice and stigmatization, not mental illness, and that many individuals who do not identify with the physical gender that they were assigned at birth do not suffer from clinically significant distress, and therefore do not have a medical or psychological condition.²⁵ WGCSDSH members wrote recently that "there are individuals who today present for gender reassignment who may be neither distressed nor impaired."²⁶ The high reported rates of distress among transgender veterans and service members have been based on clinical samples that overrepresented patients requiring psychological care. In addition, a significant body of evidence shows that treatment can alleviate symptoms among those who do experience distress. A meta-analysis of more than 2,000 patients in seventy-nine studies published between 1961 and 1991 found "Favorable effects of therapies that included both hormones and surgery . . . Most patients reported improved psychosocial outcomes, ranging between 87% for MTF patients and 97% for FTM patients." Satisfaction rates have increased over time: "studies have been reporting a steady improvement in outcomes as the field becomes more advanced."²⁷

Defense Department rules concerning mental health, deployment, and fitness for duty do not regulate gender identity in a manner that is consistent with the management of other psychological conditions, and have the effect of singling out transgender personnel for punishment even when they are mentally healthy. Defense Department rules categorically ban all recruits who have a "learning, psychiatric, and behavioral" condition such as a "current or history of psychosexual conditions, including but not limited to transsexualism," as well as all currently serving personnel with a "sexual gender and identity disorder," regardless of whether the individual in question is fit for duty or suffers from any mental distress. By contrast, Defense Department regulations governing many other psychological conditions carefully balance between admitting those whose conditions can be managed without imposing undue burdens on commanders or doctors while excluding those whose conditions would impair their service. For example, DODI 6130.03 prohibits individuals suffering from serious mental illnesses such as autistic, schizophrenic, and delusional disorders from enlisting in the armed forces. Yet for less serious disorders, regulations strike a careful balance. Thus, individuals with attention deficit hyperactivity disorder are prohibited from enlisting unless they meet a number of criteria, including documenting that they maintained a 2.0 grade point average after the age of fourteen, and individuals with simple phobias are banned from enlisting unless they meet other criteria, including documenting that they have not required medication for the past twenty-four continuous months.

Retention regulations strike a balance as well. For those who develop mood or anxiety disorders while in the military, regulations require a referral for physical disability evaluation only if their condition requires extended or recurrent hospitalization or interferes with duty performance. Service members requiring medication for mood and anxiety disorders are not categorically barred from deployment. The determination depends on the seriousness and stability of the condition, logistical difficulties in providing medication, and the need for clinical monitoring.

Finally, empirical data suggest that many non-transgender service members continue to serve despite psychological conditions that may not be as amenable to treatment as gender dysphoria. A 2012 meta-analysis of available scholarship estimated that 5.7 percent of active-duty service members who had never been deployed suffered from major depressive disorder and that the prevalence rate among deployed service members was approximately 12 percent.²⁸ In 2009, at least 15,328 service members were hospitalized for mental health disorders, and the *Los Angeles Times* reported in 2012 that “110,000 active-duty Army troops last year were taking prescribed antidepressants, narcotics, sedatives, antipsychotics and anti-anxiety drugs.”²⁹ According to the Congressional Research Service, “Between 2001 and 2011 . . . [a] total of 936,283 servicemembers, or former servicemembers during their period of service, have been diagnosed with at least one mental disorder over this time period . . . Nearly 49 percent of these servicemembers were diagnosed with more than one mental disorder.”³⁰ During manpower shortages, non-transgender individuals whose psychological well-being has not met entrance standards outlined in DODI 6130.03 have been able to obtain waivers allowing them to enlist in the military. According to the National Academy of Sciences, 1,468 of the 4,303 applicants (34 percent) who failed to meet psychiatric entrance standards from May 1, 2003, through April 30, 2005, received waivers.³¹

While regulations are intended to prevent individuals with significant psychological impairments from serving, the regulations themselves pose significant obstacles to the well-being of some troops. Current restrictions discourage transgender individuals from getting the care they need, exacerbating symptoms and in some cases leading to dependence on alcohol or drugs.³² And, research has also shown that policies that force individuals to conceal their identities can have significant mental health consequences.³³ The British regulatory provision on mental health and transgender military service may warrant consideration at this point: “Although transsexual people generally may have an increased risk of suicide, depression and self-harm, transsexual applicants should not automatically be referred to a Service Psychiatrist. Transsexual applicants with no history of mental health problems or deliberate self-harm who meet other fitness standards should be passed as being fit to join the Armed Forces.”³⁴

Cross-sex Hormone Treatment

Military representatives cited previously have indicated that cross-sex hormone treatment is too risky and complicated for medical personnel to administer and

monitor. Our argument, by contrast, is that the risks associated with cross-sex hormone treatment are low and that despite various restrictions that prohibit military members from seeking medical treatments, the military's unwillingness to allow any transgender service members to undergo cross-sex hormone therapy is inconsistent with the fact that many non-transgender personnel are permitted to take hormones.³⁵

Many, but not all, transgender people wish to take cross-sex hormones in order to achieve feminization or masculinization of their hair and fat distribution, genitalia, and musculature, and to achieve and maintain a gender presentation consistent with their gender identity. Hormonal therapy for male-to-female (MTF) reassignment involves medications that block the production and effects of testosterone (antiandrogen therapy) and simultaneously produce feminizing effects (estrogen therapy). For female-to-male (FTM) patients, the main treatment for hormonal reassignment is testosterone, which can be administered through patches, gels, or injection and which usually produces satisfactory results. Most effects take place beginning at eight weeks and maximize at about two years and vary depending on age and genetic makeup.

Despite some mild risks associated with cross-sex hormone therapy, over fifty years of clinical experience have demonstrated that hormones are an effective treatment for gender dysphoria, that psychological benefits follow from cross-sex hormone administration, and that the incidence of complications is quite low.³⁶ Studies looking at the risk of blood clots from estrogen found an occurrence of anywhere from 0 to 142 blood clots per 10,000 people per year, with much lower rates in more recent studies with newer estrogens and non-oral administration.³⁷ Clinics with a high volume of transgender patients on estrogen therapy report having "rarely seen adverse effects."³⁸

While the use of hormones may entail some risk, the military consistently retains non-transgender men and women who have conditions that may require hormone replacement. For example, the military lists several gynecological conditions (dysmenorrhea, endometriosis, menopausal syndrome, chronic pelvic pain, hysterectomy, or oophorectomy) as requiring referral for evaluation only when they affect duty performance. And the only male genitourinary conditions that require referral for evaluation involve renal or voiding dysfunctions. The need for cross-sex hormone treatment is not listed as a reason for referral for either men or women. The military also allows enlistment in some cases despite a need for hormone replacement. DODI 6130.03, for example, does not disqualify all female applicants with hormonal imbalance. Polycystic ovarian syndrome is not disqualifying unless it causes metabolic complications of diabetes, obesity, hypertension, or hypercholesterolemia. Virilizing effects, which can be treated by hormone replacement, are expressly not disqualifying.

Hormonal conditions whose remedies are biologically similar to cross-sex hormone treatment are grounds neither for discharge nor even for referral for medical evaluation, if service members develop them once they join the armed forces. Male hypogonadism, for example, is a disqualifying condition for enlistment, but does not

require referral for medical evaluation if a service member develops it after enlisting. Similarly, DODI 6130.03 lists “current or history of pituitary dysfunction” and various disorders of menstruation as disqualifying enlistment conditions, but personnel who develop these conditions once in service are not necessarily referred for evaluation. Conditions directly related to gender dysphoria are the only gender-related conditions that carry over from enlistment disqualification and continue to disqualify members during military service, and gender dysphoria appears to be the only gender-related condition of any kind that requires discharge irrespective of ability to perform duty.

Military policy allows service members to take a range of medications, including hormones, while deployed in combat settings. According to a Defense Department study, 1.4 percent of all US service members (approximately 31,700 service members) reported prescription anabolic steroid use during the previous year, of whom 55.1 percent (approximately 17,500 service members) said that they obtained the medications from a military treatment facility. One percent of US service members exposed to high levels of combat reported using anabolic steroids during a deployment.³⁹ According to Defense Department deployment policy, “There are few medications that are inherently disqualifying for deployment.”⁴⁰ And, Army deployment policy requires that “A minimum of a 180-day supply of medications for chronic conditions will be dispensed to all deploying Soldiers.” A former primary behavioral health officer for brigade combat teams in Iraq and Afghanistan told *Army Times* that “Any soldier can deploy on anything.”⁴¹ Although Tricare officials claimed not to have estimates of the amounts and types of medications distributed to combat personnel, Tricare data indicated that in 2008, “About 89,000 antipsychotic pills and 578,000 anti-convulsants [were] being issued to troops heading overseas.”⁴² The Military Health Service maintains a sophisticated and effective system for distributing prescription medications to deployed service members worldwide.⁴³

Gender-confirming Surgery

According to the official policies of the American Medical Association, American Psychological Association, Endocrine Society, and World Professional Association for Transgender Health, gender-confirming surgeries can be medically necessary for some transgender individuals to mitigate distress associated with gender dysphoria.⁴⁴ Surgeries may include chest reconstruction and surgeries to create testes (scrotoplasty) and penises (phalloplasty or metoidioplasty, with or without urethral lengthening) for FTMs, and facial feminization, breast augmentation and surgeries to remove testes (orchietomy) and create vaginas (vaginoplasty) for MTFs. That said, other transgender individuals do not want or require surgery to alleviate symptoms. A recent study noted that “As the field matured, health professionals recognized that while many individuals need both hormone therapy and surgery to alleviate their gender dysphoria, others need only one of these treatment options and some need neither.”⁴⁵

In considering the question of gender-confirming surgery among military personnel, it is important to recognize that regulations permit service members to have elective cosmetic surgeries at military medical facilities and that some of those elective procedures risk postoperative complications that can be more serious than those of medically necessary gender-confirming surgeries.⁴⁶ For example, the LeFort osteotomy procedures and mandibular osteotomies that service members may elect to have are associated with a number of possible complications based upon the technique, surgical level, and anatomic site at which the surgery/osteotomies are performed.⁴⁷ The incidence of complications in craniofacial surgery depends upon the type of surgery and anatomic location at which the procedure is performed, and infection rates may range from approximately 1 to 3 percent.⁴⁸ Treatment for these complications may require additional surgical or other interventional procedures, antibiotics, and/or local wound care.

Even if the Military Health Service provided gender-confirming surgeries, however, the demand for such procedures would be low. Research on civilian employers whose insurance plans cover transition-related health care has found that very few employees submit claims for such benefits in any given year. If extrapolated to the active, Guard and Reserve components of the military, the data suggest that if transgender service members were allowed to serve, and if the military covered medically necessary care related to gender transition, fewer than 2 percent of transgender service members, a total of 230 individuals, would seek gender-confirming surgery in any particular year.⁴⁹ A recent study reported the average cost of transition-related health care at US\$29,929.⁵⁰

As with any surgical procedures, gender-confirming surgeries entail a risk of short-term and chronic postoperative complications.⁵¹ Yet, despite the presence of risk, research shows that the complications rate is low. Across fifteen studies from 1986 to 2001, 2.1 percent of the patients had rectal–vaginal fistula, 6.2 percent with vaginal stenosis, 5.3 percent had urethral stenosis, 1.9 percent with clitoral necrosis, and 2.7 percent with vaginal prolapse.⁵² A follow-up study of eighty women who had vaginoplasties found three postoperative complications and another determined that among eighty-nine vaginoplasties, there was one major complication.⁵³ If transgender service members were allowed to serve and to have gender-confirming surgery while in the military, we estimate that ongoing postoperative complications would render ten MTF service members unfit for duty each year.⁵⁴

Research suggests that a minority of individuals having FTM genital surgery may expect long-term complications that would require ongoing care.⁵⁵ Yet, very few FTMs have genital surgery, and of the 1,594 FTMs who responded to a recent survey, only forty-eight individuals (3 percent) had genital surgery, including twenty-four who had metoidioplasty and phalloplasty, one who had just phalloplasty, and twenty-three who had just metoidioplasty.⁵⁶ Given such low demand, even using conservative assumptions, it is estimated that only six postoperative FTM transgender men would become unfit for duty each year as a result of ongoing, postoperative complications following genital surgery.⁵⁷

In sum, while the risks of genital surgery are real, they are no higher than risks associated with other genitourinary procedures, and they are lower than risks that accompany some elective non-transgender-related surgeries which the military allows and which, unlike genital surgeries for transgender individuals, are cosmetic and not medically necessary. As well, the low rate of demand for genital surgeries would mean that in absolute and relative terms, allowing such procedures would place almost no burden on the military.

Deployment

In explaining the rationale for the military's ban on transgender service, spokespersons have emphasized non-deployability, medical readiness, and constraints on fitness for duty.⁵⁸ While personnel policy must be designed to promote deployability and medical readiness, arguments invoked to oppose transgender service on these grounds do not withstand scrutiny. With few exceptions, transgender service members are deployable and medically ready. As noted in other sections of this article, cross-sex hormone treatment and mental health considerations do not, in general, impede the deployability of transgender service members, and the public record includes instances in which transgender individuals deployed after having undergone transition. With two exceptions, all transgender service members who are otherwise fit would be as deployable as their non-transgender peers. The first exception is postoperative transgender service members whose genital surgeries result in long-term complications. Using conservative assumptions, an estimated maximum of sixteen postoperative service members (ten MTF transgender women and six FTM transgender men) would become permanently undeployable each year as a result of ongoing postoperative medical complications following genital surgery.

The second exception would be those undergoing surgical transition while in service. But as discussed, the number of service members undergoing surgical transition in any given period would be low, both in relative and absolute terms, either because they would have already transitioned prior to joining the military, would prefer to wait until the end of military service to transition, or would not want to surgically transition, regardless of the timing. Thus, with very few exceptions, transgender service members would be deployable and medically ready on a continuous basis.

Straightforward and fair-minded regulatory options are available for managing transgender military service and deployability. According to Army regulations (which do not apply to transgender-related conditions), "Personnel who have existing medical conditions may deploy" if deployment is unlikely to aggravate the condition, if an unexpected worsening of the condition would not pose a grave threat, if health care and medications are immediately available in theater, and if "no need for significant duty limitation is imposed by the medical condition."⁵⁹ British military policy concerning transgender service and deployability is equally sensible: "Applicants who are about to undergo, or are still recovering from surgery to change the

external appearance of their body into that of the acquired gender should be graded P8 [medically unfit], as with any other condition that is being treated or requires surgery at the time of application, until they are fully recovered from the surgery.”⁶⁰

Many non-transgender service members are temporarily or permanently non-deployable, but they are not automatically discharged as a result, and military policies accommodate them within reason. Defense Department regulations confirm that when evaluating a service member’s fitness for duty, non-deployability is not grounds for a determination of unfitness: “Inability to perform the duties of his or her office, grade, rank, or rating in every geographic location and under every conceivable circumstance will not be the sole basis for a finding of unfitness.” Even service members who are permanently constrained by serious medical conditions and defects are allowed, under some circumstances, to remain in the military. According to DODI 1332.38, “A service member who has one or more of the listed conditions or physical defects is not automatically unfit,” including systemic diseases such as tuberculosis, leprosy, lymphoma, leukemia, or Hodgkin’s disease. Regulations provide service members suffering from these and other serious, non-transgender-related, medical conditions with opportunities to serve in a limited capacity and to recover: “A member previously determined unfit and continued in a permanent limited duty status . . . may be determined fit when the member’s condition has healed or improved so that the member would be capable of performing his or her duties in other than a limited duty status.”⁶¹

Although deployability is a crucial component of readiness, many non-transgender service members are temporarily or permanently non-deployable. According to a 2011 Defense Department study of health-related behaviors, 16.6 percent of active duty service members (244,000 service members) were unable to deploy for a variety of reasons during the twelve-month period prior to the survey’s administration, including 22.5 percent of Marines.⁶² Yet, non-deployable service members (who are not transgender) are not automatically banned, and policies accommodate them to the extent possible. Indeed, the services have adopted leave and assignment policies that provide for prolonged absences and restrictions on duty as a result of medical conditions, as well as life choices that service members make. These include ordinary and advance leave. By law, members of the armed forces are entitled to thirty days of paid leave per year (generally referred to as “ordinary” or “annual” leave), accruing at a rate of 2½ days per month.⁶³ Service members need not provide any justification in order to take their annual leave. On the contrary, military commanders “shall encourage and assist all Service members to use” their leave.⁶⁴ Leave is scheduled “consistent with operational requirements, training workloads, and the desires of the Service member,” including “at least one extended leave period each year of approximately 14 consecutive days in length or longer.”⁶⁵

Service members may also be granted special leave on top of their ordinary leave. This leave is in addition to the thirty days per year provided for by federal law and is not counted against the member’s ordinary leave balance. And in addition to the elective leave programs, the services provide for situations in which a member may

be absent owing to a medical condition or procedure. A member unable to be present for duty due to hospitalization is excused from duty while hospitalized, and the absence is not counted against the member's leave balance.⁶⁶

Military convalescent leave policy does not discriminate against elective procedures such as Botox treatments and "plastic surgery for unacceptable cosmetic appearance."⁶⁷ Soldiers receiving such procedures may be expected to reimburse the service for their cost, but they "will be afforded convalescent leave and will not be required to use regular leave for their post-operative recovery."⁶⁸ Finally, the services recognize that members may on occasion have medical conditions which limit their availability to be assigned overseas. Members with such medical conditions may be deferred from reassignment for up to twelve months.⁶⁹ Personnel with more persistent medical needs are given assignment limitation codes and may be excluded from overseas service altogether, while still remaining on active duty.⁷⁰

While the operational needs of the service are critical considerations, existing military law and policy contemplate that members may be absent from duty for extended periods of time. Despite concerns expressed by those such as the judge in the 1981 *Alexander* case, existing military policies and procedures are designed to ensure a capable fighting force while at the same time anticipating and providing for prolonged absences by service members based on medical conditions, elective medical procedures, personal life choices, and morale and personal welfare. Transgender service members, however, are automatically discharged, in part because of assumed constraints on their deployability and medical readiness, even though such constraints would apply to no more than a few hundred transgender service members at any one time and would normally last less than the twelve months allowed for deferrals of reassignment. In contrast, non-transgender service members are given multiple opportunities to demonstrate their deployability and fitness for duty despite medical limitations, and many are retained even if they are not fully deployable or fit. Even those service members deemed permanently unfit "may be retained as an exception to the general policy rule" if their skills or experience warrant continuing service.⁷¹

Conclusion

Medical standards are designed to ensure that service members are free of conditions that would interfere with performance or burden the military. Current regulations, however, bar the service of transgender individuals regardless of ability to perform or degree of medical risk. They include transgender conditions on a list of disqualifying, maladaptive traits assumed to be resistant to treatment and inconsistent with either fitness for duty or good order and discipline. Unlike other medical disqualifications, however, which are based on the latest medical expertise and military experience, it is the transgender bar itself that is inconsistent with current medical understanding and is based on standards that are decades out-of-date.

Medical regulations requiring the discharge of transgender personnel are inconsistent with how the military regulates all other medical and psychological conditions,

and transgender-related conditions appear to be the only gender-related conditions that require discharge irrespective of fitness for duty. Transgender medical care should be managed in terms of the same standards that apply to all medical care, and there is no medical reason to presume transgender individuals are unfit for duty. Their medical care is no more specialized or difficult than other sophisticated medical care the military system routinely provides, and existing policies and practices are adequate for identifying rare and extreme circumstances that may affect duty performance.

Simply treating transgender service members in accordance with established medical practices and standards, as it does with the provision of all medical care, is all that's needed to end the unnecessary and harmful policy of discrimination against transgender service. While no new medical rules are needed, the Defense Department could look to foreign military experiences as it formulates administrative guidance to address fitness testing, records and identification, uniforms, housing, and privacy. As mentioned previously, at least eighteen countries allow transgender personnel to serve. Foreign military regulations that apply to transgender military service are straightforward, sensible, and fair, offering a sound model for US military policy. In light of the research presented here, taking these steps to reform current military policy governing transgender service would improve care for US service members without burdening the military's pursuit of its vital missions.

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Notes

1. In an earlier, self-published version of this article, we referred to twelve countries that allow transgender military service. Since that time, scholars at the Hague Centre for Strategic Studies have published a comprehensive study of rules governing gay, lesbian, bisexual, and transgender service in 103 countries. While the report does not include a list of nations allowing transgender military service, we are grateful to its authors, who provided us with their data indicating that 18 nations allow transgender military service while 9 nations probably allow it, but could not be confirmed. The 18 confirmed cases are Australia, Austria, Belgium, Bolivia, Canada, Czech Republic, Denmark, Estonia, Finland, France, Germany, Israel, Netherlands, New Zealand, Norway, Spain, Sweden, and United Kingdom. See Joshua Polchar et al., *LGBT Military Personnel; A Strategic Vision for Inclusion* (The Hague, the Netherlands: The Hague Centre for Strategic Studies, 2014).
2. Aaron Belkin et al., "Readiness and DADT Repeal: Has the New Policy of Open Service Undermined the Military?," *Armed Forces & Society* 39, 4 (2013): 587-601; Robert

- MacCoun, Elizabeth Kier, and Aaron Belkin, “Does Social Cohesion Determine Motivation in Combat? An Old Question with an Old Answer,” *Armed Forces & Society* 32, 4 (2006): 646-54.
3. Veterans Health Administration (VHA) updated the policy in 2013. See Department of Veterans Affairs, VHA Directive 2013-003, *Providing Health Care for Transgender and Intersex Veterans*, February 8, 2013. The VHA provides cross-sex hormone therapy, but not gender-confirming surgery.
 4. In this article, we do not address cross-dressing, which is governed by grooming and uniform regulations that are distinct from the medical rules that apply to transgender military service.
 5. For most people, gender identity is a stable, deep-seated component of their sense of self. For a broader discussion of gender identity, see Jaime M. Grant, Lisa A. Mottet, and Justin Tanis, *Injustice at Every Turn: A Report of the National Transgender Discrimination Survey* (Washington, DC: National Center for Transgender Equality and National Gay and Lesbian Task Force, 2011), 24-25.
 6. Although fewer than 20 percent of transgender women and 5 percent of transgender men have had genital reconstructive surgeries, more have had other types of gender-confirming surgery such as breast augmentation, and demand for surgeries could increase if they were affordable and available. Grant, Mottet, and Tanis, *Injustice at Every Turn*, 78-79.
 7. See, for example, durations associated with variants of cross-sex hormone therapy in Eli Coleman et al., “Standards of Care for the Health of Transsexual, Transgender, and Gender-nonconforming People, Version 7,” *International Journal of Transgenderism* 13, 4 (2011): 188-89.
 8. Gary Gates and Jody Herman, *Transgender Military Service in the United States* (Los Angeles, CA: Williams Institute, 2014), accessed July 18, 2014, <http://williamsinstitute.law.ucla.edu/wp-content/uploads/Transgender-Military-Service-May-2014.pdf>. At the time of writing, the active, Guard and Reserve components included 2,280,875 personnel.
 9. In response to a recent Freedom of Information Act request for discharge data submitted by the Palm Center, a Pentagon spokesperson said that the military does not track the number of service members who have been separated for transgender-related reasons.
 10. Private communication between staff of Sparta, an organization representing currently serving transgender service members, and Palm Center research staff.
 11. Department of Defense Instruction (DODI) 6130.03, *Medical Standards for Appointment, Enlistment, or Induction in the Military Services*, April 28, 2010, Incorporating Change 1, September 13, 2011. Paraphilia is sexual arousal to an atypical object. See American Psychiatric Association, *Diagnostic and Statistical Manual*, 5th ed. (Arlington, VA: American Psychiatric Publishing, 2013).
 12. Department of Defense Instruction (DODI) 1332.14, *Enlisted Administrative Separations*, August 28, 2008, Incorporating Change 3, September 30, 2011, Enclosure 3, at ¶ 3(a)8. DODI 1332.14 incorporates a list of administratively disqualifying conditions, including sexual gender and identity disorders, found in Enclosure 5 to DODI 1332.38,

- Physical Disability Evaluation*, November 14, 1996, Incorporating Change 2, April 10, 2013.
13. Department of Defense Instruction 6130.03, *Medical Standards for Appointment*, Enclosure 2, at ¶ 3(b).
 14. Army Regulation 40-501, *Standards of Medical Fitness*, December 14, 2007 (updated August 4, 2011), at ¶ 1-6(b).
 15. AR 40-501, *Standards of Medical Fitness*, at ¶ 1-6(h).
 16. See AR 40-501, *Standards of Medical Fitness* ¶¶ 2-14, 3-35(a), (b); NAVMED P-117, U. S. Navy Manual of the Medical Department, Chapter 15, §§ 15-45, 15-46, 15-58; SECNAV Instruction 1850.4E, Department of the Navy Disability Evaluation Manual, Enclosure 8, § 8013(a); SECNAV Instruction 1850.4E, Enclosure 8, Attachment (b) (page 8-43); and NAVMED P-117, Chapter 18, § 18-5(3).
 17. *Doe v. Alexander*, 510 F. Supp. 900 (D. Minn. 1981); *Leyland v. Orr*, 828 F. 2d 584 (9th Cir. 1987); *DeGroat v. Townsend*, 495 F. Supp. 2d 845 (S.D. Ohio 2007).
 18. We consider deployability to be a medical aspect of military service because deployment regulations specifically address medical readiness. See, for example, DODI 6490.07, *Deployment-Limiting Medical Conditions for Service Members and DOD Civilian Employees*, February 5, 2010; or Department of Defense, Assistant Secretary of Defense for Health Affairs Memorandum, *Policy Guidance for Deployment-Limiting Psychiatric Conditions and Medications*. (Washington, DC: Department of Defense, November 7, 2006).
 19. Jillian C. Shipherd et al., “Male-to-female Transgender Veterans and VA Health Care Utilization,” *International Journal of Sexual Health* 24, 1 (2012): 85.
 20. Jack Harrison-Quintana and Jody L. Herman, “Still Serving in Silence: Transgender Service Members and Veterans in the National Transgender Discrimination Survey,” *LGBTQ Policy Journal at the Harvard Kennedy School* 3, accessed July 18, 2014, <http://williamsinstitute.law.ucla.edu/wp-content/uploads/Harrison-Quintana-Herman-LGBTQ-Policy-Journal-2013.pdf>; Everett McDuffie and George R. Brown, “Seventy U.S. Veterans with Gender Identity Disturbances: A Descriptive Study,” *International Journal of Transgenderism* 12, 1 (2010): 21-30.
 21. Department of Defense Instruction 6130.03 requires a reference to diagnostic codes in the International Classification of Diseases (*ICD-9*), and the *ICD* does list diagnoses for both transsexualism and gender identity disorder. Department of Defense translates *DSM-IV* diagnoses to the closest *ICD* code.
 22. In the World Professional Association for Transgender Health Standards of Care, dysphoria refers to the distress itself, not the incongruence between gender identity and assigned sex. See Coleman et al., “Standards of Care for the Health of Transsexual, Transgender, and Gender-nonconforming People, Version 7,” 168. Indeed, non-transgender people can experience gender dysphoria. For example, some men who are disabled in combat, especially if their injury includes genital wounds, may feel that they are no longer men because their bodies do not conform to their concept of manliness. Similarly, a woman who opposes plastic surgery, but who must undergo mastectomy because of breast cancer, may find that she requires reconstructive breast surgery in order to resolve gender dysphoria arising from the incongruence between her body without breasts and her sense of herself as a woman.

23. Coleman et al., "Standards of Care for the Health of Transsexual, Transgender, and Gender-nonconforming People, Version 7," 168.
24. Jack Drescher, Peggy Cohen-Kettenis, and Sam Winter, "Minding the Body: Situating Gender Identity Diagnoses in the ICD-11," *International Review of Psychiatry* 24, 6 (2012): 575, 569, 574.
25. Ilan H. Meyer and Mary E. Northridge, eds., *The Health of Sexual Minorities: Public Health Perspectives on Lesbian, Gay, Bisexual and Transgender Populations* (New York: Springer, 2007).
26. Drescher, Cohen-Kettenis, and Winter, "Minding the Body," 573.
27. Coleman et al., "Standards of Care for the Health of Transsexual, Transgender, and Gender-nonconforming People, Version 7," 230, citing findings of multiple studies including Richard Green and Davis Fleming, "Transsexual Surgery Follow-up: Status in the 1990s," *Annual Review of Sex Research* 1, 1 (1990): 163-74. See Coleman et al. for additional references.
28. Anne Gaderman et al., "Prevalence of DSM-IV Major Depression Among U.S. Military Personnel," *Military Medicine* 177, 8 (2012): 47-59.
29. Kim Murphy, "A Fog of Drugs and War," *Los Angeles Times*, April 7, 2012, accessed July 18, 2014, <http://articles.latimes.com/2012/apr/07/nation/la-na-army-medication-20120408>.
30. Katherine Blakeley and Don J. Jansen, *Post-traumatic Stress Disorder and Other Mental Health Problems in the Military: Oversight Issues for Congress* (Washington, DC: Congressional Research Service, 2013), 2, citing "Mental Disorders and Mental Health Problems, Active Component, US Armed Forces, 2000-2011," *Medical Surveillance Monthly Report* 19, 6 (June 2012): 11-17.
31. Paul R. Sackett and Anne S. Mavor, eds., *Assessing Fitness for Military Enlistment Physical, Medical, and Mental Health Standards* (Washington, DC: The National Academies Press, 2006), 144.
32. Adam F. Yerke and Valory Mitchell, "Transgender People in the Military: Don't Ask? Don't Tell? Don't Enlist!," *Journal of Homosexuality* 60, 2-3 (2013): 445. Also see Drescher, Cohen-Kettenis, and Winter, "Minding the Body," 573.
33. Meyer and Northridge, *The Health of Sexual Minorities*, 2007.
34. Ministry of Defence, *Policy for the Recruitment and Management of Transsexual Personnel in the Armed Forces* (London, UK: Ministry of Defence, January 2009).
35. Although service members are not prohibited explicitly from obtaining cross-sex hormone treatment, the use of hormones to modify primary or secondary sex characteristics would almost certainly constitute evidence of having a transgender identity, which is grounds for discharge.
36. H. Asscheman et al., "A Long-term Follow-up Study of Mortality in Transsexuals Receiving Treatment with Cross-sex Hormones," *European Journal of Endocrinology* 164, 4 (2011): 635-42; Paul Van Kesteren et al., "Mortality and Morbidity in Transsexual Subjects Treated with Cross-sex Hormones," *Clinical Endocrinology* 47, 3 (1997): 337-43; M. Colizzi, R. Costa, and O. Todarello, "Transsexual Patients' Psychiatric Comorbidity and Positive Effect of Cross-sex Hormonal Treatment on Mental Health: Results from a Longitudinal Study," *Psychoneuroendocrinology* 39 (2014): 65-73.

37. H. Asscheman et al., "Venous Thrombo-embolism as a Complication of Cross-sex Hormone Treatment of Male-to-Female Transsexual Subjects: A Review," *Andrologia*, August 14, 2013. doi: 10.1111/and.12150.
38. Tom Waddell Health Center, *Protocols for Hormonal Reassignment of Gender*, 2006, accessed November 6, 2013, <http://www.sfdph.org/dph/comupg/oservices/medSvs/hlthCtrs/TransGendprotocols122006.pdf>.
39. Department of Defense, *Health Related Behaviors Survey of Active Duty Military Personnel 2011* (Washington, DC: Department of Defense, 2013), 119-20, 130-31, 248, 264-65.
40. Department of Defense, *Policy Guidance for Deployment-limiting Psychiatric Conditions and Medications* (Washington, DC: Department of Defense, 2006) at ¶ 4.2.3.
41. Andrew Tilghman, "'Any Soldier Can Deploy on Anything': Pentagon Rules Bar Some Drugs from Combat Zone, but Oversight Is Suspect," *Army Times*, March 17, 2010, accessed July 18, 2014, <http://www.armytimes.com/article/20100317/NEWS/3170310/-8216-Any-soldier-can-deploy-anything->.
42. Tilghman, "Any Soldier Can Deploy on Anything," 2010.
43. Department of the Army, *Personnel Policy Guidance for Overseas Contingency Operations* (Washington, DC: Department of the Army, 2009), at ¶ 7-13(b)1.
44. See, for example, American Medical Association, Resolution 122 (A-08), 2008, accessed July 18, 2014, http://www.tgender.net/taw/ama_resolutions.pdf.
45. Coleman et al., "Standards of Care for the Health of Transsexual, Transgender, and Gender-nonconforming People, Version 7," 170-71.
46. For a list of 313 allowable, elective cosmetic procedures, see Tricare Management Activity, Uniform Business Office, *Provider's Guide to the Elective Cosmetic Surgery Superbill*. (Falls Church, VA: TRICARE Management Activity, Uniform Business Office, 2013).
47. Patel, Morris, and Gassman show that these complications may include "airway, vascular, hemorrhage, vascular compromise, neurologic, infectious, skeletal, unfavorable osteotomy, tooth injury, nonunion, postoperative malocclusion, temporomandibular joint disorders, and unfavorable aesthetic results." See P. Patel, D. Morris, and A. Gassman, "Complications of Orthognathic Surgery," *Journal of Craniofacial Surgery* 18, 4 (2007): 975-85. The military allows personnel to have elective cosmetic surgeries on a space-available basis and at their own expense.
48. Patel, Morris, and Gassman, "Complications of Orthognathic Surgery," 2007; F. Kramer et al., "Intra- and Perioperative Complications of the LeFort I Osteotomy: A Prospective Evaluation of 1000 Patients," *Journal of Craniofacial Surgery* 15, 6 (2004): 971-77; K. Jones, "Le Fort II and Le Fort III Osteotomies for Midface Reconstruction and Considerations for Internal Fixation," in *Craniofacial Reconstructive and Corrective Bone Surgery*, eds. A. Greenberg and J. Prein (New York: Springer, 2006), 667-68.
49. Herman found in a recent study that the highest annualized utilization rate for large employers is 0.044 claimants per thousand employees annually (Table 8). If the military were similar to civilian firms, and given that the active, Guard and Reserve components currently include 2,280,875 personnel, then one would expect $0.044 \times 2,281 = 100$ claimants per year if the Military Health System covered gender-confirming surgery.

- However, transgender people are over-represented in the military (15,450/2,280,875 million = 0.68 percent military as compared to 0.3 percent of the civilian adult population), and so the figure of 100 claimants per year should be adjusted upward by $.68/.3 = 2.3 \times$. Hence, if the military paid for transition-related surgery, one would expect $2.3 \times 100 = 230$ claims per year. See Jody L. Herman, *Costs and Benefits of Providing Transition-related Health Care Coverage in Employee Health Benefits Plans* (Los Angeles, CA: Williams Institute, 2013).
50. Herman, *Costs and Benefits of Providing Transition-related Health Care Coverage in Employee Health Benefits Plans*, 6.
 51. Short-term surgical complications can include rectal injury, infection, delayed wound healing, bleeding, venous thromboembolism, and/or urethral stream abnormalities. While many of these complications are either self-limited or may be treated with local wound care, antibiotics, or anticoagulants, some, such as rectal injury, may require additional surgical procedures such as a temporary colostomy. Long-term complications can include vaginal stenosis and unsatisfactory appearance of the surgically reconstructed genitalia, and vaginal stenosis may require additional procedures such as skin grafts or intestinal transposition.
 52. A. A. Lawrence, "Patient-reported Complications and Functional Outcomes of Male-to-female Sex Reassignment Surgery," *Archives of Sexual Behavior* 35, 6 (2006): 717-27.
 53. Cameron Bowman and Joshua M. Goldberg, "Care of the Patient Undergoing Sex Reassignment Surgery," *International Journal of Transgenderism* 9, 3-4 (2006): 135-65; Miroslav L. Djordjevic, Dusan S. Stanojevic, and Marta R. Bizic, "Rectosigmoid Vaginoplasty: Clinical Experience and Outcomes in 86 Cases," *Journal of Sexual Medicine* 8, 12 (2011): 3487-94; Ji-Xiang Wu et al., "Laparoscopic Vaginal Reconstruction Using an Ileal Segment," *International Journal of Gynecology and Obstetrics* 107, 3 (2009): 258-61; L. Jarolim et al., "Gender Reassignment Surgery in Male-to-female Transsexualism: A Retrospective 3-month Follow-up Study with Anatomical Remarks," *Journal of Sexual Medicine* 6, 6 (2009): 1635-44; S. V. Perovic, D. S. Stanojevic, and M. L. J. Djordjevic, "Vaginoplasty in Male Transsexuals Using Penile Skin and a Urethral Flap," *BJU International* 86, 7 (2000): 843-50.
 54. Presumably, any postoperative MTF individuals with ongoing complications would be screened out at the time of enlistment. Hence, the only MTF troops who would be unfit for duty would be those experiencing ongoing postoperative complications from genital surgeries they elected to have after joining the military. As explained previously, if the Military Health Service paid for transition-related care, one would expect 230 claimants per year. Approximately 90 percent of transgender troops are MTF's, thus suggesting $.9 \times 230 = 207$ claimants per year for MTF transition-related coverage. If 5 percent of such claims entailed ongoing postoperative complications, this would mean that ten MTF transgender troops would become permanently unfit for duty each year.
 55. For example, see S. Baumeister et al., "Phalloplasty in Female-to-male Transsexuals: Experience from 259 Cases [Article in German]," *Handchir Mikrochir Plast Chir* 43, 4 (2011): 215-21; J. E. Terrier et al., "Surgical Outcomes and Patients' Satisfaction with Suprapubic Phalloplasty," *Journal of Sexual Medicine* 11, 1 (September 12, 2013):

- 288-98; P. A. Sutcliffe et al., "Evaluation of Surgical Procedures for Sex Reassignment: A Systematic Review," *Journal of Plastic, Reconstructive and Aesthetic Surgery* 62, 3 (2009): 294-306.
56. These figures are derived from raw data that informed Grant, Mottet, and Tanis, *Injustice at Every Turn*, 2011.
 57. Presumably, any postoperative FTM individuals with ongoing complications would be screened out at the time of enlistment. Hence, the only FTM troops who, as a class, would be unfit for duty would be those experiencing ongoing postoperative complications from genital surgeries they elected to have after joining the military. As explained previously, if the Military Health Service paid for transition-related care, one would expect 230 claimants per year. However, only 10 percent of transgender troops are FTMs, thus suggesting $.1 \times 230 = 23$ claimants per year for FTM transition-related coverage. If one quarter of such claims entailed ongoing postoperative complications, this would mean that six FTM transgender troops would become permanently unfit for duty each year.
 58. Chris Johnson, "Pentagon's Gay-inclusive Human Goals Charter Omits Trans People," *Washington Blade*, April 28, 2014, accessed July 18, 2014, <http://www.washingtonblade.com/2014/04/28/pentagons-gay-inclusive-human-rights-charter-omits-trans-people/>.
 59. Department of the Army, *Personnel Policy Guidance for Overseas Contingency Operations*, 2009, 7-9(e).
 60. Ministry of Defence, *Policy for the Recruitment and Management of Transsexual Personnel in the Armed Forces*, 2009.
 61. DODI 1332.38, *Physical Disability Evaluation*, Enclosure 3, at ¶¶ P3.4.1.3, P3.4.3, and Enclosure 4, at ¶ 1.1.2.
 62. Department of Defense, *Health Related Behaviors Survey of Active Duty Military Personnel 2011*, 2013.
 63. United States Code, Title 10, Section 701(a).
 64. Department of Defense Instruction 1327.06, *Leave and Liberty Policy and Procedures*, June 16, 2009, Incorporating Change 2, effective August 13, 2013, Enclosure 2, at ¶ 1c.
 65. DODI 1327.06, *Leave and Liberty Policy*, Enclosure 2, at ¶¶ 1j(1), 1a.
 66. Army Regulation 600-8-10, *Leave and Passes* (August 4, 2011 revision), at ¶ 5-3e.
 67. Army Medical Command, OTSG/MEDCOM Policy Memo 12-076, *Revised Policy for Cosmetic Surgery Procedures and Tattoo/Brand Removal/Alteration in the Military Health System* (November 20, 2012), at ¶¶ 5e(15), 5f(2).
 68. Army Medical Command, *Revised Policy for Cosmetic Surgery*, at ¶ 5(e)(7).
 69. See, for example, Department of the Air Force Instruction 36-2110, *Assignments* (Change 2, June 8, 2012), at ¶ 2.17.1.
 70. Department of the Air Force Instruction 36-2110, *Assignments*, at ¶ 2.17.3 and table 2.2.
 71. DODI 1332.38, *Physical Disability Evaluation*, Enclosure 3, at ¶ P7.3.

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Exhibit C



Assessing the Implications of Allowing Transgender Personnel to Serve Openly

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Preface

U.S. Department of Defense (DoD) policies have rendered both the physical and psychological aspects of “transgender conditions” as disqualifying conditions for accession and allow for the administrative discharge of service members who fall into these categories. However, in July 2015, Secretary of Defense Ashton Carter announced that DoD would “create a working group to study the policy and readiness implications of welcoming transgender persons to serve openly.” In addition, he directed that “decision authority in all administrative discharges for those diagnosed with gender dysphoria¹ or who identify themselves as transgender be elevated to the Under Secretary of Defense (Personnel and Readiness), who will make determinations on all potential separations” (DoD, 2015b).

It is against this backdrop that DoD is considering allowing transgender personnel to serve openly. To assist in identifying the potential implications of such a change in policy, the Office of the Under Secretary of Defense for Personnel and Readiness asked the RAND National Defense Research Institute to conduct a study to (1) identify the health care needs of the transgender population, transgender service members’ potential health care utilization rates, and the costs associated with extending health care coverage for transition-related treatments; (2) assess the potential readiness implications of allowing transgender service members to serve openly; and (3) review the experiences of foreign militaries that permit transgender service members to serve openly. This report documents the findings from that study. This research should be of interest to DoD and military service leadership, members of Congress, and others who are interested in the potential implications of allowing transgender personnel to serve openly in the U.S. armed forces.

This research was sponsored by the Office of the Under Secretary of Defense for Personnel and Readiness and conducted within the Forces and Resources Policy Center of the RAND National Defense Research Institute, a federally funded research and development center sponsored by the Office of the Secretary of Defense, the Joint

¹ *Gender dysphoria* is “discomfort or distress that is caused by a discrepancy between a person’s gender identity and that person’s sex assigned at birth” (World Professional Association for Transgender Health, 2011, p. 2).

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Staff, the Unified Combatant Commands, the Navy, the Marine Corps, the defense agencies, and the defense Intelligence Community.

For more information on the RAND Forces and Resources Policy Center, see www.rand.org/nsrd/ndri/centers/frp or contact the director (contact information is provided on the web page).

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Summary

The U.S. Department of Defense (DoD) is reviewing its policy on transgender personnel serving openly and receiving gender transition–related treatment during military service. The prospect of transgender personnel serving openly raises a number of policy questions, including those regarding access to gender transition–related health care, the range of transition-related treatments to be provided, the potential costs associated with these treatments, and the impact of gender transition–related health care needs (i.e., surgical, pharmacologic, and psychosocial) on military readiness—specifically, in terms of the deployability of transgender service members. The Office of the Under Secretary of Defense for Personnel and Readiness asked the RAND National Defense Research Institute to conduct a study to (1) identify the health care needs of the transgender population, transgender service members’ potential health care utilization rates, and the costs associated with extending health care coverage for transition-related treatments; (2) assess the potential readiness implications of allowing transgender service members to serve openly; and (3) review the experiences of foreign militaries that permit transgender service members to serve openly. This report presents the study findings centered around the following research questions:

- What are the health care needs of the transgender population?
- What is the estimated transgender population in the U.S. military?
- How many transgender service members are likely to seek gender transition–related medical treatment?
- What are the costs associated with extending health care coverage for gender transition–related treatments?
- What are the potential readiness implications of allowing transgender service members to serve openly?
- What lessons can be learned from foreign militaries that permit transgender personnel to serve openly?
- Which DoD policies would need to be changed if transgender service members are allowed to serve openly?

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In the following sections, we summarize the findings associated with each research question.

What Are the Health Care Needs of the Transgender Population?

For the purposes of this analysis, we use *transgender* as an umbrella term to refer to individuals who identify with a gender different from the sex they were assigned at birth. Under the recently established criteria and terminology in the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5), the American Psychiatric Association (APA) publication that provides standard language and criteria for classifying mental health conditions, transgender status alone does not constitute a medical condition (APA, 2013). Instead, under the revised diagnostic guidelines, only transgender individuals who experience significant related distress are considered to have a medical condition called *gender dysphoria* (GD). Some combination of psychosocial, pharmacologic (mainly but not exclusively hormonal), or surgical care may be medically necessary for these individuals. Psychotherapy to confirm a diagnosis of GD is a common first step in the process, often followed by hormone therapy and, perhaps, gender reassignment surgery involving secondary or primary sex characteristics. Not all individuals seek all forms of care.

A subset of transgender individuals may choose to *transition*, the term we use to refer to the act of living and working as a gender different from that assigned at birth. For some, the transition may be primarily social, with no accompanying medical treatment; we refer to this as *social transition*. For others, medical treatments, such as hormone therapy and hair removal, are important steps to align their physical body with their target gender. We refer to this as *medical transition*. A subset of those who medically transition may choose to undergo gender reassignment surgery to make their body as congruent as possible with their gender identity. This process of surgical transition is also often referred to as *sex* or *gender reassignment* or *gender confirmation*.

What Is the Estimated Transgender Population in the U.S. Military?

Estimates of the transgender population in the U.S. military and the analyses presented in this report should be interpreted with caution, as there have been no rigorous epidemiological studies of the size or health care needs of either the transgender population in the United States or the transgender population serving in the military. As a result, much existing research relies on self-reported, nonrepresentative survey samples. We applied a range of prevalence estimates from published research to fiscal year (FY) 2014 personnel numbers to estimate the number of transgender individuals serving in the U.S. military. We estimate that there are between 1,320 and

6,630 transgender personnel serving in the active component (AC) and 830–4,160 in the Selected Reserve (SR). Combining survey evidence from multiple states and adjusting for the male/female distribution in the military gave us a midrange estimate of around 2,450 transgender personnel in the AC and 1,510 in the SR.

How Many Transgender Service Members Are Likely to Seek Gender Transition–Related Medical Treatment?

We developed two estimates of demand for gender transition–related medical treatments based on private health insurance data and self-reported data from the National Transgender Discrimination Survey (NTDS). Based on our analyses of available private health insurance data on transition-related health care utilization, we expect only a small number of AC service members to access transition-related health care each year. Our estimates based on private health insurance data ranged from 0.022 to 0.0396 annual claimants per 1,000 individuals. Applied to the AC population, these estimates led to a lower-bound estimate of 29 AC service members and an upper-bound estimate of 129 AC service members annually utilizing transition-related health care, out of a total AC force of 1,326,273 in FY 2014.

We also projected health care utilization using the estimated prevalence of transgender service members and self-reported survey data from the NTDS describing the proportion of the transgender population seeking transition-related treatments by age group. Based on these calculations, we estimated, as an upper-bound, 130 total gender transition–related surgeries and 140 service members initiating transition-related hormone therapy (out of a total AC force of 1,326,273 in FY 2014). To put these numbers in perspective, an estimated 278,517 AC service members accessed mental health services in FY 2014. Hence, we expect annual gender transition–related health care to be an extremely small part of the overall health care provided to the AC population.

What Are the Costs Associated with Extending Health Care Coverage for Gender Transition–Related Treatments?

To determine the budgetary implications of gender transition–related treatment for Military Health System (MHS) health care costs, we again used data from the private health insurance system on the cost of extending coverage for this care to the transgender personnel population. We estimate that AC MHS health care costs will increase by between \$2.4 million and \$8.4 million annually—an amount that will have little impact on and represents an exceedingly small proportion of AC health care expendi-

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tures (approximately \$6 billion in FY 2014)¹ and overall DoD health care expenditures (\$49.3 billion actual expenditures for the FY 2014 Unified Medical Program; Defense Health Agency, 2015, p. 22). These estimates imply small increases in annual health care costs; results that are consistent with the low prevalence of transgender personnel and the low annual utilization estimates that we identified.

What Are the Potential Readiness Implications of Allowing Transgender Service Members to Serve Openly?

Similarly, when assessing the readiness impact of a policy change, we found that less than 0.0015 percent of the total available labor-years would be affected, based on estimated gender transition–related health care utilization rates.² This is because even at upper-bound estimates, less than 0.1 percent of the total force would seek transition-related care that could disrupt their ability to deploy.³ Existing data also suggest a minimal impact on unit cohesion as a result of allowing transgender personnel to serve openly. However, we caution that these results rely on data from the general civilian population and foreign militaries, as well as previous integration experiences in the military (e.g., gays, lesbians, women), which may not hold for transgender service members.

What Lessons Can Be Learned from Foreign Militaries That Permit Transgender Personnel to Serve Openly?

There are 18 countries that allow transgender personnel to serve openly in their militaries: Australia, Austria, Belgium, Bolivia, Canada, Czech Republic, Denmark, Estonia, Finland, France, Germany, Israel, Netherlands, New Zealand, Norway, Spain, Sweden, and the United Kingdom (Polchar et al., 2014). Our analysis focused on the policies of the four countries—Australia, Canada, Israel, and the United Kingdom—with the most well-developed and publicly available policies on transgender military personnel. Several common themes emerged from our analysis of their experiences:

- The service member’s gender is usually considered to have shifted to the target gender in areas such as housing, uniforms, identification cards, showers, and restrooms when a service member publicly discloses an intention to live as the target

¹ AC beneficiaries make up less than 15 percent of TRICARE beneficiaries (Defense Health Agency, 2015).

² We define a labor-year as the amount of work done by an individual in a year.

³ We note that the ability to deploy is not exactly equivalent to readiness. A service member’s readiness could be measured by the ability to participate in required training and exercises, which could be affected by treatments as well. Our estimates include days of inactivity due to medical treatments, which could also apply in these settings.

gender and receives a diagnosis of gender incongruence. However, physical fitness standards typically do not fully shift until the medical transition is complete. In many cases, personnel are considered exempt from physical fitness tests during transition.

- Because the gender transition process is unique for each individual, issues related to physical standards and medical readiness are typically addressed on a case-by-case basis. This flexibility has been important in addressing the needs of transgender personnel.
- The foreign militaries we analyzed permit the use of sick leave for gender transition-related medical issues and cover some, if not all, medical or surgical treatments related to a service member's gender transition.
- In no case was there any evidence of an effect on the operational effectiveness, operational readiness, or cohesion of the force.

The case studies also suggested a number of key best practices:

- Ensure strong leadership support.
- Develop an explicit written policy on all aspects of the gender transition process.
- Provide education and training to the entire force on transgender personnel policy, but integrate this training with other diversity-related training and education.
- Develop and enforce a clear anti-harassment policy that addresses harassment aimed at transgender personnel alongside other forms of harassment.
- Make subject-matter experts and gender advisers serving within military units available to commanders seeking guidance or advice on gender identity issues.
- Identify and communicate the benefits of an inclusive and diverse workforce.

Which DoD Policies Would Need to Be Changed if Transgender Service Members Are Allowed to Serve Openly?

We reviewed 20 current accession, retention, separation, and deployment regulations across the services and the Office of the Secretary of Defense to assess the impact of changes that may be required to allow transgender individuals to serve openly. We also reviewed 16 other regulations that have been replaced by more recent regulations or that did not mention transgender personnel.⁴ Based on the experiences of foreign militaries, we recommend that DoD issue clear and comprehensive policies.

⁴ These additional policies can be listed in Appendix D of this report.

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Accession Policy

We recommend that DoD review and revise the language in accession instructions to match the DSM-5 for conditions related to mental fitness, ensuring the alignment of mental health–related language and facilitating appropriate screening and review processes for disorders that may affect fitness for duty. Similarly, physical fitness standards should specify physical requirements (rather than physical conditions). Finally, physical fitness policies should clarify when the service member’s target gender requirements will begin to apply.

Retention Policy

We recommend that DoD expand and enhance its guidance and directives to clarify retention standards for review during and after medical transition. For example, evidence from Canada and Australia suggests that transgender personnel may need to be held medically exempt from physical fitness testing and requirements (Canadian Armed Forces, 2012; Royal Australian Air Force, 2015). However, after completing medical transition, the service member could be required to meet the standards of the acquired gender.

Separation Policy

DoD may wish to revise the current separation process based on lessons learned from the repeal of Don’t Ask, Don’t Tell. The current process relies on administrative decisions outside the purview of the standard medical and physical review process. This limits the documentation and review of discharges, and it could prove burdensome if transgender-related discharges become subject to re-review and redetermination. When medically appropriate, DoD may wish to establish guidance on when such discharge reviews should be handled through the existing medical fitness processes. We also recommend that DoD develop and disseminate clear criteria for assessing whether and how transgender-related conditions may interfere with duty performance.

Deployment Policy

The degree of austerity will differ across deployment environments, and some locations may be able to meet the health care needs of some transgender individuals. Moreover, recent advancements can minimize the invasiveness of treatments and allow for telemedicine or other forms of remote medical care.

Given this, DoD may wish to adjust some of its processes and deployment restrictions in the context of medical and technological advancements (e.g., minimally invasive treatments, telemedicine). Such reforms could minimize the readiness impact of medical procedures that are common among the transgender population. For example, current regulations specifying that conditions requiring regular laboratory visits that cannot be accommodated in a deployed environment can leave service members ineligible for deployment and would affect all individuals receiving hormone treatments

(Office of the Assistant Secretary of Defense for Health Affairs, 2013, p. 3). These treatments require laboratory monitoring every three months for the first year as hormone levels stabilize (Hembree et al., 2009; Elders et al., 2014). To avoid this cost, DoD would need to either permit more flexible monitoring strategies⁵ or provide training to deployed medical personnel.⁶

⁵ Some experts suggest that alternatives, such as telehealth reviews, would address this issue for rural populations with limited access to medical care (see, for example, World Professional Association for Transgender Health, 2011).

⁶ “Independent duty corpsmen, physician assistants, and nurses can supervise hormone treatment initiated by a physician” (Elders et al., 2014).

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Abbreviations

AC	active component
APA	American Psychiatric Association
DoD	U.S. Department of Defense
DoDI	U.S. Department of Defense instruction
DSM-5	<i>Diagnostic and Statistical Manual of Mental Disorders</i> , fifth ed.
FY	fiscal year
GD	gender dysphoria
IDF	Israel Defense Forces
LGBT	lesbian, gay, bisexual, and transgender
MHS	Military Health System
MTF	military treatment facility
NTDS	National Transgender Discrimination Survey
SR	Selected Reserve
VHA	Veterans Health Administration
WPATH	World Professional Association for Transgender Health

CHAPTER ONE

Introduction

U.S. Department of Defense (DoD) policies have rendered both the physical and psychological aspects of “transgender conditions” disqualifying conditions for accession and allowed for the administrative discharge of service members who fall into these categories. However, in July 2015, Secretary of Defense Ashton Carter announced that DoD would “create a working group to study the policy and readiness implications of welcoming transgender persons to serve openly.” In addition, he directed that “decision authority in all administrative discharges for those diagnosed with gender dysphoria¹ or who identify themselves as transgender be elevated to the Under Secretary of Defense (Personnel and Readiness), who will make determinations on all potential separations” (DoD, 2015b). It is against this backdrop that DoD is considering allowing transgender service members to serve openly. To assist in identifying the potential implications of such a policy change, the Office of the Under Secretary of Defense for Personnel and Readiness asked the RAND National Defense Research Institute to conduct a study to (1) identify the health care needs of the transgender population, transgender service members’ potential health care utilization rates, and the costs associated with extending health care coverage for transition-related treatments; (2) assess the potential readiness impacts of allowing transgender service members to serve openly; and (3) review the experiences of foreign militaries that permit transgender service members to serve openly.

Study Approach

Our study approach centered around the following research questions:

- What are the health care needs of the transgender population?
- What is the estimated transgender population in the U.S. military?

¹ *Gender dysphoria*, or GD, is “discomfort or distress that is caused by a discrepancy between a person’s gender identity and that person’s sex assigned at birth” (World Professional Association for Transgender Health [WPATH], 2011, p. 2).

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- How many transgender service members are likely to seek gender transition–related medical treatment?
- What are the costs associated with extending health care coverage for gender transition–related treatments?
- What are the potential readiness implications of allowing transgender service members to serve openly?
- What lessons can be learned from foreign militaries that permit transgender personnel to serve openly?
- Which DoD policies would need to be changed if transgender service members are allowed to serve openly?

We explain our methodological approaches in detail in each chapter of this report, but, here, we present overviews of the various methodologies that we employed. We began our analysis by defining the term *transgender* and then identifying the health care needs of the transgender population. This entailed an extensive literature review of these health care needs, along with treatment standards and medical options—particularly for those who have been diagnosed with gender dysphoria (GD).

We then undertook a review of existing data to estimate the prevalence and likely utilization rates of the transgender population in the U.S. military. Based on our estimates of the potential utilization of gender transition–related health care services, we estimated the Military Health System (MHS) costs for transgender active-component (AC) service members and reviewed the potential effects on force readiness from allowing these service members to serve openly.

We adopted two distinct but related approaches to estimating health care utilization and readiness impact. The first is what we label the *prevalence-based approach*, in which we estimated the prevalence of transgender personnel in the military and applied information on rates of gender transition and reported preferences for different medical treatments to measure utilization and the implied cost and readiness impact. This approach has the benefit of including those who may seek other forms of accommodation, even if they do not seek medical care. It also provides detailed information on the types of medical treatments likely to be sought, which can improve the accuracy of cost and readiness estimates. However, this approach suffers from a lack of rigorous evidence in terms of the rates at which transgender individuals seek treatment and instead relies on the nonscientific National Transgender Discrimination Survey (NTDS). This approach also relies on prevalence measures from only two states, Massachusetts and California, which may not be directly applicable to military populations.

Using our second approach, which we label the *utilization-based approach*, we estimated the rates of utilization of gender transition–related medical treatment. This approach has the benefit of providing real-world measures of utilization, which may be more accurate and more rigorously collected than survey information. However, it suffers from a lack of large-scale evidence and instead relies on several case studies

that may not be directly applicable to the U.S. military. Given the caveats described, these approaches provide the best available estimate of the potential number of transgender service members likely to seek medical treatment or require readiness-related accommodations.² In both cases, we applied measures of population prevalence and utilization to fiscal year (FY) 2014 DoD force size estimates to provide estimates of prevalence within the U.S. military.

We also reviewed the policies of foreign militaries that allow transgender service members to serve openly. Our primary method supporting the observations presented in this report was an extensive document review that included primarily publicly available policy documents, research articles, and news sources that discussed policies on transgender personnel in these countries. The information about the transgender personnel policies of foreign militaries came directly from the policies of these countries, as well as from research articles describing the policies and their implementation. Findings on the effects of open transgender service on cohesion and readiness drew largely from research articles that specifically examined this question using interviews and an analysis of studies completed by the foreign militaries themselves. Finally, insights on best practices and lessons learned emerged both directly from research articles describing the evolution of policy and experience and indirectly from commonalities in the policies and experiences of our four in-depth case studies. Recommendations provided in this report are based on these best practices and lessons learned, as well as a consideration of the unique characteristics of the U.S. military.

Finally, for our analysis of DoD policies, we reviewed 20 current accession, retention, separation, and deployment regulations across the services and the Office of the Secretary of Defense. We also reviewed 16 other regulations that have been replaced by more recent regulations or that did not mention transgender personnel.³ Our review focused on transgender-specific DoD instructions (DoDIs) that may contain unnecessarily restrictive conditions and reflect outdated terminology and assessment processes. However, in simply removing these restrictions, DoD could inadvertently affect standards overall. While we focused on reforms to specific instructions and directives, we note that DoD may wish to conduct a more expansive review of personnel policies to ensure that individuals who join and remain in service can perform at the desired level, regardless of gender identity.

Limitations and Caveats

A critical limitation of such a comprehensive assessment is the lack of rigorous epidemiological studies of the size or health care needs of either the U.S. transgender population or the transgender population serving in the military. Indeed, much of the

² We define *accommodations* as adjustments in military rules and policies to allow individuals to live and work in their target gender.

³ These additional policies are listed in Appendix D of this report.

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existing research on the transgender population relies on self-reported, nonrepresentative survey data, along with unstandardized calculations using results from available studies. Because there are no definitive data on this topic, the information presented here should be interpreted with caution and, therefore, we present the full range of estimates.

Organization of This Report

The report is organized around our seven research questions. Chapter Two defines what is meant by the term *transgender*, identifies the health care needs of the transgender population, explains the various treatment options for those diagnosed with GD, and examines the capacity of the MHS to provide treatment options to service members diagnosed with GD. Chapter Three estimates the number of transgender service members in the AC and Selected Reserve (SR). Chapter Four estimates how many transgender service members are likely to seek medical treatment. Chapter Five estimates the costs associated with extending health care coverage for gender transition–related treatments. Chapter Six assesses the potential readiness implications of allowing transgender service members to serve openly. Chapter Seven identifies lessons learned from foreign militaries that allow transgender personnel to serve openly. Chapter Eight offers recommendations regarding which DoD accession, retention, separation, and deployment policies would need to be changed if a decision is made to allow transgender service members to serve openly. Chapter Nine summarizes key findings presented in the report and suggests best practices for implementing policy changes.

Appendix A presents definitions of common terms related to gender transition and transgender identity. Appendix B provides a history of the historical nomenclature associated with transgender identity. Appendix C provides details on the psychosocial, pharmacologic, surgical, and other treatments for GD. Appendix D lists the DoD accession, retention, separation, and deployment policies that we reviewed.

CHAPTER TWO

What Are the Health Care Needs of the Transgender Population?

This report begins by describing the health care needs of the U.S. transgender population overall. To discern the potential impact of changing DoD policies to allow transgender military personnel to serve openly and to ensure appropriate health care for those who seek gender transition–related treatment, it is also important to consider whether the MHS has the capacity to provide this care.

Definitions of Key Terms and Concepts

A challenge to our efforts to understand the health care needs of the transgender population in general, as well as in the military, is the varied and shifting terminology used in the clinical literature. Consequently, here, we define a range of terms that we will use throughout this review.¹ Consistent with the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5), the American Psychiatric Association (APA) publication that provides standard language and criteria for classifying mental health conditions, we use the term *transgender* to refer to “the broad spectrum of individuals who . . . identify with a gender different from their natal gender” (APA, 2013).² *Natal gender* or *birth sex*, which is the sex that an individual was assigned at birth and typically correlates with primary sex characteristics (e.g., genitalia).

We refer to the subset of the population whose gender identity does not conform with the expressions and behaviors typically associated with the sex to which they were assigned at birth as *transgender* or *gender nonconforming*. Many identities fall under these umbrella terms, including individuals who identify as androgynous, multigendered, third gender, and two-spirit people. The *gender nonconforming* category also includes individuals who *cross-dress*, which means they wear clothing that is traditionally worn by a gender different from that of their birth sex. The exact definitions of each of these identities vary under the term *gender nonconforming*, and individuals may

¹ A comprehensive list of terms and definitions is provided in Appendix A.

² A brief history of the DSM language and diagnostic criteria for related conditions is presented in Appendix B.

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fluidly change, blend, or alter their gender identity over time. For the purposes of this analysis, we use *transgender* as an umbrella term that refers to individuals who identify with a gender different from the sex they were assigned at birth.

Importantly, under the recently established criteria and terminology outlined in DSM-5, transgender status alone does not constitute a medical condition (APA, 2013). Instead, under the revised diagnostic guidelines, only transgender individuals who experience significant related distress are considered to have a medical condition called *gender dysphoria* (GD). Some combination of psychosocial, pharmacologic (mainly but not exclusively hormonal), or surgical care may be medically necessary for these individuals. Psychotherapy to confirm a diagnosis of GD is a common first step in the process, often followed by hormone therapy and, perhaps, by gender reassignment surgery involving secondary or primary sex characteristics. Not all patients seek all forms of care. However, recognized standards of care require documentation of 12 continuous months of hormone therapy and living in the target gender role consistently and in all aspects of life. Unfortunately, the diagnosis is newly established, and data from which to estimate the size of these subgroups are lacking. In the future, however, transgender individuals seeking gender transition–related treatment are likely to require a GD diagnosis as the clinical justification.

Among transgender individuals, a subset may choose to *transition*, the term used to refer to the act of living and working in a gender different from one's sex assigned at birth. For some individuals, this may involve primarily social change but no medical treatment; this is referred to as *social transition*. For others, medical treatments, such as hormone therapy and hair removal, are important steps to align their physical body with their target gender. This is referred to as *medical transition*. A subset of those who medically transition may choose to undergo *gender reassignment surgery* to make their physical body as congruent as possible with their gender identity. This process of *surgical transition* is also often referred to as *sex or gender reassignment* or *gender confirmation*.

Health Care Needs of the Transgender Population

The main types of gender transition–related treatments are psychosocial, pharmacologic (primarily but not exclusively hormonal), and surgical. While one or more of these types of treatments may be necessary for some transgender individuals with GD, the course of treatments varies and must be determined on an individual basis by patients and clinicians. Since little is known about currently serving transgender service members, the following discussion draws primarily from available research on nonmilitary transgender populations.³

³ The 2015 DoD Health Related Behavior Survey of active-duty service members was being fielded concurrently to this research. It marked the first time a U.S. military survey asked questions relating to gender identity.

Diagnosis and Treatments for Gender Dysphoria

Treatments deemed necessary for transgender populations have shifted over time based on research advancements and the accumulation of clinical knowledge. The World Professional Association for Transgender Health (WPATH) regularly publishes revised versions of its *Standards of Care for the Health of Transsexual, Transgender, and Gender Nonconforming People*; the most current at the time of our research was version 7. The standards are designed to guide the treatment of patients experiencing GD while recognizing that not all expressions of gender nonconformity require treatment (WPATH, 2011, p. 2). Some transgender individuals (again, the proportion is largely unknown) experience significant dysphoria (distress) with the sex and gender they were assigned at birth, and they meet formal DSM-5 diagnostic criteria for GD, as described in Appendix B of this report. For those diagnosed with GD, treatment options include psychotherapy, hormone therapy, surgery, and changes to gender expression and role (i.e., how people present themselves to the world; WPATH, 2011, pp. 9–10). We discuss these treatment options in detail in Appendix C.

Not all patients will prefer or need all or any of these options; however, when clinically indicated, appropriate care can “alleviate gender dysphoria by bringing one’s physical characteristics into alignment with one’s internal sense of gender” (Herman, 2013b, p. 4). There have been no randomized controlled trials of the effectiveness of various forms of treatment, and most evidence comes from retrospective studies. The widely endorsed consensus-based practice guidelines outlined in the WPATH *Standards of Care* suggest that transition-related mental health care, hormone therapy, and surgery are generally effective and constitute necessary health care for many individuals with GD.⁴ The appropriate treatment plan is best determined collaboratively by patients and their health care providers. Optimally, specialized transgender health care will be provided by an interdisciplinary team (WPATH, 2011, p. 26).

Military Health System Capacity and Gender Transition-Related Treatment

To discern the potential impact of changing DoD policies to allow transgender military personnel to serve openly and to ensure appropriate health care for GD, it is also important to consider whether the MHS has the capacity to provide this care.

We anticipate that these survey results will provide additional information regarding how many transgender personnel currently serve in the U.S. military and their health behaviors.

⁴ These standards are endorsed by the American Medical Association, American Psychological Association, American Academy of Family Physicians, National Association of Social Workers, World Professional Association for Transgender Health, and American College of Obstetricians and Gynecologists (see Lambda Legal, 2012). Major insurers, including Aetna and UnitedHealthcare, have incorporated many of these standards of care into their policies (see, for example UnitedHealthcare, 2015).

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Psychotherapy, Hormone Therapies, and Gender Transition–Related Surgery

Both psychotherapy and hormone therapies are available and regularly provided through the military's direct care system, though providers would need some additional continuing education to develop clinical and cultural competence for the proper care of transgender patients. Surgical procedures quite similar to those used for gender transition are already performed within the MHS for other clinical indications.

Reconstructive Surgery

Reconstructive breast/chest and genital surgeries are currently performed on patients who have had cancer, been in vehicular and other accidents, or been wounded in combat. The skills and competencies required to perform these procedures on transgender patients are often identical or overlapping. For instance, mastectomies are the same for breast cancer patients and female-to-male transgender patients. Perhaps most importantly, the surgical skills and competencies for some gender transition surgeries also overlap with skills required for the repair of genital injuries sustained in combat, which have increased dramatically among troops deployed to Afghanistan. From 2009 to 2010, the percentage of wounded troops with genitourinary injuries transiting through Landstuhl Regional Medical Center in Germany nearly doubled from 4.8 percent to 9.1 percent—a dramatic increase that led some health providers to call this the “new ‘signature wound’” of Operation Enduring Freedom (D. Brown, 2011).⁵ There are particular similarities to the procedures recommended to treat those experiencing dismounted complex blast injuries, which typically involve multiple amputations with other injuries, often to the genitals (Wallace, 2012). Providing high-quality surgery to treat the 5 percent of combat wounds that require penile reconstruction requires extensive knowledge and practice in reconstructive techniques (Williams and Jezior, 2013). Assuming the MHS continues to directly provide health services as it has in the past, there are at least two potential implications: First, military surgeons may currently have the competencies required to surgically treat patients with GD, and, second, performing these surgeries on transgender patients may help maintain a vitally important skill required of military surgeons to effectively treat combat injuries during a period in which fewer combat injuries are sustained.

Cosmetic Surgery

Recognition of the requirement for reconstructive plastic surgery as a result of the war-time mission drives the existing DoD policy for cosmetic surgery procedures in the MHS; the services have requirements and manpower authorizations for specialists who can perform reconstructive plastic surgery (Office of the Assistant Secretary of Defense

⁵ Experimental penis transplants, expected to be performed for the first time within the next year at Johns Hopkins School of Medicine, are being developed in the United States specifically for combat-wounded veterans; however, there may be benefits for transgender patients as well (Welsh, 2015).

for Health Affairs, 2005, p. 1). Cosmetic/reconstructive surgery skills need to be maintained with practice, and surgeons must also “meet board certification, recertification, and graduate medical education program requirements” (Office of the Assistant Secretary of Defense for Health Affairs, 2005, p. 1).

Current DoD policy draws a distinction between elective cosmetic plastic surgery performed “to improve the patient’s appearance or self-esteem” and reconstructive plastic surgery performed on bodily structures that are abnormal due to health conditions to improve function or approximate a normal appearance (Office of the Assistant Secretary of Defense for Health Affairs, 2005, p. 3). While reconstructive surgeries constitute necessary treatment, access to elective cosmetic surgical procedures is subject to added constraints. For example, cosmetic procedures are performed on a space-available basis and restricted to those who will be TRICARE-eligible for at least six months. These procedures also require written permission from the commander of the service member’s active-duty unit, and the patient must pay surgical, institutional, and anesthesia fees (Office of the Assistant Secretary of Defense for Health Affairs, 2005, p. 3).⁶ DoD recognizes the need for these reconstructive surgery competencies and has crafted a policy to cover plastic surgeries to maintain providers’ surgical skills and certification requirements.

Potential Consequences of Not Providing Necessary Gender Transition–Related Care

The discussion of the health care needs of transgender military personnel is incomplete without considering the potential unintended effects of constraining or limiting gender transition–related treatment. Little question remains that there are transgender personnel currently serving in the AC. Adverse consequences of not providing transition-related health care to transgender personnel could include avoidance of other necessary health care, such as important preventive services, as well as increased rates of mental and substance use disorders, suicide, and reduced productivity.

Research indicates that, “due to discrimination and problematic interactions with health care providers, transgender individuals frequently do not access health care, resulting in short and long-term adverse health outcomes” (Roller, Sedlak, and Draucker, 2015, p. 418).⁷ Further, patients denied appropriate health care may turn to other solutions, such as injecting construction-grade silicone into their bodies to alter

⁶ Interestingly, according to Elders et al. (2014, p. 19), there is no difference in leave policies related to recovery time between the two.

⁷ For example, among NTDS respondents, 28 percent reported postponing or avoiding treatment when sick or injured, and 33 percent delayed or skipped preventive care due to discrimination or disrespect from health care providers (Grant et al., 2011, p. 76). In one study, transgender respondents had fewer self-reports of good health and were more likely to report limitations on daily activities due to health issues (Kates et al., 2015, p. 5).

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their shape (State of California, 2012, p. 12). There are also potential costs related to mental health care services for individuals who do not receive such care (Herman, 2013b, p. 20). Multiple observational studies have suggested significant and sometimes dramatic reductions in suicidality, suicide attempts, and suicides among transgender patients after receiving transition-related treatment (State of California, 2012, p. 10). A study by Padula, Heru, and Campbell (2015) found that removing exclusions on transgender care “could change the trajectory of health for all transgender persons” at a minimal cost per member per month.⁸

However, we caution that it is not known how well these findings generalize to military personnel. Moreover, while the existing data offer some indication of the needs for and costs of gender transition–related health care, it is important to note that none of these studies were randomized controlled trials (the gold standard for determining treatment efficacy). In the absence of quality randomized trial evidence, it is difficult to fully assess the outcomes of treatment for GD.

⁸ Specifically, they found that insurance provider coverage for transgender-related services resulted in “greater effectiveness, and was cost-effective relative to no health benefits at 5 and 10 years from a willingness-to-pay threshold of \$100,000/[quality-adjusted life year].”

CHAPTER THREE

What Is the Estimated Transgender Population in the U.S. Military?

This chapter provides several estimates of the number of transgender service members in the U.S. military. To date, there have been no systematic studies of the number of transgender individuals in the U.S. general population or in the U.S. military. Current studies rely on clinical samples of health care service utilizers, nonrepresentative samples assembled in ways that are difficult to replicate, and self-reported survey data from a small number of states.

General Population Estimates of Transgender Prevalence

The transgender prevalence in the U.S. general population is thought to be significantly less than 1 percent (Gates, 2011, p. 6; APA, 2013, p. 454). However, there have been no rigorous epidemiological studies in the general U.S. population that confirm this estimate. Our subsequent estimates must be qualified, therefore, as somewhat speculative; they are based on numerous sources, including health services claims data, representative state-level health surveillance survey data, a convenience (i.e., non-representative) sample recruited by an advocacy network, the experiences of foreign militaries, and selected other data sources.

The Williams Institute at the University of California, Los Angeles, School of Law, calculated that, based on estimates from Massachusetts and California, 0.3 percent of the U.S. population is transgender (Gates, 2011, p. 6). The Massachusetts data were collected between 2007 and 2009 as part of the Massachusetts Behavioral Risk Factor Surveillance System initiative. The survey suggests that 0.5 percent of the population in Massachusetts identifies as “transgender” (95-percent confidence interval: 0.3 to 0.6 percent; Conron et al., 2012). The California data combine information on the percentage of individuals who are transgender from the California Lesbian, Gay, Bisexual, and Transgender (LGBT) Tobacco Survey and the percentage of the overall population that is LGBT from the 2009 California Health Interview Survey. Gates

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multiplies these values together to estimate that 0.1 percent of the population of California is transgender.¹

To develop an estimate of transgender prevalence for the entire United States, Gates (2011) simply averages the Massachusetts and California values, yielding 0.25 percent, then rounds that up to 0.3 percent. This measure is very problematic, however. While survey-based estimates of transgender prevalence are likely to be accurate measures of true state-level transgender prevalence, it is not clear that taking an unweighted average from states with vastly different population sizes is appropriate for estimating national prevalence. For example, a weighted average calculation using the 2009 census population estimates for California and Massachusetts implies a 0.16 percent “national” prevalence estimate, as opposed to the 0.3 percent estimate calculated by Gates (2011)—a nearly 50-percent difference. We used this 0.16 percent weighted average as our combined, national estimate using the California and Massachusetts studies. This estimate was our midrange starting point, though we included both the 0.1 percent (from California) and 0.5 percent (from Massachusetts) as comparison points.

We note that there have been and continue to be other efforts to measure the prevalence of transgender identity in the general population. The two most prominent examples are the meta-analysis conducted by WPATH and a recent effort from the U.S. census. We did not use these estimates due to concerns that they systematically undercounted the prevalence of transgender identity for a variety of reasons detailed in the discussions that follow.

Separately, in 2007, the WPATH reviewed ten studies of prevalence with estimates for transgender individuals presenting for gender transition-related care, ranging from 1:11,900 to 1:45,000 for male-to-female transitions and 1:30,400 to 1:200,000 for female-to-male transitions (WPATH, 2011).² The studies cited were largely based on clinical usage. The WPATH authors note that these numbers should be considered “minimum estimates at best”:

The published figures are mostly derived from clinics where patients met criteria for severe gender dysphoria and had access to health care at those clinics. These estimates do not take into account that treatments offered in a particular clinic setting might not be perceived as affordable, useful, or acceptable by all self-identified gender dysphoric individuals in a given area. By counting only those people who

¹ Although Gates (2011) states that 3.2 percent of the LGBT population is transgender, we note that an earlier document (California Department of Health Services, 2004) reporting analyses from the same survey states that 2 percent of this population is transgender. We were not able to obtain the raw data and could not verify which of the two values is correct. We used the 3.2-percent estimate to calculate the California transgender prevalence estimate.

² The studies were Wälinder, 1968; Wälinder, 1971; Hoening and Kenna, 1974; Eklund, Gooren, and Bezemer, 1988; Tsoi, 1988; Bakker et al., 1993; van Kesteren, Gooren, and Megens, 1996; Weitze and Osburg, 1996; De Cuypere et al., 2007; and Zucker and Lawrence, 2009.

present at clinics for a specific type of treatment, an unspecified number of gender dysphoric individuals are overlooked. (WPATH, 2011, p. 7)

Additionally, the information is based on utilization rates from the ten studies, mostly conducted in European countries, such as the United Kingdom, the Netherlands, Sweden, Germany, and Belgium. One study was conducted in Singapore. This raises concerns about the applicability of these estimates to the U.S. population due to differences in costs and social tolerance, both of which would likely make health utilization behavior in Europe significantly different from that in the United States. Moreover, the studies were conducted over a 30-year period in which utilization was dramatically increasing, suggesting that the estimates were not stable. This concern is reported in the WPATH report, with the authors noting that the trend (over time) was due to higher rates of individuals seeking care. In one example, the estimated transgender population doubled in just five years in the United Kingdom. If the numbers are increasing over time based on the use of clinics, then an estimate from ten to 15 years ago would likely be very low relative to utilization in those same places today, and again not representative of likely utilization in the United States.³

Harris (2015) used information on name and sex changes in Social Security Administration data files to estimate the number of transgender individuals in the U.S. population. Using information on male-to-female and female-to-male name changes, he estimates that there were 89,667 transgender individuals in the United States in 2010. Of this group, 21,833 (24 percent) also changed their sex, according to Social Security records; during some periods in U.S. history, this required documented proof of either initiation or completion of medical transition. Since name changes are not required, prevalence estimated in this manner is likely to be a lower-bound estimate of the true transgender prevalence rate in the United States. Using the 2010 population of adults age 18 and over as the denominator (234,564,071), 89,667 transgender cases implies a lower-bound transgender prevalence rate of 0.038 percent in the United States.

³ According to the WPATH authors,

The trend appears to be towards higher prevalence rates in the more recent studies, possibly indicating increasing numbers of people seeking clinical care. Support for this interpretation comes from research by Reed and colleagues (2009), who reported a doubling of the numbers of people accessing care at gender clinics in the United Kingdom every five or six years. Similarly, Zucker and colleagues (2008) reported a four- to five-fold increase in child and adolescent referrals to their Toronto, Canada clinic over a 30-year period. (WPATH, 2011, p. 7)

Prevalence-Based Approach to Estimating the Number of Transgender Service Members in the U.S. Military

Before discussing estimates of prevalence of transgender individuals in the U.S. military, it is important to note that, to our knowledge, no studies have directly measured the prevalence or incidence of transgender individuals currently serving in the active or reserve component.⁴ To estimate prevalence in the military, we have constructed estimates using a combination of data sources.⁵ One of those sources, the NTDS, provides detailed information on the choices and preferences of transgender individuals but it is not a randomized, representative sample of the military and thus is not generalizable.

We applied measures of population prevalence to DoD force size estimates to estimate prevalence in the U.S. military. We measured force size using information from DoD's 2014 demographics report (DoD, 2014; see Table 3.1). The demographics are separated into AC and SR. For much of the discussion of our medical care analysis, we focus on the AC. We did not include reserve-component service members, retirees, or dependents in the cost analyses because we did not have information on age and sex distribution within these beneficiary categories. Some of these beneficiary categories also have limited eligibility for health care provided through military treatment facilities (MTFs) and may receive their health care through TRICARE coverage in the purchased care setting or through other health insurance plans. For our readiness analysis, we included both the AC and SR because both components may be used for deployments. Although there are ongoing discussions regarding the feasibility of activating the Individual Ready Reserve, we excluded this population because we lacked the detailed information on gender and age needed to conduct our analysis.

Table 3.2 contains estimates of the number of transgender personnel in the AC and SR using the baseline prevalence from existing studies and shows the results of several tests that provide a range of estimates based on different assumptions in the literature. To estimate prevalence in the military, we conducted analyses using five values: (1) a lower-bound estimate of 0.1 percent based on a study in California

⁴ G. Brown (1988) found that eight out of 11 evaluated natal males with severe GD had a military background; he explains his findings by positing a "hypermasculine" phase among transgender individuals that coincides with the age of enlistment. Since the sample size in that study was extremely small, we do not consider this good evidence for this theory. Gates and Herman (2014) used estimates from the NTDS, combined with estimates of transgender prevalence (0.3 percent) from Gates (2011) and history of military service in the U.S. population from the American Community Survey, to estimate transgender prevalence in the military. Data from the National College of Health Administration showed that military experience was significantly higher among transgender individuals than among those who did not identify as transgender (9.4 percent versus 2.1 percent; Blosnich, Gordon, and Fine, 2015). However, these data were collected from only 51 institutions, and the response rate for the survey was only 20 percent, which again raises questions regarding the validity of the estimates.

⁵ Our estimates were constructed using Gates (2011), which combined estimates from the Massachusetts Behavioral Risk Factor Social Surveys with the California LGBT Tobacco Survey, and Gates and Herman (2014), which used data from the NTDS, Gates (2011), and the American Community Survey.

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Table 3.1
DoD Military Force Demographics

Category	Number	%
Active Component		
Sex		
Female	200,692	15
Male	1,125,581	85
Age		
<25	572,293	43
26–30	293,698	22
31–35	201,137	15
36–40	137,653	11
41+	121,492	9
Total	1,326,273	—
Selected Reserve		
Sex		
Female	149,759	18
Male	682,233	82
Age		
<25	285,494	34
26–30	156,983	19
31–35	124,179	15
36–40	86,151	10
41+	179,185	22
Total	831,992	—

SOURCE: DoD, 2014.

(Conron, 2012); (2) an upper-bound estimate of 0.5 percent based on a study in Massachusetts (Gates, 2011); (3) a population-weighted average of the California and Massachusetts studies, yielding a prevalence estimate of 0.16 percent; (4) an adjustment of this population-weighted approach based on the natal male/female distribution in the military, yielding a prevalence estimate of 0.19 percent; and (5) a doubling of the population-weighted, gender-adjusted value, yielding a prevalence estimate of 0.37 percent.

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Table 3.2
Prevalence-Based Estimates of the Number of Transgender Active-Component and Selected Reserve Service Members

Component	Total Force Size (FY 2014)	0.1% ^a (CA study)	0.16% ^b (combined, population-weighted CA + MA studies)	0.19% ^c (gender-adjusted rate)	0.37% ^d (twice gender-adjusted rate)	0.5% ^e (MA study)
Active	1,326,273	1,320	2,120	2,450	4,900	6,630
Selected Reserve	831,992	830	1,330	1,510	2,930	4,160

SOURCES: Estimates for force size are based on RAND calculations using FY 2014 data from DoD, 2014.

^a Based on estimates of prevalence from a California study (Conron, 2012).

^b Based on weighted average of studies from California and Massachusetts, weighted by relative population sizes in each state.

^c Based on weighted average of studies from California and Massachusetts, weighted by relative population sizes in each state and applied specifically to the male/female distribution in the military components.

^d Based on estimates of prevalence from NTDS, Gates (2011), and the American Community Survey (Gates and Herman, 2014) and applied specifically to the male/female distribution in the military.

^e Based on estimates of prevalence from a Massachusetts study (Gates, 2011).

Based on the 0.1 percent lower bound, we estimate that there are approximately 1,320 transgender individuals in the AC and approximately 830 in the SR. Using the Massachusetts study (0.5 percent) as an upper bound, we estimate that there are approximately 6,630 transgender service members in the AC and 4,160 in the SR. Because these estimates are based on selected populations in the state and the variation in these populations is significant, we were concerned that they were not representative of broader national numbers, especially as they pertain to the gender mix of the military. Therefore, we adjusted the population-weighted combination of these estimates to account for the male/female distribution in the U.S. military populations. This gender adjustment is critical, as most research indicates that male-to-female transitions are two to three times more common than female-to-male transitions (APA, 2013; Horton, 2008; Gates, 2011; Grant et al., 2011). This assumption of a two to one difference in underlying prevalence across genders applied to the 0.16 percent aggregate estimate implies a natal male-specific prevalence of 0.2 percent and a natal female-specific prevalence of 0.1 percent. Assigning these values to the male/female AC distributions increases the military prevalence estimate from 0.16 percent to 0.19 percent, which implies that there are 2,450 transgender individuals in the AC and 1,510 in the SR.

The estimate of 0.37 percent doubles the gender-adjusted rate based on information provided by the NTDS that 20 percent of the transgender population in its sample reported a history of military service, which is twice the rate of the general population,

What Is the Estimated Transgender Population in the U.S. Military? 17

as reported in the American Community Survey (Grant et al., 2011). We note that this is likely to be an overestimate of the overall transgender population for two reasons. First, given the highly tolerant environment in Massachusetts and California, the prevalence estimates in those two states are likely to overstate the nationwide prevalence.⁶ Second, the evidence that transgender individuals are twice as likely to serve in the military is based on extrapolations from a nonrepresentative sample of individuals and not on direct, rigorous study of the transgender military population.

⁶ For example, both California and Massachusetts are rated as “top places for LGBT rights” (Keen, 2015).

CHAPTER FOUR

How Many Transgender Service Members Are Likely to Seek Gender Transition–Related Medical Treatment?

We adopted two distinct but related approaches to estimate the health care utilization and impact on readiness of allowing transgender personnel to serve openly in the U.S. military. The first is what we label the *prevalence-based approach*, in which we estimated the prevalence of transgender individuals in the military and applied information on rates of gender transition and reported preferences for different medical treatments to measure utilization and the implied cost and readiness impact. This approach has the benefit of including those who may seek other forms of accommodation, even if they do not seek medical care. It also provides detailed information on the types of medical treatments likely to be sought, which can improve the accuracy of cost and readiness estimates. However, this approach suffers from a lack of rigorous evidence in terms of the rates at which transgender individuals seek treatment and instead relies on the nonscientific NTDS. It also relies on prevalence measures from only two states—Massachusetts and California—that may not be directly applicable to military populations.

We refer to our second approach as the *utilization-based approach*, which we used to estimate the rates of utilization of medical treatment. This approach has the benefit of providing real-world measures of utilization based on health insurance claims, which may be more accurate and more rigorously collected than survey information. However, this approach suffers from a lack of large-scale evidence and instead relies on several case studies that may not be directly applicable to the U.S. military. Despite these caveats, these approaches provide the best available estimate of the range in the potential number of transgender service members likely to seek medical treatment or require readiness-related accommodations.¹

In both cases, we applied measures of population prevalence and utilization to DoD force size demographics to provide estimates of prevalence within the U.S. military. As indicated in the previous chapter, our calculations of population prevalence and health care utilization used FY 2014 data from DoD's 2014 demographics report (DoD, 2014; see Table 3.1 in Chapter Three).

¹ Again, we define *accommodations* as adjustments in military rules and policies to allow individuals to live and work in their target gender.

Prevalence-Based Approach to Estimating the Number of Gender Transition–Related Treatments in the U.S. Military

To estimate the utilization of gender transition–related health care treatments, we scaled the prevalence of transgender service members identified in Chapter Three by the rates of transition and reported take-up of medical treatments. We based our transition rates on self-reported transitions in the NTDS data. According to the NTDS, 55 percent of transgender individuals reported living and working as their target gender; we refer to this as *social transition*.² For others, medical treatments, such as hormone therapy and hair removal, are important steps to align their physical body with their target gender. We refer to this as *medical or surgical transition*.³

Using the prevalence estimates from Table 3.2 in Chapter Three, we used information from the NTDS on the age of transition for individuals under 25, 26–30, 31–35, 36–40, and over 40 and calibrated our estimates with the age distribution in the military. Fifty-five percent of NTDS respondents reported that they had socially transitioned over their lifetime, and the data indicate that male-to-female transition ages differ from female-to-male transition ages. Nearly 54 percent of female-to-male transitions occurred before the age of 25, compared with only 23 percent of male-to-female transitions.

We focus on social transition because we assess this as most relevant for individuals who may need accommodations as they live and work in a different gender. This was also used as the basis in some foreign militaries, as discussed in Chapter Seven. Table 4.1 presents the estimated number of individuals who may seek to transition each year under each of our prevalence assumptions. We found that a lower bound of 40 AC and 20 SR service members and an upper bound of 190 AC and 110 SR service members will seek to transition each year and may need some sort of accommodations. The population-weighted, gender-adjusted estimate implies a middle range of 65 AC and 40 SR service members who will seek to transition each year.

Next, we combine the estimates of the number of transgender service members with information on the proportion undergoing transition and the age-specific proportion undergoing gender transition–related treatment to generate the number of annual treatments. Surgical preference rates vary by transition type (male-to-female versus female-to-male transition; see Table 4.2). Surgeries are distributed evenly across

² We note that an additional 27 percent of those who had not yet socially transitioned wished to transition at some point in the future. Because the timeline and desire for transition are difficult to translate to concrete numbers, we used the estimate of 55 percent of transgender individuals living and working full-time as their target gender as our planning parameter for readiness accommodations.

³ In the NTDS sample, 65 percent of transgender individuals had medically transitioned, and 33 percent had surgically transitioned. Note that the rate of medical transitions is higher than the rate of social transitions because some individuals receive hormone treatments but do not live full-time as their target gender.

Table 4.1
Estimated Number of Transgender Service Members Who May Seek to Transition per Year

Estimate Source	Active Component (total force: 1,326,273)	Selected Reserve (total force: 831,992)
0.1% (CA study) ^a	40	20
0.16% (combined, population-weighted CA + MA studies) ^b	60	30
0.19% (gender-adjusted rate) ^c	65	40
0.37% (twice gender-adjusted rate) ^d	130	80
0.5% (MA study) ^e	190	110

SOURCES: Estimated proportions of subgroups based on Grant et al., 2011, p. 25. Estimates for the AC and SR are based on RAND calculations using FY 2014 data from DoD, 2014.

^a Based on estimates of prevalence from a California study (Conron, 2012).

^b Based on weighted average of studies from California and Massachusetts, weighted by relative population sizes in each state.

^c Based on weighted average of studies from California and Massachusetts, weighted by relative population sizes in each state and applied specifically to the male/female distribution in the military components.

^d Based on estimates of prevalence from NTDS, Gates (2011), and the American Community Survey (Gates and Herman, 2014) and applied specifically to the male/female distribution in the military.

^e Based on estimates of prevalence from a Massachusetts study (Gates, 2011).

NOTE: The table excludes Individual and Inactive Ready Reserve members because comparable information on their demographics was not available for analysis.

four procedures for male-to-female transitions and primarily over two procedures for female-to-male transitions.

Recall, not all of the individuals seeking to transition would meet the diagnostic criteria for GD, which is a requirement for these surgeries. Moreover, even among individuals who transition in some manner, surgical treatment rates are typically only around 20 percent, with the exception of chest surgery among female-to-male transgender individuals (see Table 4.2).

Table 4.3 shows the estimated annual number of hormone therapy treatments and surgeries in the AC and SR calculated using the same prevalence assumptions described in Chapter Three (see Table 3.2). The surgeries included in the calculations are vaginoplasty, chest surgeries, orchiectomy, hysterectomy, metoidioplasty, and phalloplasty. Note that these estimates constitute the number of treatments, not necessarily the number of individuals. For hormone therapy recipients, the number of treatments and recipients is the same, and these estimates can be treated as counts of individuals. However, the number of individuals is likely smaller for surgical counts because the

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Table 4.2
Lifetime Surgery Preferences Among NTDS Survey Respondents

Procedure	Have Had (%)	Want Someday (%)	Do Not Want (%)
Male-to-female			
Augmentation mammoplasty	21	53	26
Orchiectomy	25	61	14
Vaginoplasty	23	64	14
Facial surgery	17	Not reported	Not reported
Female-to-male			
Chest surgery	43	50	7
Hysterectomy	21	58	21
Metoidioplasty	4	53	44
Phalloplasty	2	27	72

SOURCE: NTDS data (Grant et al., 2011).

NOTE: These estimates are from cross-sectional data; individuals likely received each treatment only once and varied in the age at treatment initiation.

same individual may receive more than one type of surgical treatment.⁴ Using the lower-bound estimate from the California study and the upper-bound estimate from the Massachusetts study (see Table 4.3), we estimated that there will be between 45 and 220 hormone treatments and between 40 and 200 transition-related surgeries annually in the AC and SR. The combined population-weighted and gender-adjusted estimate indicates a midrange of 80 hormone treatments and 70 transition-related surgical treatments annually. Although surgical procedures are most likely to be one-time events, hormone therapy treatment rates are likely to be used indefinitely, and the cost and manpower effects will apply until individuals leave the MHS. We did not have information on the length of service conditional on age and therefore could not calculate the total number of service members who would be receiving hormone therapy at any given point in time. We recommend that this line of analysis be explored in the future.

Utilization-Based Approach to Estimating the Number of Gender Transition-Related Treatments in the U.S. Military

While the prevalence-based approach provides a tractable means to estimate potential utilization of gender transition-related care, there are a number of concerns regard-

⁴ For example, a female-to-male transition might include both chest surgery and phalloplasty.

How Many Transgender Service Members Are Likely to Seek Treatment? 23

Table 4.3
Estimated Annual Number of Surgeries and Hormone Therapy Users

Assumption Regarding Underlying Prevalence	Active Component		Selected Reserve	
	Annual Major Surgeries	Annual Hormone Therapy	Annual Major Surgeries	Annual Hormone Therapy
0.1% (CA study) ^a	25	30	15	15
0.16% (combined, population-weighted CA + MA studies) ^b	40	45	20	25
0.19% (gender-adjusted) ^c	45	50	25	30
0.37% (twice gender-adjusted rate) ^d	90	100	50	55
0.5% (MA study) ^e	130	140	70	80

SOURCE: RAND analysis.

^a Based on estimates of prevalence from a California study (Conron, 2012).^b Based on weighted average of studies from California and Massachusetts, weighted by relative population sizes in each state.^c Based on weighted average of studies from California and Massachusetts, weighted by relative population sizes in each state and applied specifically to the male/female distribution in the military components.^d Based on estimates of prevalence from NTDS, Gates (2011), and the American Community Survey (Gates and Herman, 2014) and applied specifically to the male/female distribution in the military.^e Based on estimates of prevalence from a Massachusetts study (Gates, 2011).

NOTE: Hormone therapy is person-level; surgery statistics are counts of surgeries, and one person may have multiple surgeries.

ing the information on which these estimates rely. As stated previously, these concerns include both a reliance on prevalence estimates from just two states and a reliance on data from the NTDS, which were not collected from a random sample. Our utilization estimates were taken primarily from three sources:

- private health insurance utilization data on annual rates of enrollee transgender-related health care utilization in health insurance plans that cover transition-related health care, as reported by Herman (2013b)
- private health clinic data showing estimates of the rates of penectomies and bilateral mastectomies in the U.S. population in 2001, as reported by Horton (2008)⁵

⁵ A penectomy is the surgical removal of the penis. A bilateral mastectomy is the surgical removal of both breasts.

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- Veterans Health Administration (VHA) claims data, which were used to calculate prevalence and incidence rates of gender identity disorder (now referred to as GD in DSM-5) from 2006 to 2013, as reported by Kauth et al. (2014).

Each of these data sources provides information on a different outcome, which makes understanding the results more complicated. However, collectively, the information taken from these three studies provides a broad, useful picture regarding potential gender transition–related health care utilization in the AC population. In the following sections, we review each of these studies in detail, identify key estimates from each, and apply the estimates to the AC population identified in Table 3.2 in Chapter Three.

Private Health Insurance Utilization Estimates

Herman (2013b) reports on the experiences of 34 employers that provided gender transition–related health care benefits to their employees and dependents via their health insurance plans. This study specifically reports on the annual number of enrollees who accessed “transition-related care.” This information is derived from health insurance claims data and thus is dependent on the treatments that were covered by the health insurance companies.⁶ The firms surveyed typically covered major gender transition–related surgeries and hormone therapy, but they varied in their coverage of other transition-related treatments, such as vocal cord surgery.⁷

Firms reviewed by Herman (2013b) also typically did not report information on the number of dependents covered but included dependents in their utilization estimates. Data from several sources (e.g., Sonier et al., 2013; Gould, 2012) imply an approximate average one-to-one ratio of employees to dependents in privately insured firms in the United States. Thus, not accounting for the role of dependents in these utilization estimates would overstate utilization by approximately 100 percent.⁸ For

⁶ If firms do not cover particular treatments, it is not possible to file a claim for reimbursement. If individuals in these firms utilized services that were not covered, thus paying for treatments out of pocket or through some other form of health insurance, these utilization estimates will be biased downward.

⁷ One hundred percent of firms covered major gender transition–related surgeries, including hysterectomy, oophorectomy, metoidioplasty, phalloplasty, urethroplasty, vaginectomy, orchiectomy, vaginoplasty, labiaplasty, and clitoroplasty. Ninety-two percent of firms covered bilateral mastectomy for female-to-male patients, but only 59 percent covered female-to-male chest reconstruction, and only 59 percent covered male-to-female augmentation mammoplasty (breast augmentation). All firms covered hormone therapies, specifically estrogen, progesterone, spironolactone, and testosterone.

⁸ We used two different data sources to determine the typical number of dependents covered by the main policyholder in private health insurance firms in the United States. First, we used information from the Robert Wood Johnson Foundation on the number of people who are covered by employer-sponsored health insurance and are the main policyholders and on the number of people who are covered by employer-sponsored health insurance and are dependents. Using these figures, we estimated a 1-to-0.99 policyholder-to-dependent ratio in employer-sponsored private health insurance. The Economic Policy Institute also reports information on this question using data from the U.S. census Current Population Survey. Using this information, we calculated a policyholder-to-dependent ratio of 1 to 0.94.

firms that did not provide information on dependents, we imputed a one-to-one ratio of employees to dependents to identify the total number of enrolled individuals in a given health plan.

Table 4.4 presents the information from Herman (2013b) on the utilization of gender transition–related care in private health insurance firms. The first column shows available information on the identity of the firm. The second describes the number of firms in each category for which we had utilization estimates. The third contains our estimates regarding the total number of enrollees and dependents from all firms in that category. For confidentiality reasons, some surveyed data sources report only ranges for the number of employees in a firm. Therefore, we used the midpoint of the range to impute the number of employees in a particular firm, then assigned the total number of dependents based on this employee value. For example, we had utilization data from two firms in the “private 1,000–9,999 employees” category. Since we assume the midpoint value for firm size, this implies that there are 5,000 employees in each firm, or 10,000 total employees across the two firms. Assuming a one-to-one employee-to-dependent ratio implies an additional 10,000 covered individuals, resulting in a combined total of 20,000 enrollees.

The estimates presented in Table 4.4 indicate that utilization rates range from an annual low of zero individuals per 1,000 enrollees to an annual high of 0.064 individuals per 1,000 enrollees. To obtain a combined estimate of the different values, we constructed a weighted average using the existing utilization estimates, weighting by the number of covered individuals that generated each of the estimates in Table 4.4. A weighted average of all the estimates results in an overall utilization estimate of 0.0396 individuals per 1,000 enrollees.

Table 4.4
Enrollee Utilization of Gender Transition–Related Benefits in Private Health Insurance Firms

Private and Public Firms	Number of Firms	Total Contribution (enrollees + dependents)	Individual Claimants per 1,000 Enrollees
Private, fewer than 1,000 employees	1	1,000	0.0000
Private, 1,000–9,999 employees	2	20,000	0.0540
Private, 10,000–49,000 employees	5	250,000	0.0220
City and County of San Francisco	NA	80,000	0.0640
University of California	NA	100,000	0.0620
Weighted average per 1,000 enrollees			0.0396

SOURCE: Data from Herman, 2013b.

We conducted two sets of calculations using these estimates. First, we used the lowest non-zero utilization figure (0.022 claimants per 1,000 enrollees);⁹ then, we used the weighted average calculation of 0.0396 per 1,000 enrollees. Applying the 0.022 claimants per 1,000 figure to the AC population of 1,326,273 implies that 29 AC service members would receive gender transition–related care annually. Applying the weighted average estimate of 0.0396 per 1,000 enrollees to the AC population implies that 53 service members would receive gender transition–related care annually.

Sensitivity Analyses

We also conducted two additional sensitivity analyses to determine the full potential scope of gender transition–related health care utilization in the AC. A key consideration when applying estimates from civilian populations to the military is that the underlying male/female distribution in the AC is different, with 85 percent of the AC population being male (versus approximately 50 percent in the civilian population). Studies suggest that the prevalence of transgender individuals is higher in the male population than in the female population (APA, 2013; Horton, 2008; Gates, 2011; Grant et al., 2011), so applying civilian estimates directly to the AC would underestimate the true utilization rates.

Accurately accounting for this issue required sex-specific utilization estimates that we could then multiply with the male/female AC distribution (85 percent male, 15 percent female). Unfortunately, we could not identify any sex-specific utilization estimates in the available private health insurance data; the aggregate cost and utilization estimates that we were able to identify already included underlying prevalence differences between the sexes. We posited that utilization would be twice as large for male-to-female transitions than for female-to-male transitions based on an assumption of linearity between transgender prevalence, for which we have sex-specific estimates, and total utilization (Horton, 2008).

Combining this assumption about differing utilization rates with the fact that the male/female labor force participation in the civilian population is close to 50 percent male and 50 percent female, we were able to solve for the sex-specific utilization estimates implied by the aggregate lower-bound (0.022) and weighted average (0.0396) values. Solving for the sex-specific utilization estimates in this manner, for the 0.022 aggregate estimate, we estimated a utilization rate of 0.0293 per 1,000 natal male enrollees and a utilization rate of 0.0146 per 1,000 natal female enrollees.¹⁰ Similarly, for the 0.0396 weighted average figure, solving for the natal sex–specific utiliza-

⁹ The unadjusted version of this figure (0.0044 percent) was also used in Belkin (2015) to estimate health care utilization in the military.

¹⁰ The equation we solved to calculate the natal male–specific and natal female–specific utilization rates is as follows: $0.5(x) + 0.5(2x) = 0.022$. In this equation, the variable x is the natal female–specific utilization rate, and solving for x results in a value of 0.0146. Since the natal male–specific utilization rate is assumed to be twice the natal female rate, it equals 0.0293.

tion estimates, we identified a utilization rate of 0.0528 per 1,000 natal male enrollees and a utilization rate of 0.0264 per 1,000 natal female enrollees.

Applying these solved sex-specific estimates to the AC male/female distribution (1,125,581, or 85 percent male, versus 200,692, or 15 percent female) increased our initial lower-bound estimate of claimants from 29 to 36 and increased our estimate from applying the weighted average from 53 to 65.

Finally, the sociology and psychology literature speculates that there is a higher transgender prevalence in the military compared with the civilian population (G. Brown, 1988). Gates and Herman (2014) also calculated that transgender prevalence in the military is approximately twice the civilian prevalence (Gates, 2011; Gates and Herman, 2014).¹¹ Although we believe that the current body of empirical evidence validating this theory is weak, we take it seriously and consider the possible implications for transition-related health care utilization in the military. Assuming that transgender prevalence in the military is twice the transgender prevalence in the civilian population, and, again, assuming a direct relationship between prevalence and utilization, this would inflate our male/female distribution-adjusted estimates of individuals receiving transition-related care annually from 36 to 72, and from 65 to 129 in the AC. Table 4.5, which summarizes the results from applying the private health insurance estimates to the AC population, allows for a comparison of the different estimates.

Private Health Clinic Estimates

A second source of information regarding gender transition-related health care utilization comes from a survey of surgical clinics conducted by Horton (2008). In 2001, Horton surveyed all major clinics in the United States known to provide transition-related care to determine the number of penectomies and bilateral mastectomies performed on transgender patients. Table 4.6 reports surgery incidence estimates broken out by male-to-female transitions and female-to-male transitions. The third column shows estimates using clinic-reported data only. Horton also developed lower- and upper-bound estimates via assumptions regarding treatment counts for clinics with missing data, and these numbers are reported in the second and fourth columns of Table 4.6.¹² These data were collected in 2001 and coverage of gender transition-related benefits have increased over time, so it is also reasonable to assume that surgical tran-

¹¹ As stated previously, Gates and Herman (2014) used estimates from the NTDS and Gates (2011) for a transgender prevalence of 0.3 percent. That study also used data on history of military service in the U.S. population from the American Community Survey to estimate transgender prevalence in the military. Data from the National College of Health Administration show that military experience was significantly higher among transgender individuals than among those who did not identify as transgender (9.4 percent versus 2.1 percent; Bloshich, Gordon and Fine, 2015). However, data were collected from only 51 institutions, and the response rate for the survey was only 20 percent, which again raises questions regarding the validity of the estimates.

¹² Horton generated upper- and lower-bound estimates by assigning the largest and smallest surgical counts in the data to the clinics with missing values.

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Table 4.5
Utilization Estimates from Applying Private Health Insurance Parameters

Annual Individual Claimants	Estimate from the Literature	Estimates Using Private Employer Data		
		Baseline	Sensitivity Analysis 1 ^a	Sensitivity Analysis 2 ^b
Active component, lower-bound estimate	0.022 claimants per 1,000 individuals	29	36	72
Active component, weighted average estimate	0.0396 claimants per 1,000 individuals	53	65	129

NOTES: Each cell in the "Estimates Using Private Employer Data" columns represents a unique prediction for utilization in the AC population. In the second column of the table, we describe the estimate from the literature that is applied to the AC population. See the text for details on each of the calculations.

^a Sensitivity Analysis 1: We calculated a set of estimates that accounted for differences in the male/female distribution between the civilian and AC populations.

^b Sensitivity Analysis 2: We calculated a set of estimates that accounted for differences in the male/female distribution between the civilian and AC populations and the possibility that transgender prevalence is twice as high in the military population as in the civilian population.

Table 4.6
Incidence of Penectomies and Bilateral Mastectomies Performed on Transgender Individuals

Transition Type	Incidence Estimates (%)		
	Low	Clinic-Reported Data	High
Male-to-female	0.00048	0.00053	0.00103
Female-to-male	0.00020	0.00030	0.00084

SOURCE: 2001 data from Horton, 2008.

NOTE: The table includes data on penectomies and bilateral mastectomies only.

sitions have also increased over time. Thus, these utilization rates of penectomies and bilateral mastectomies should be considered lower-bound estimates.

Applying these estimates to the AC male/female distribution results in low, medium, and high annual estimates of 5.8, 6.6, and 13.2 AC service members receiving these two surgeries, respectively. We reiterate here that these estimates are not directly comparable to the private health insurance estimates presented in the previous section because these estimates apply to only two specific procedures, while the private health insurance estimates include any gender transition–related procedures that private health insurance firms cover. One would expect estimates for two specific surgeries from 2001 to be lower than estimates generated from the private health insurance system in the later 2000s. Indeed, they are, but it is more difficult to make other direct

comparisons between these two estimates, given the private health insurance utilization data presented in Herman (2013b).

Veterans Health Administration Estimates

In this analysis, we used VHA data to calculate the expected annual incidence of gender identity disorder (the condition now known as GD in the DSM-5) in the AC population. As described previously, those with a gender identity disorder diagnosis are a subset of transgender individuals. Kauth et al. (2014) used VHA health claims data to identify incidence rates of new diagnoses. They also calculated prevalence rates of gender identity disorder in each year using previous yearly incidence rates. Because 2006 was the first year in their data set, the prevalence rate in the first year of their data is equivalent to the incidence rate. In the years after 2006, the prevalence rate is essentially a running total of the incidence rates in the previous years added to the most recent incidence rates.

The data in Table 4.7 imply that the incidence of gender identity disorder increased from 3.5 of 100,000 enrollees in FY 2006 to 6.7 of 100,000 enrollees in FY 2013 among veterans who use VHA health care (Kauth et al., 2014). Before applying these estimates to the AC population, we note two important points with respect to the analyses in Kauth et al. (2014). First, because the prevalence rate is simply a running total of new cases diagnosed since the first year of the study's data (2006), adding years of data prior to 2006 would mechanically increase the prevalence estimates. Thus, Kauth et al.'s prevalence calculations are a lower-bound for the total gender

Table 4.7
Prevalence and Incidence of Gender Identity Disorder
Diagnoses in VHA Claims Data

Fiscal Year	New Diagnosis Rate (%)	Prevalence (%)
2006	0.0035	0.0035
2007	0.0034	0.0068
2008	0.0034	0.0098
2009	0.0038	0.0131
2010	0.0046	0.0172
2011	0.0051	0.0217
2012	0.0060	0.0270
2013	0.0067	0.0329

SOURCE: Kauth et al., 2014.

NOTE: The authors calculated new cases diagnosed and total existing cases in a given year based on the entirety of the data since 2006.

identity disorder prevalence rate in this population. Second, estimates based on claims data will likely be lower-bound estimates of incidence and prevalence, since individuals are identified only if they interact with the health care system for reasons related to gender identity disorder. These two caveats should be kept in mind when interpreting the extrapolations here.

Applying estimates from the 2013 data in Table 4.7 to the AC population, one would expect approximately 90 new cases of gender identity disorder each year and that approximately 440 AC service members would be diagnosed with this condition. Although the male/female distribution in the VHA system mirrors that of the AC, veterans who use VHA health care services may have lower socioeconomic and health status than veterans who do not use VHA health care, other military retirees, and AC service members. The VHA population also differs by age and, potentially, by other unmeasured characteristics related to underlying health status. For these varied reasons, these estimates may not be generalizable to the military population overall.

Summarizing the Estimates

Table 4.8 summarizes the key results after applying the estimates from the various data sets to the AC and SR populations. The largest estimate—270 treatments (surgeries and hormone therapies)—was calculated by combining the upper-bound population-level transgender prevalence estimate from Massachusetts with information from the NTDS data on the age of those receiving common transition-related treatments. When applied to the AC population, estimates from VHA and the private health insurance literature imply that only 30–90 AC service members will receive some type of gender transition–related treatment annually.

To understand the full implications of our estimates regarding the expected annual number of AC service members likely to obtain gender transition–related care, in Figure 4.1 we compare the above utilization estimates with the number of AC service members who self-reported visiting a mental health care provider in a given year (21 percent) and the number of AC service members who visited a mental health care specialist in a given year (7 percent; Hoge et al., 2006; McKibben et al., 2013). We chose this outcome because mental health care among military populations is an important, well-studied topic, and data were readily accessible for us to conduct the comparison. The mental health care utilization estimates represent unique service members accessing health care; thus, they compare most directly to the estimates using the private health insurance data and the NTDS hormone therapy estimates. For clarity's sake, we do not present all of the private health insurance and NTDS hormone therapy estimates in Figure 4.1. We do include the smallest, middle, and largest estimates using the private health insurance data and the largest hormone therapy estimate drawn from the NTDS data.

How Many Transgender Service Members Are Likely to Seek Treatment? 31

Table 4.8
Annual Gender Transition–Related Treatment Estimates from All Data Sources

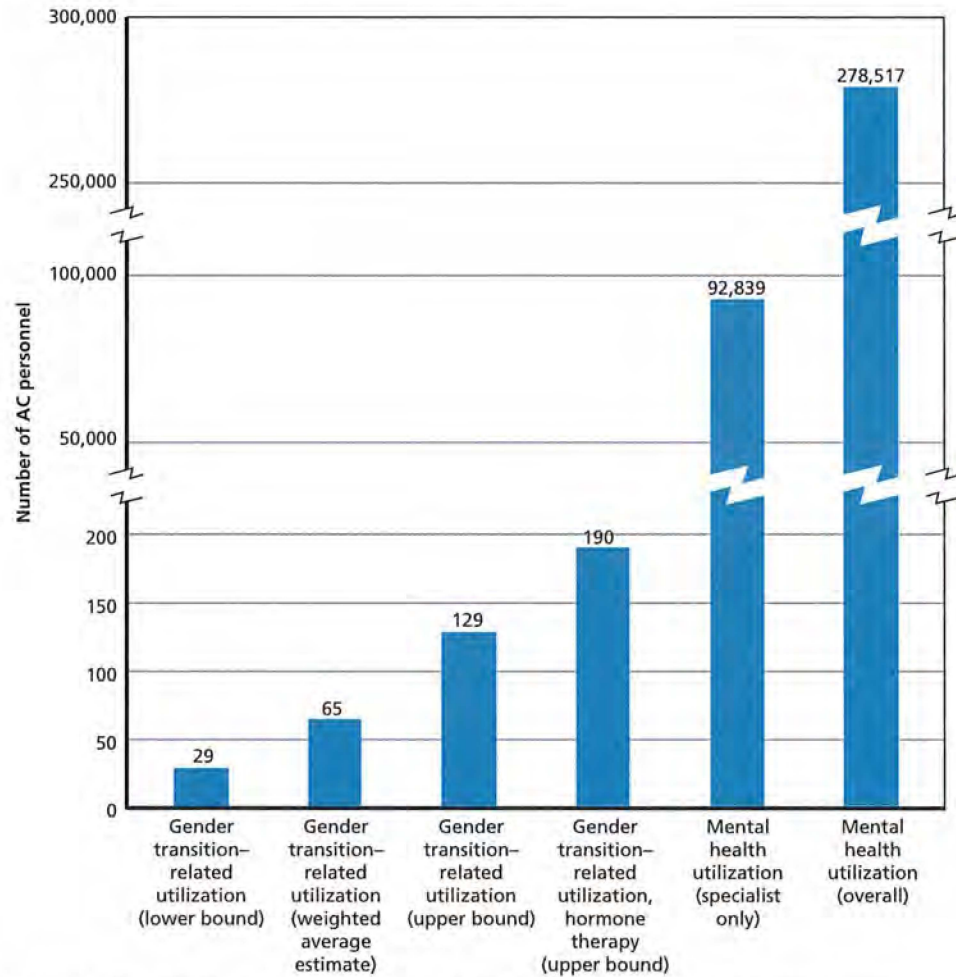
Estimate Type	Active Component			Selected Reserve		
	Hormone Treatment	Surgical Treatments	All Treatments	Hormone Treatment	Surgical Treatments	All Treatments
Prevalence-based estimates (using NTDS data)						
Annual treatments based on CA study estimate (0.1%)	30	25	55	15	15	30
Annual treatments based on combined, population-weighted, gender-adjusted rate (0.19%)	50	45	95	25	30	55
Annual treatments based on MA study estimate (0.5%)	140	130	270	70	80	150
Utilization-based estimates						
Private health insurance annual individual claimants (0.022 per 1,000)	NA	NA	29	NA	NA	20
Private health insurance annual individual claimants (0.0396 per 1,000)	NA	NA	53	NA	NA	30
VHA-based annual new diagnoses (0.0067%)	90	NA	NA	60	NA	NA
Clinical utilization of penectomies and bilateral chest surgeries (0.0005%)	NA	10	NA	NA	5	NA

SOURCE: RAND analysis.

As Figure 4.1 shows, our estimates of the number of AC personnel who will use the gender transition–related health care benefits are overwhelmingly small compared with the number of AC personnel who access mental health treatment. Overall, based on our calculations, we expect annual gender transition–related health care to be an extremely small part of overall health care provided to the AC population.

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Figure 4.1
Comparison of Annual Estimated Gender Transition–Related Health Care Utilization and Mental Health Care Utilization, Active Component



SOURCE: RAND analysis. Utilization rates in the figure are derived from both the prevalence-based and utilization-based approaches presented in Table 4.8.

NOTES: The non-hormone therapy transgender utilization estimates are from the application of estimates from the private health insurance data. The hormone therapy upper-bound transgender utilization estimate is from calculations using the NTDS data.

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CHAPTER FIVE

What Are the Costs Associated with Extending Health Care Coverage for Gender Transition–Related Treatments?

In this chapter, we provide estimates for the costs associated with extending health care coverage for gender transition–related treatments. We focused on transgender service members in the AC because they have uniform MHS access. We did not include reserve-component service members in our analyses, but their MHS utilization and the associated cost will be negligible, given their highly limited military health care eligibility. Likewise, we did not include retirees or dependents in the cost analyses because we did not have information on age and sex distribution within these beneficiary categories. Some of these beneficiary categories also have limited eligibility for health care provided through MTFs and may receive their health care through TRICARE coverage in the purchased care setting or through other health insurance plans. Given these unknowns, it was only feasible to estimate the costs of gender transition–related care for AC service members; however, we recommend expanding these analyses in the future to include reserve-component members, as well as all individuals eligible for treatment under TRICARE. For the following analyses, we used demographic characteristics of the 2014 AC population to estimate the cost of providing such services.

Private Health Insurance Cost Estimates

To determine the potential costs of covering gender transition–related health care for transgender service members, we collected information on private health insurers' experiences with covering this care from two sources (Herman, 2013b; State of California, 2012). These actuarial estimates represent the expected increase in health care costs from covering a new set of treatments or a new group of beneficiaries. If employers decide to provide coverage for a particular treatment, these actuarial estimates are translated into premium increases for covered employees. These estimates should be thought of as the expected costs of extending coverage for gender transition–related care to transgender AC service members. Moreover, we note that the military may already be incurring the cost of some transgender treatments, as some patients and their providers use "omissions and ambiguities" to acquire needed care (Roller, Sedlak, and Draucker, 2015, p. 420). For example, a currently serving female-to-male patient

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who had undergone a hysterectomy reported taking only the testosterone and not the estrogen prescribed as part of hormone therapy with his endocrinologist's knowledge and tacit support, while another was trying to get breast reduction surgery due to back pain rather than GD (Parco, Levy, and Spears, 2015, pp. 235–236).

Table 5.1 presents available data from public employers and private firms on the actuarial costs of covering gender transition–related care. It identifies the particular institution, the number of employees and dependents covered, and the identified premium increases due to expanding benefits.

Data from Table 5.1 show, generally, that the actuarial estimates of providing benefits for gender transition–related care increased total premiums (employee + employer share) by only a small fraction of a percent—and, in the most extreme cases, by only approximately 1 percent. Taking a weighted average of most of the information,¹ we estimated that extending insurance coverage to transgender individuals would increase health care spending by 0.038 percent. Applying this figure to total AC health care spending of \$6.27 billion,² we find that covering gender transition–related care will increase AC health care spending by approximately \$2.4 million (see Table 5.2).

The data in Table 5.1 suggest that the University of California, with 100,000 enrollees in its health plan, is one of the key drivers of the 0.038-percent weighted

Table 5.1
Actuarial Estimated Costs of Gender Transition–Related Health Care Coverage from the Literature

Public Employer Data	Actuarially Calculated Premium Increase	Total Contribution (employees + dependents)
City of Seattle	0.19% increase in health care budget	23,090
City of Portland	0.08% increase in health care budget	18,000
City of San Francisco	0% increase in health care budget	100,000
University of California	0% increase in health care budget	100,000
Private Employer Data	Estimate	Total Contribution (employees + dependents)
22 firms	Many employers reported no actuarial costs to adding benefit; estimates range from 0 to 0.2%	Mix of firm sizes
2 firms	Approximately 1% increase in premiums	5,800
1 firm	Much less than 1% increase in premium	77,000

SOURCE: Estimates are from Herman, 2013b, and State of California, 2012.

¹ We did not use information about the firm with 77,000 enrollees because it is not clear what “much less than 1 percent” implies with respect to the premium increase.

² Pharmaceutical and direct and purchased care inpatient and outpatient data calculated from TRICARE costs in Defense Health Agency, 2015.

average result. In addition to the actuarial increases, the University of California also reported a realized increase in health care spending of 0.05 percent, so we recalculated the weighted average figure by replacing the 0-percent estimate with the 0.05 percent estimate. This new calculation raised the overall cost estimate from 0.038 percent to 0.054 percent, or from \$2.4 million to \$3.4 million when applied to the AC. To summarize, our baseline estimates regarding expected gender transition–related health care costs in the AC are between \$2.4 million and \$3.4 million.

Sensitivity Analyses

To understand the potential full range of cost effects in the AC population, we conducted two additional sensitivity analyses similar to those described for our utilization ranges in Chapter Four. We used these sensitivity analyses to account for the skewed male/female distribution in the military population and for the possibility that transgender prevalence is higher in the military population. As in the utilization case, we were not able to identify any sex-specific effects on the premium increases. Thus, as in our utilization analysis, we assume that cost estimates are linearly related to prevalence,³ and cost estimates for male-to-female transitions are twice the cost estimates for female-to-male transitions. Using this relationship, we again calculated natal male– and natal female–specific estimates from the aggregate estimates.

Given the assumption about differing cost effects, we calculated a natal male–specific cost estimate of 0.05 percent and a natal female–specific cost estimate of 0.025 percent for the aggregate premium estimate of 0.038 percent. Applying these sex-specific estimates to the AC male/female distribution increased our initial premium estimate from 0.038 percent to 0.047 percent. A similar calculation can be performed for our realized cost estimate of 0.054 percent. Assuming that gender transition–related health care costs are twice as large for male-to-female transitions as for female-to-male transitions, we calculated a natal male–specific cost effect of 0.072 percent and a natal female–specific cost effect of 0.036 percent. Applying these sex-specific estimates to the AC male/female distribution increased our initial premium estimate from 0.054 percent to 0.067 percent. Applying these newly calculated health care costs to the 2014 AC health care expenditures (\$6.27 billion) increased our estimate of costs from the initial range of \$2.4–\$3.4 million to a range of \$2.9–\$4.2 million.

Finally, as noted previously, Gates (2011) and Gates and Herman (2014) calculated that transgender prevalence in the military is approximately twice that in civilian

³ We also note that built into this linearity assumption and how it is applied in the two sensitivity analyses is the assumption that the cost of male-to-female transitions is the same as the cost of female-to-male transitions. Since there is no sex-specific information in the private health insurance cost data, the validity of the cost per case being equivalent is unknown. Padula, Heru, and Campbell (2015) estimated that a male-to-female surgical case is 33 percent more expensive than a female-to-male surgical case, but these estimates were not based on private employer data, so we did not directly incorporate this result into our calculations.

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populations. Assuming that this estimate is valid, and, again, assuming that health care costs are linearly related to underlying prevalence, this would increase the above calculated value of \$2.9 million to \$5.8 million and the calculated value of \$4.2 million to \$8.4 million. Table 5.2 summarizes the results from the calculations described in this section.

To better understand the relative importance of our estimates regarding expected AC annual gender transition–related health care spending, we compared our cost estimates to the MHS spending on mental health in 2012 and to total AC health care spending in FY 2014. As Figure 5.1 shows, gender transition–related health care spending is expected to be extremely small compared with MHS spending on mental health (Blakely and Jansen, 2013) and overall AC health care expenditures (Defense Health Agency, 2015).

Summarizing the Estimates

A direct application of estimates from the private health insurance system implies a baseline spending range between \$2.4 million and \$3.4 million for AC gender transition–related health care. Sensitivity analyses that attempt to account for the fact that the male/female distribution in the AC population skews more heavily male than the civilian population and that transgender prevalence might be higher in the military increase this initial range to \$5.8 million to \$8.4 million. The implication is that even in the most extreme scenario that we were able to identify using the private health insurance data, we expect only a 0.13-percent (\$8.4 million out of \$6.2 billion) increase in AC health care spending.⁴

Table 5.2
Estimated Annual MHS Costs of Gender Transition–Related Health Care, Active Component

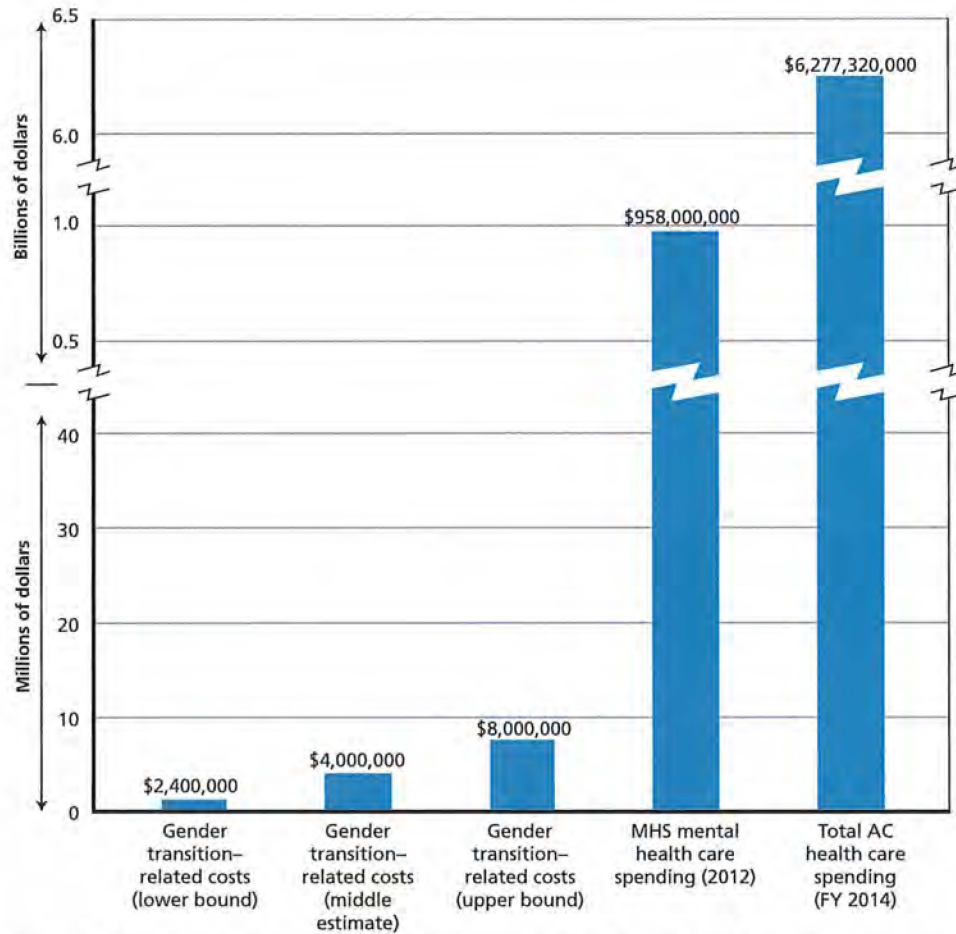
Analysis Type	Calculations Using Only Actuarial Premium Estimates 0.038% (actuarial)	Calculations Using Actuarial Premiums and Realized Values 0.054% (actuarial + realized)
Baseline	\$2.4 million	\$3.4 million
Sensitivity analysis 1: Adjusts for the male/female distribution in the AC population	\$2.9 million	\$4.2 million
Sensitivity analysis 2: Adjusts for the male/female distribution in the AC population and the assumption that transgender prevalence is twice as high in the military compared to the civilian population	\$5.8 million	\$8.4 million

SOURCE: RAND analysis.

⁴ AC beneficiaries make up less than 15 percent of total TRICARE beneficiaries (Defense Health Agency, 2015).

What Are the Costs Associated with Extending Coverage for Treatments? 37

Figure 5.1
Gender Transition–Related Health Care Cost Estimates Compared with Total Health Spending, Active Component



SOURCES: RAND analysis; Blakely and Jansen, 2013; Defense Health Agency, 2015. Estimates of premium increases and realized costs are reported in Table 5.1.

NOTES: The lower-bound estimate refers to premium increases only. The middle estimate includes premium increases and realized costs after adjusting for male/female distribution in the military. The upper-bound estimate includes premium increases and realized costs after adjusting for male/female distribution in the military and assuming the prevalence rate of transgender individuals in the military is twice that of civilian populations.

RAND RR1350-5.1

CHAPTER SIX

What Are the Potential Readiness Implications of Allowing Transgender Service Members to Serve Openly?

As DoD considers whether to allow transgender personnel to serve openly and to receive transition-related treatment during the course of their military service, it must consider the implications of such a policy change on the service members' ability to deploy and potential reductions in unit cohesion. In prior legal challenges to the transgender military discharge policy, DoD has expressed concern that the medical needs of these service members would affect military readiness and deployability. To address these concerns, this chapter provides estimates of the potential effects on force readiness from a policy change allowing these service members to serve openly.

A critical limitation of such an assessment is that much of the current research on transgender prevalence and medical treatment rates relies on self-reported, nonrepresentative samples. Thus, the information cited here must be interpreted with caution because it may have varying degrees of reliability. In addition, to estimate effects on readiness, we focused on transgender personnel in the AC and SR only. We did not include the Individual Ready Reserve because of the lack of publicly available, detailed demographic information. We used the same approach that applied to our analysis of health care utilization, applying both the prevalence-based and utilization-based approaches to force size. We note that the prevalence-based approach was the only approach that allowed us to estimate the number of transgender service members who may seek to live and work as their target gender. Transition does not necessarily imply the use of medical treatments, and we emphasize that some of these service members may still require accommodations in terms of housing and administrative functions (e.g., military identification cards, restrooms).

Impact on Ability to Deploy

The most salient and complex issue in allowing transgender personnel to serve openly is how DoD should regulate and manage operational deployment requirements for these personnel in the context of their transition to their target gender.

Pre-Transition

If transgender personnel are allowed to serve openly prior to transition, DoD will need to establish policies on when individuals may use the uniforms, physical standards, and facilities (e.g., barracks, restrooms) of their target gender. Additionally, DoD will need to clarify policies related to qualifications for deployment. Current deployment rules suggest that to qualify for deployment, individuals with diagnosed mental health disorders must show a “pattern of stability without significant symptoms or impairment for at least three months prior to deployment.”¹ Ensuring appropriate screening will be critical to minimizing any mental health–related readiness issues. Secondary prevention measures prior to deployment, such as screening for GD, may be needed to ensure a pattern of stability and readiness for deployment.

During Transition

DoD would also need to determine when transitioning service members would be able to change uniforms and adhere to the physical standards of their target gender, as well as which facilities and identification cards they will use. Other countries have found that, in some cases, it may be necessary to restrict deployment of transitioning individuals to austere environments where their health care needs cannot be met. Deployment restrictions may also be required for individuals seeking medical treatment, including those seeking hormone therapy and surgical treatments.

We detail the constraints associated with transition-related medical treatments in Table 6.1. These constraints typically include a postoperative recovery period that would prevent any work and a period of restricted physical activity that would prevent deployment. The rightmost column of Table 6.1 presents the estimated number of non-deployable days we used to estimate the readiness impact. We note that these estimates do not account for any additional time required to determine medical fitness to deploy. Army guidelines, for example, do not permit deployment within six weeks of surgery. Nevertheless, there may be a significant difference between the estimated availability to deploy and the actual impact on deployability, as it is possible that transgender service members would time their medical treatments to minimize the effect on their eligibility to deploy.²

In addition to an expected, short-term inability to deploy during standard postoperative recovery time, some individuals experience postoperative complications that would render them unfit for duty. For instance, among those receiving vagino-

¹ Detailed guidance is provided in a memorandum from the Office of the Assistant Secretary of Defense for Health Affairs, 2013, p. 2.

² See for example, Personnel Policy Guidance Tab A (known as PPG-TAB A) that accompanies the medical guidelines document MOD TWELVE, Section 15.C, which articulates the minimal standards of fitness for deployment to the U.S. Central Command area of responsibility (U.S. Central Command, 2013).

plasty surgery, 6–20 percent have complications.³ This implies that between three and 11 service members per year would experience a long-term disability from gender reassignment surgery. Among those receiving phalloplasty surgery, as many as 25 percent experience some medical complications (Elders et al., 2014).

Table 6.1
Gender Transition–Related Readiness Constraints

Transition Type and Treatment	Recovery Time	Leave and Deployment Implications	Estimated Nondeployable Days
Male-to-Female			
Hormone therapy only	Long-term, no recovery required	None (pending accommodations)	N/A
Augmentation mammoplasty	1 week no work, 4–6 weeks restricted physical activity	Up to 14 days medical leave, up to 60 days medical disability	75
Genital surgery (orchiectomy, vaginoplasty)	4–6 weeks no work, 8+ weeks restricted physical activity	Up to 45 days medical leave, up to 90 days medical disability	135
Female-to-Male			
Hormone therapy only	Long-term, no recovery required	None (pending accommodations)	N/A
Chest surgery	1 week no work, 4–6 weeks restricted physical activity	Up to 14 days medical leave, up to 60 days medical disability	75
Hysterectomy	2 weeks no work, 4–8 weeks restricted physical activity	Up to 21 days medical leave, up to 90 days medical disability	111
Genital surgery (metoidioplasty, phalloplasty)	2–4 weeks no work, 4–6 weeks restricted physical activity	Up to 21 days medical leave, up to 60 days medical disability	81

SOURCES: Treatment times based on RAND research compiled for this study. Estimates of numbers of treatments based on rates in Gates, 2011. Estimated nondeployable days based on RAND calculations using FY 2014 data from DoD, 2014.

NOTES: The total population in the table includes AC and SR personnel. Estimates of treatments are non-unique per person. Individuals may (and likely will) seek multiple treatments simultaneously. As such, deployment days are measured per treatment, not per individual. Estimates of nondeployable days do not include estimated delays generated by Medical Evaluation Board/Physical Evaluation Board review, which may be required depending on service rules.

³ According to Elders et al. (2014, p. 15), summarizing findings from 15 studies, “2.1 percent of patients had rectal-vaginal fistula, 6.2 percent with vaginal stenosis, 5.3 percent had urethral stenosis, 1.9 percent with clitoral necrosis, and 2.7 percent with vaginal prolapse,” and approximately 2.3 percent of patients experienced complications after vaginoplasty.

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Taking the estimates for treatment and recovery time, we then applied the standards for leave and restricted physical activity.⁴ We applied the recovery times and translated those into nondeployable days separated into medical leave, in which the service member is off the job, and medical disability, in which the service member can be at work but is subject to restricted physical requirements (e.g., no physical training, no heavy lifting). This provided us with the total number of nondeployable days per treatment type. We scaled this estimate by the number of days an individual can be deployed per year. For the AC, we assumed this to be 330 days per year (allowing 30 days of leave plus five days of processing time).⁵ For the SR, we assumed 270 days per year (which allows nine months of deployment time). We counted each treatment separately and applied the number of treatments by treatment type shown in Table 6.1.

Note that because individuals may seek multiple treatments, sometimes at the same time, this number is not the same as the total number of individuals who will be nondeployable. Therefore, the estimates presented in Table 6.2 should be considered an upper bound in each category. Moreover, the prevalence-based estimates are significantly larger than the utilization-based estimates as shown in Table 4.8. Using the prevalence-based approach, we found that between eight and 43 of the available 1.2 million labor-years in the AC may be unavailable for deployment.⁶ The combined, population-weighted, and gender-adjusted estimate implies that about 16 labor-years from the AC and about 11 labor-years from the SR may be nondeployable. This represents 0.0015 percent of available deployable labor-years across the AC and SR.

These estimates are based on surgical take-up rates ranging from 25 to 130 per year in the AC, with 55–270 total treatments, including hormone treatments. Similarly, the prevalence-based estimates imply 15–80 surgical treatments per year in the SR, with between 30 and 150 total treatments, including hormone therapy.

The utilization-based approach implies many fewer treatments. Although we could not estimate the impact on labor-years because we did not have information on specific treatments, based on usage rates in California, the utilization-based approach implies 30–50 total treatments, including surgeries and hormone therapy. Evidence from the VHA suggests that 90 service members in the AC and 50 in SR are diagnosed with GD in any given year. Such a diagnosis would be a prerequisite for any surgical treatments, suggesting that true utilization rates in the military may be significantly lower than suggested by the prevalence-based approach.

We caution that our labor-year estimates also likely overcount actual nondeployable time because our estimate captures “availability to deploy,” rather than the deploy-

⁴ For reference, we used the Army Regulation 40-501 (revised 2011), which governs leave and disability, and the Navy Medical Policy 07-009 (2007), which provides guidance on pre-clearance, accommodations for deployment readiness, and additional requirements in the U.S. Central Command area of operations.

⁵ We based this estimate on Army Regulation 600-8-101 (2015).

⁶ We define a labor-year as the amount of work done by an individual in a year.

Table 6.2
Estimated Number of Nondeployable Man-Years Due to Gender Transition–Related Treatments

Component	Total Labor-Years Available (FY 2014)	Estimated Number of Nondeployable Labor-Years				
		0.1% ^a (CA study)	0.16% ^b (combined, population-weighted CA + MA studies)	0.19% ^c (gender-adjusted rate)	0.37% ^d (twice gender-adjusted rate)	0.5% ^e (MA study)
Active	1,199,096	8.2	13.7	16.2	32.3	42.8
Selected Reserve	615,446	5.9	9.9	10.7	21.3	29.9

SOURCES: Estimates for nondeployable labor-years are based on RAND calculations using FY 2014 data from DoD, 2014.

^a Based on estimates of prevalence from a California study (Conron, 2012).

^b Based on weighted average of studies from California and Massachusetts, weighted by relative population sizes in each state.

^c Based on weighted average of studies from California and Massachusetts, weighted by relative population sizes in each state and applied specifically to the male/female distribution in the military components.

^d Based on estimates of prevalence from NTDS, Gates (2011), and the American Community Survey (Gates and Herman, 2014) and applied specifically to the male/female distribution in the military.

^e Based on estimates of prevalence from a Massachusetts study (Gates, 2011).

ment impact itself. This difference comes from three key assumptions that we make to calculate these estimates: (1) service members who are seeking treatment will also be deployed; (2) service members who are seeking treatment cannot time those treatments to avoid affecting their deployment eligibility; and (3) service members seek only one treatment at a time rather than having multiple treatments at the same time, which would allow concurrent (rather than sequential) recovery times. Thus, it is likely that a service member's care would have a substantial overall impact on readiness only if that service member worked in an especially unique military occupation, if that occupation was in demand at the time of transition, and if the service member needed to be available for frequent, unpredicted mobilizations.

Post-Transition

Having completed medical transition, a service member could resume activity in an operational unit if otherwise qualified. As in other cases in which a service member receives a significant medical treatment, DoD should review and ensure that any longer-term medical care or other accommodations relevant to the transgender service member's specific medical needs are addressed.

Impact on Unit Cohesion

A key concern in allowing transgender personnel to serve openly is how this may affect unit cohesion—a critical input for unit readiness. The underlying assumption is that if service members discover that a member of their unit is transgender, this could inhibit bonding within the unit, which, in turn, would reduce operational readiness. Similar concerns were raised in debates over whether to allow gay and lesbian personnel to serve openly (Rostker et al., 1993; RAND National Defense Research Institute, 2010), as well as whether to allow women to serve in ground combat positions (Schaefer et al., 2015; Szayna et al., 2015). Evidence from foreign militaries and surveys of the attitudes of service members have indicated that this was not the case for women or for lesbian and gay personnel (Schaefer et al., 2015; Harrell et al., 2007; RAND National Defense Research Institute, 2010). In examining the experiences of foreign militaries, the limited publicly available data we found indicated that there has been no significant effect of openly serving transgender service members on cohesion, operational effectiveness, or readiness. (For a more in-depth discussion of this topic, see Chapter Seven.) However, we do not have direct survey evidence or other data to directly assess the impact on the U.S. military.

Evidence from the General U.S. Population

According to recent research on the U.S. general population, attitudes toward transgender individuals are significantly more negative than attitudes toward other sexual minorities (Norton and Herek, 2013). However, heterosexual adults' positive attitudes toward and acceptance of transgender individuals are strongly correlated with their attitudes and acceptance of gay, lesbian, and bisexual individuals (Flores, 2015). As such, similar to changes seen in public attitudes toward homosexuality, tolerance and acceptance toward the transgender population could change over time. Additionally, evidence does indicate that direct interactions with transgender individuals significantly reduce negative perceptions and increase acceptance (Flores, 2015), which would suggest that those who have previously interacted with transgender individuals would be more likely to be tolerant and accepting of them in the future. Similar findings have arisen from surveys and focus groups with service members regarding attitudes toward the integration of women into direct combat positions (Szayna et al., 2015) and attitudes toward allowing gay and lesbian service members to serve openly in the U.S. military (RAND National Defense Research Institute, 2010).⁷

⁷ A recent article examined the attitudes of military academy, Reserve Officers' Training Corps, and civilian undergraduates in the United States toward transgender people in general, in the workplace, and in the military (see Ender, Rohall, and Matthews, 2016).

Evidence from Foreign Militaries

While there are limited data on the effects of transgender personnel serving openly in foreign militaries, the available research revealed no significant effect on cohesion, operational effectiveness, or readiness. In the case of Australia, there is no evidence and there have been no reports of any effect on cohesion, operational effectiveness, or readiness (Frank, 2010). In the case of Israel, there has also been no reported effect on cohesion or readiness (Speckhard and Paz, 2014). Transgender personnel in these militaries have reported feeling supported and accommodated throughout their gender transition, and there is no evidence of any impact on operational effectiveness (Speckhard and Paz, 2014). In fact, commanders have reported that transgender personnel perform their military duties and contribute effectively to their units (Speckhard and Paz, 2014). Interviews with commanders in the United Kingdom also found no effect on operational effectiveness or readiness (Frank, 2010). Some commanders reported that increases in diversity had led to increases in readiness and performance. Interviews with these same commanders also found no effect on cohesion, though there were some reports of resistance to the policy change within the general military population, which led to a less-than-welcoming environment for transgender personnel. However, this resistance was apparently short-lived (Frank, 2010).

The most extensive research on the potential effects of openly serving transgender personnel on readiness and cohesion has been conducted in Canada. This research involved an extensive review of internal defense reports and memos, an analysis of existing literature, and interviews with military commanders. It found no evidence of any effect on operational effectiveness or readiness. In fact, the researchers heard from commanders that the increased diversity improved readiness by giving units the tools to address a wider variety of situations and challenges (Okros and Scott, 2015). They also found no evidence of any effect on unit or overall cohesion. However, there have been reports of bullying and hostility toward transgender personnel, and some sources have described the environment as somewhat hostile for transgender personnel (Okros and Scott, 2015).

To summarize, our review of the limited available research found no evidence from Australia, Canada, Israel, or the United Kingdom that allowing transgender personnel to serve openly has had any negative effect on operational effectiveness, cohesion, or readiness. However, it is worth noting that the four militaries considered here have had fairly low numbers of openly serving transgender personnel, and this may be a factor in the limited effect on operational readiness and cohesion.

Costs of Separation Requirements Related to Transgender Service Members

We considered the costs and benefits of providing appropriate care to transgender service members, the requirements for those who would serve openly if the current policy changed, and the costs of continuing the current administrative separation process. We analyzed the costs of separation under several assumptions: (1) some transgender personnel are currently serving but are not able to reveal their transgender status, (2) some individuals who would be desirable recruits could be excluded for reasons only related to their gender identity, and (3) some individuals who are transgender are or have been separated for reasons only related to their gender identity, which imposes separation costs.

Separation and a continued ban on open service (i.e., manpower losses) are the alternatives to meeting the medical needs of transgender individuals. As detailed in Chapter Two, the continued ban on open service may result in worsening mental health status, declining productivity, and other negative outcomes due to lack of treatment for gender identity–related issues. In addition, if DoD actively pursues separation, the process can be tedious, especially now that it requires the approval of the Under Secretary of Defense for Personnel and Readiness. Under current DoD regulations, transgender personnel can be declared administratively unfit for service if their gender identity affects their ability to meet operational or duty requirements. A June 2015 revision to DoD policy requires that a discharge justification be based on inability to meet duty requirements. However, any “administratively unfit” finding prohibits the individual from being medically evaluated for continued service.⁸ Absent this process, transgender service members do not have recourse to allow mental health experts or medical professionals to review their case concurrently. This can result in unnecessary and inconsistent approaches to discharging transgender service members. As was the case in enforcing the policy on homosexual conduct, this can involve costly administrative processes and result in the discharge of personnel with valuable skills who are otherwise qualified (U.S. Government Accountability Office, 2011).

Moreover, the total cost in lost days available for deployment is negligible and significantly smaller than the lack of availability due to medical conditions. For example, in 2015 in the Army alone, there were 102,500 nondeployable soldiers, 50,000 of whom were in the AC (Tan, 2015). This accounted for about 14 percent of the AC—personnel who were ineligible to deploy for legal, medical, or administrative reasons.

⁸ These boards provide an established process and mechanism for evaluating whether a service member with an ailment or diagnosis, such as a mental health diagnosis, could continue military service. The services use the Medical Evaluation Board and Physical Evaluation Board systems to determine whether personnel “with an ailment or diagnosis, such as a mental health diagnosis, can continue . . . military service,” based on a thorough review of fitness to serve (DoDI 1332.38, 1996).

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Of those, 37,000 could not deploy due to medical conditions.⁹ Excluding those who were severely injured and required longer-term care, there were 28,490 service members who had either category 1 (up to 30 days) or category 2 (more than 30 days) restrictions. Assuming those in category 1 cannot deploy for 30 days and those in category 2 cannot deploy for 90 days, we estimate there are currently 5,300 nondeployable labor-years in the Army alone. Thus, we anticipate a minimal impact on readiness from allowing transgender personnel to serve openly.

⁹ Rates of injury and nondeployability time as reported in Cox (2015).

CHAPTER SEVEN

What Lessons Can Be Learned from Foreign Militaries That Permit Transgender Personnel to Serve Openly?

As the U.S. military considers changes to its transgender personnel policy, revisions to several other policies may be necessary. Policies in need of change would cover a range of personnel, medical, and operational issues affecting individuals and units, including some policies that currently vary by gender. Examples of the latter would include housing assignments, restrooms, uniforms, and physical standards. While these are new questions for the U.S. military, there are other countries that already allow transgender personnel to serve openly in their militaries and have already addressed these policy issues.

We reviewed policies in foreign militaries that allow transgender service members to serve openly. Our primary source for the observations presented in this report was an extensive document review that included primarily publicly available policy documents, research articles, and news sources that discussed policies on transgender personnel in these countries. The information about the policies of foreign militaries came directly from the policies of these countries as well as from research articles describing the policies and their implementation. Our findings on the effects of policy changes on readiness draw largely from research articles that have specifically examined this question using interviews and analyses of studies completed by the militaries themselves. Finally, our insights on best practices and lessons learned emerged both directly from research articles describing the evolution of policy and the experiences of foreign militaries and indirectly from commonalities in the policies and experiences across our four case studies. Recommendations provided in this report are based on these best practices and lessons learned, as well as a consideration of unique characteristics of the U.S. military.

This review and analysis of the policies in foreign militaries can serve as a reference for U.S. decisionmakers as they consider possible policy revisions to support the integration of openly transgender personnel into the U.S. military. We include information on how, when, and why each country changed its policy. We also detail the policies of each country, covering such issues as the medical and administrative

requirements before gender transition can begin, housing assignments, uniform wear, and physical fitness standards.

Policies on Transgender Personnel in Foreign Militaries

According to a report by the Hague Center for Security Studies, there are 18 countries that allow transgender personnel to serve openly in their militaries: Australia, Austria, Belgium, Bolivia, Canada, Czech Republic, Denmark, Estonia, Finland, France, Germany, Israel, Netherlands, New Zealand, Norway, Spain, Sweden, and the United Kingdom (Polchar et al., 2014). This chapter describes the policies of the four countries—Australia, Canada, Israel, and the United Kingdom—with the most well-developed and publicly available policies on transgender military personnel. It focuses explicitly on policies that describe how these foreign militaries treat transgender personnel and how they address this population's gender transition needs. While the focus of the chapter is on the specific policies integrating openly transgender military personnel in these four foreign militaries, we also provide some information about what happened after the policy change, including bullying and harassment, and summarize best practices and challenges that emerged from our four case studies.¹

The formal policies on transgender personnel in the four countries address a number of aspects of the gender transition process.² Generally, these policies do not explicitly address such issues as the recruitment or retention of transgender personnel, though we provide information on the qualification of transgender personnel to serve when it is available. They do generally address such issues as the requirements for transitioning, housing assignments, restroom use, uniforms, identity cards, and physical standards. They also address whether the transitioning personnel remain with their old units or shift to new ones and how other members of a unit should be informed. Finally, the policies address access to medical care and what is or is not covered by the military health care system.

In addition to addressing these crucial issues, foreign military policies on transgender personnel typically lay out a gender transition plan, which describes the timeline or steps in the transition process. However, it is worth noting that each individual's

¹ We looked for information on the policies of the other 14 countries but were unable to find any publicly available documents in English.

² We note a few interesting points about other countries that we investigated but for which we were unable to find sufficient publicly available information to construct a complete case. The Netherlands was the first country to allow transgender personnel to serve openly in its military, opening its ranks in 1974. New Zealand opened its military to transgender personnel in 1993; although we could not find a written policy, a 2014 report by Hague Center for Strategic Studies referred to New Zealand's as the most friendly military to transgender personnel. The New Zealand Defence Force also has an advocacy group, OverWatch, that provides support to lesbian, gay, bisexual, and transgender personnel (see Polchar et al., 2014).

gender transition is unique. While some choose to undergo hormone therapy or gender reassignment surgery, this is not required for gender transition. As a result, the timelines outlined in the policies are intended to be examples only.

Australia

In 2010, the Australian Defence Force revoked the defense instruction that prohibited transgender individuals from serving openly, stating that excluding transgender personnel from service was discrimination that could no longer be tolerated (Ross, 2014). The Australian Department of Defence, with the advocacy group Defence Lesbian, Gay, Bisexual, Transgender, and Intersex Information Service, has produced guides to support commanders, transitioning service members, and the units in which transitioning members are serving (Royal Australian Air Force, 2015). The guide outlines five stages in the gender transition process: diagnosis, commencement of treatment, disclosure to commanders and colleagues, the post-transition experience, and, if applicable, gender reassignment surgery (Royal Australian Air Force, 2015). There is no public information on the number of transgender personnel in the Australian military or the costs associated with covering gender transition-related medical care.

A service member's gender transition begins after receiving a medical diagnosis of gender incongruence from a doctor approved by the Australian Defence Force. According to Australian Defence Force policy, once service members receive this diagnosis and present a medical certification form to their commanders, they can begin the "social transition," which policy defines as the time when an individual begins living publicly as the target gender. Under the current policy, after this point, the service member's administrative record is updated to indicate the target gender for the purposes of uniforms, housing, name, identification cards, showers, and restrooms (Royal Australian Air Force, 2015). This means that, after this point, the service member is assigned to housing of the target gender, may use the restrooms of the target gender, has an identification card with the target gender and new name, and can wear the uniform of the target gender.

During the social transition, the service member may undergo hormone therapy. However, neither hormone therapy nor gender reassignment surgery is required for the administrative changes to occur. Importantly, this shift in gender for military administrative purposes may not always match the legal transition (with respect to the Australian government) to the target gender (Royal Australian Air Force, 2015). Finally, when transgender service members choose to transition, they may choose whether to stay with their current unit or transfer to a different one. They may also choose how colleagues are informed of the gender transition—that is, whether they wish to tell colleagues themselves or have a senior leader do so.

Australia's policy also addresses matters related to physical standards and medical readiness. During the transition period, a service member may be downgraded in terms of physical readiness or declared unable to deploy for some time. However, this

determination is decided on a person-by-person basis and is only temporary. According to the guide provided to service members and commanders, most individuals are placed on “MEC [Medical Employment Classification] 3—Rehabilitation” status during their medical transition or if they require four consecutive weeks of sick leave. Others may be able to remain “MEC 2—Employable and Deployable with Restrictions” for the majority of the gender transition period. In most cases, this determination is made by a certification board, though commanders are also given discretion to downgrade transitioning service members or declare them unfit to deploy, contingent on a stated inability to accommodate the service member’s needs or a determination that the transitioning service member’s presence would undermine the unit’s performance. However, there is no public information available on the types of justifications a commander might give in making such a determination.

The deployment status of each individual will vary during the gender transition based on the transition path chosen (for example, whether hormone therapy or surgery is undertaken). Some of these treatments are covered by military health care. In Australia, medical treatments associated with gender transition, including both hormone therapy and gender reassignment surgery, are covered, but treatments considered “cosmetic” might not be (Royal Australian Air Force, 2015). However, it is not clear what is classified as cosmetic or what might be considered medically necessary. Importantly, gender transition–related medical procedures are provided only at certain facilities, so service members who wish to receive these treatments may need to make special requests for specific assignments where their needs can be met. In general, personnel are permitted to take sick leave to facilitate their medical transition (Royal Australian Air Force, 2015).

Transitioning service members’ deployment status will also depend on their ability to meet physical fitness standards. During the transition period, a service member may be considered medically exempt from meeting physical fitness standards, with a coinciding readiness classification of nondeployable. Once deemed medically able to complete the test by a medical professional, the service member may be asked to meet the standards of the target gender. However, which gender standards the individual is required to meet and when is determined by the medical officer overseeing the gender transition (Royal Australian Air Force, 2015). Thus, the point at which each transitioning service member is required to meet the target-gender standards varies.

Canada

In Canada, a 1992 lawsuit from a member of the armed forces resulted in the repeal of a regulation banning gay, lesbian, and transgender individuals from serving openly in the military (Okros and Scott, 2015). In 1998, the Canadian military explicitly recognized gender identity disorder and agreed to cover gender reassignment surgery. In 2010, Canadian military policy was revised to clarify transgender personnel issues, such as name changes, uniforms, fitness standards, identity cards, and records (Okros

and Scott, 2015). An updated policy, Military Personnel Instruction 01/11, "Management of Transsexual Members," was released in 2012 (Canadian Armed Forces, 2012). It stated, "The CF [Canadian Forces] shall accommodate the needs of CF transsexual members except where the accommodation would: constitute undue hardship; or cause the CF member to not meet, or to not be capable of meeting. . . . Minimum Operational Standards Relating to Universality of Service" (Canadian Armed Forces, 2012, p. 5). Other considerations that can be used to determine whether an accommodation is reasonable include cost and the safety of other service members and the public (Canadian Armed Forces, 2012, p. 5). Data suggest that there are approximately 265 transgender personnel serving openly and that the Canadian military pays for about one gender reassignment surgery per year (Okros and Scott, 2015).

Canada's policy on transgender personnel covers such issues as housing, identification cards, restrooms, physical standards, deployment, medical treatment, and uniforms. The process is similar in most ways to that in Australia, described earlier. In Canada, one of the first steps in the gender transition process is a medical assessment in which the individual is given a diagnosis of gender incongruence and assigned a temporary medical category that defines both employment limitations and accommodations that will be needed to support the service member during gender transition. After receiving this diagnosis, service members are responsible for informing their commanders and are asked to give commanders as much notice as possible before beginning their gender transition. After that, the service member, the service member's manager, and the unit's commanding officer are expected to meet to discuss the service member's gender transition plan and to address any necessary accommodations. The policy recommends frequent meetings between the service member and relevant leaders and medical professionals to ensure that the transitioning service member's needs are met. The policy also identifies subject-matter experts, such as chaplains and mental health professionals, who might be available to provide advice (Canadian Armed Forces, 2012).

The policy states that the gender transition plan should address housing, uniforms, deployments, and other administrative considerations. While the timeline will vary for each individual, in most cases, after receiving the diagnosis and informing the commander, the service member is able to begin living openly as the target gender. At this point, the service member is assigned to housing of the target gender, given ID cards with the target gender and new name, given uniforms of the target gender, and permitted to use restrooms of the target gender. However, while the individual is considered a member of the target gender for all administrative purposes within the military at this point, an official name and gender change in the military personnel system requires both medical certificates and legal documentation (Canadian Armed Forces,

2012).³ Finally, medals and awards earned by the service member prior to transitioning cannot be transferred to the new name when the service member transitions to the target gender (Okros and Scott, 2015).

While the policy expects accommodations to be made to meet the needs of transgender personnel, it also notes that commanders must strike a balance between meeting the needs and legal rights of transgender personnel and the privacy needs of other service members in restrooms, showers, and housing. It does not, however, provide guidance on how this should be accomplished (Canadian Armed Forces, 2012). The policy also makes clear that incidents of harassment must be dealt with according to the Canadian military's discrimination and harassment policy. Finally, if the transgender service member is assigned to a new unit permanently or temporarily, any required accommodations are to be communicated to the new commanding officer prior to the service member's arrival (Canadian Armed Forces, 2012).

The medical assessment and gender transition plan developed at the start of transition are also used to determine a service member's readiness status and deployability. The policy states that service members can be downgraded temporarily in terms of their readiness, ability to deploy, and eligibility for remote assignments until gender transition is complete (Canadian Armed Forces, 2012). This determination is made primarily by the medical professionals overseeing the service member's gender transition. After the gender transition is complete, the continued need for a reduced medical standard is decided on a case-by-case basis based on the service member's overall health, chronic conditions, and need for access to medical care. After beginning the gender transition, and based on the medical assessment, the service member is considered medically exempt from physical fitness testing and requirements until legally assuming the acquired or target gender (which, as noted earlier, requires provincial recognition). At that point, the fitness standards for the acquired or target gender apply. More specifically, once personnel are removed from the medical exemption list, they have 90 days to meet the new standards (Canadian Armed Forces, 2012).

A reduced medical readiness determination during gender transition is intended primarily to ensure that the service member has uninterrupted access to medical care. Once gender transition is complete, transgender service members and their commanders are responsible for identifying the service member's specific needs and how they will be addressed (Canadian Armed Forces, 2012). Gender reassignment surgery will not, however, automatically result in permanent deployment restrictions. As in Australia, gender reassignment surgery and hormone therapy are covered by military health care. The Canadian military paid for one gender reassignment surgery in 1998 and has paid for one or two surgeries per year since then (Canadian Armed Forces, 2012).

³ Also note that the requirements for the legal change vary by province but typically involve only a statement that the individual has assumed the target gender and a medical certification from a doctor of a diagnosis of gender incongruence.

Israel

The Israel Defense Forces (IDF) have allowed transgender personnel to serve openly since 1998 (Speckhard and Paz, 2014).⁴ The IDF experience with transgender personnel is somewhat unique because Israel's military is composed largely of conscripts who serve two or three years and then serve in the reserves with extended periods of active service. As a result, a very high percentage of the population spends extended periods of time mixing military and civilian life. From the perspective of this report, this blending of civilian and military life creates unique challenges for transgender personnel, as they cannot be one person in their civilian life and then a different person in their military life. Some transgender individuals receive a discharge or exemption from their military service based on their gender incongruence, but this decision is currently at the discretion of the commander. There is no official IDF policy on transgender personnel, but according to one report, senior members of the IDF are working to draft one (Speckhard and Paz, 2014). In 2014, the IDF announced that it would support transgender individuals throughout the transition process. Under this new policy, transgender teens who have not yet begun to transition to another gender will be enlisted according to their birth sex, but after enlistment, they will be given support and assistance with the gender transition process (Zitun, 2014). As a result, Speckhard and Paz (2014) noted, experiences vary for transgender personnel in the IDF. Some individuals report that once they ask to transition, they are allowed to dress and serve as their target gender. However, it is unclear how generalizable this is.

Typically, IDF administrative records use the gender at that time of enlistment. Since conscription occurs at age 18, and because hormone treatment for gender incongruence cannot legally begin until age 18, the administrative records of most personnel show their birth gender. Under a newly announced policy, personnel enlisted using their birth gender who identify as transgender can immediately receive support and treatment to begin the gender transition (Zitun, 2014). Importantly, however, as of 2014, the military identification card carries the birth gender until a service member undergoes gender reassignment surgery, even if the service member is living publicly as the target gender (Speckhard and Paz, 2014). It should be noted that, in Israel, only one hospital can perform gender reassignment surgery, and this surgery cannot be performed until age 21, though some people go abroad for it (Speckhard and Paz, 2014). This creates some complications for housing and other matters, discussed in more detail later. The new policy will also allow transgender recruits to receive support for gender transition after enlistment.

Available evidence suggests that, in the IDF, assignment of housing, restrooms, and showers is typically linked to the birth gender, which does not change in the military system until after gender reassignment surgery. Service members who are undergo-

⁴ We do not know the exact date for this change because there was never a formal policy allowing or prohibiting transgender personnel from serving. It was in 1998 that the first openly transgender individual served in the IDF.

ing gender transition are accommodated, however, through the use of ad hoc solutions, including giving transitioning personnel their own showers, housing, or restrooms (Speckhard and Paz, 2014). Once transitioning personnel have completed gender reassignment surgery, they can be assigned to the housing, restrooms, and showers of their acquired gender. It is also worth noting that the majority of noncombat personnel are able to live at home, off base. As a result, the housing issue does not affect a large number of transitioning personnel (Speckhard and Paz, 2014). The issue of uniforms is usually easier to address, and service members are able to wear the uniform of the target gender once they begin their gender transition.

In addition to addressing housing and other administrative matters for conscripts and career soldiers, the IDF must address transitioning reservists. The limited information available suggests that the approach to addressing the needs of this group also varies from person to person. Usually, if reserve members are in the process of transitioning or have transitioned when called to active duty, they are permitted to return to service as their target or acquired gender (following the same administrative policies described earlier). For example, a service member who served in an all-male combat unit and is transitioning to female may be moved to another position. Again, many reservists serve their duty while living at home, so housing is not usually an issue. Restroom and shower assignments are addressed on an ad hoc basis (Speckhard and Paz, 2014). Finally, some personnel who have transitioned or are in the process of transitioning are exempted from their reserve duty. However, this is becoming less common as the IDF strives to accommodate the needs of these personnel rather than exempting them from service (Speckhard and Paz, 2014).

The IDF does not have a formal policy on physical standards for transgender individuals serving their conscription duty, reserve duty, or as professional soldiers. Available information suggests only that transgender personnel can serve in any unit or occupation for which they meet the requirements, with the exception of a few male-only combat units and certain security-related positions (Speckhard and Paz, 2014). Personnel transitioning from female to male are able to serve in male-only combat units only if they can meet the requirements set for other men. Personnel transitioning from male to female cannot serve in male-only combat units once they begin hormone treatment (Speckhard and Paz, 2014).

There do appear to be some limitations on the assignment of transgender personnel, particularly in combat units. Because of austere living conditions in these types of units, necessary accommodations may not be available for service members in the midst of a gender transition. As a result, transitioning individuals are typically not assigned to combat units (Speckhard and Paz, 2014). Transgender personnel are also limited from assignment to certain security-related positions due to concerns about blackmail, based on the assumption that these service members might be open about their gender identity in the military but might not have told others, including family members. Keeping

these types of secrets might make an individual susceptible to blackmail or extortion (Speckhard and Paz, 2014).

In the IDF, medical issues and matters related to the readiness of transgender personnel are addressed on a case-by-case basis, though a more formal policy is being developed. For conscripts, the only treatment that can be provided by the military is hormone therapy because gender reassignment surgery is possible in Israel only after age 21, by which point the conscription duty is usually completed (Speckhard and Paz, 2014). Those who choose to stay in the military full-time after the age of 21, as well as those in the reserve called to back to active service, may receive both hormone therapy and gender reassignment surgery. Those who choose to undergo surgery are permitted to take a period of sick leave for the surgery and recovery, as they can for any other medical treatment or surgery (Speckhard and Paz, 2014). Israel has nationalized health care that typically covers all treatments associated with gender transition, ranging from psychiatric care to pre- and postoperative care, hormone treatment, breast augmentation, and facial feminization. Apart from the approaches used to address physical standards for transitioning individuals (discussed earlier), there are no specific policies governing the readiness classification of transitioning IDF personnel, though some are in development (Zitun, 2014).

United Kingdom

The United Kingdom lifted the ban on transgender personnel in 2000 following a European Court of Human Rights ruling that the country's policy violated the right to privacy under the European Convention on Human Rights (Frank, 2010). The policy change was implemented with guidance to commanders, as well as a code of social conduct that allowed commanders to address inappropriate behavior toward transgender personnel by appealing to broader principles of tolerance and diversity and to guard operational effectiveness (Yerke and Mitchell, 2013). In 2009, the British Armed Forces released the "Policy for Recruitment and Management of Transsexual Personnel in the Armed Forces" to offer clearer guidance to commanders on how gender transition-related issues should be addressed (Yerke and Mitchell, 2013). While transgender personnel are able to serve openly, under the current policy, they can be excluded from sports that organize around gender to ensure the safety of the individual or other participants. The British Army also provides its official policy on transgender personnel on its website:

The Army welcomes transgender personnel and ensures that all who apply to join are considered for service subject to meeting the same mental and physical entry standard as any other candidate. If you have completed transition you will be treated as an individual of your acquired gender. Transgender soldiers serve throughout the Army playing their part in the country's security. There is a formal network that operates in the Army to ensure that transgender soldiers can find advice and support with issues that affect their daily lives. (British Army, undated)

However, the military encourages those who have not yet started their gender transition to complete their transition before joining (UK Ministry of Defence, 2009).

The 2009 UK policy is similar to those in Canada and Australia in terms of the areas covered and approaches to addressing key issues, though the UK policy provides some additional room for individual differences. The policy also includes an extensive discussion of the legal and privacy protections afforded to transgender personnel. These protections are important because they also apply to administrative and medical records in the military system.

The UK policy defines five stages of gender transition: diagnosis, social transition (the individual begins living openly as the target gender), medical treatment/hormone therapy, surgical reassignment, and postoperative transition. However, it also recognizes that the process of gender transition may be different for each person. The policy suggests that each individual work with commanders and service authorities to develop a plan that includes a timeline for transition. The gender transition plan agreed to by the service member and commanders should specify the timing of changes, such as to housing assignments and uniforms. The specific point at which a service member transitions for the purposes of name, uniform, housing, restrooms, and ID cards may vary from person to person. Typically, when service members begin living publicly as the target gender (the social transition) they are reassigned to housing of the target gender, use the restrooms and uniforms of the target gender, and are given an ID card indicating that they are a member of the target gender. Importantly, this shift in gender for administrative purposes does not have to correspond to the point at which an individual transitions gender within the UK legal system, a process that involves a diagnosis of gender incongruence and two years of living as the acquired gender (UK Ministry of Defence, 2009). The policy also notes that it is unlawful to force transgender personnel to use separate toilet or shower facilities or occupy separate housing accommodations from the rest of the force.

The gender transition plan addresses other logistics of the transition. For example, it should specify scheduled time off required for medical procedures, including gender reassignment surgery. In general, medical treatment associated with gender transition is treated like any other medical issue experienced by a service member. However, while hormone replacement therapy is covered by military health care, gender reassignment surgery is not (UK Ministry of Defence, 2009). The policy notes that the timeline and timing of the transition must take into consideration the needs of the service. As a result, at least four weeks notice is typically needed prior to the start of a service member's gender transition. The gender transition plan should also specify whether service members wish to transition in their current post or transfer to a new position and whether they want to tell their colleagues about the gender transition themselves or would like someone else to do this. This decision may depend on the size of the unit. In a small unit, it may be easy to inform fellow service members personally. In a larger organization, it may not be necessary to tell every individual. Commanders of units

with transgender personnel are encouraged to consult members of the Service Equality and Diversity staff about how to approach education and management in matters associated with transgender service members.

The UK policy also addresses medical readiness and physical standards. Transgender personnel are evaluated for medical readiness and deployability on a case-by-case basis following a medical evaluation. During the transition period, specifically during hormone treatment and immediately before and after surgery, service members may receive a reduced Medical Employment Standard, which restricts deployability and sea service (UK Ministry of Defence, 2009). Transitioning service members who continue to meet physical standards throughout this period and are able to perform their jobs may retain normal readiness standards. Usually, those who do not undergo hormone therapy or gender reassignment surgery are able to maintain a fully deployable status throughout their gender transition (UK Ministry of Defence, 2009). Service members who are undergoing hormone therapy are able to deploy, as long as the hormone dose is steady and there are no major side effects. However, deployment to all areas may not be possible, depending on the needs associated with any medication (e.g., refrigeration). Some service members may also be required to have a psychiatric evaluation, but only if they show signs of mental health distress (UK Ministry of Defence, 2009). Individuals who have finished their gender transition and can meet the requirements of their legal gender are considered fully deployable. However, those who remain in a state of reduced readiness for an extended period may have to be discharged (UK Ministry of Defence, 2009). Importantly, the British military encourages individuals who are in the midst of their gender transition and are considering joining the military to wait until the gender transition is complete before joining, as the military may not always be able to provide the support the individual needs during gender transition.

The specific physical standards a transitioning individual must meet during and after the gender transition period are determined on a case-by-case basis. The policy allows that there may be a period of time—especially for individuals transitioning from female to male—during which a service member is not yet able to meet the standards of the target gender. In these cases, medical staff and commanders may assess the individual and determine the appropriate interim standards (UK Ministry of Defence, 2009). Once the gender transition is considered “complete,” personnel are required to meet the standards of the target gender (UK Ministry of Defence, 2009). However, the policy recognizes that the point at which the gender transition is complete may vary: It may be complete after hormone therapy or after surgery, or simply after the individual begins living as the target gender. Therefore, the policy continues to allow for some flexibility in physical standards, even for members at the end of their gender transition process (UK Ministry of Defence, 2009). Modified standards may be set by medical staff and commanders, if necessary. Continued failure to meet whatever physical stan-

dards are determined to be appropriate (modified or otherwise) can lead to administrative discharge (UK Ministry of Defence, 2009).

The policy also addresses positions that are “gender-restricted” or have unique standards. The United Kingdom still has a number of combat occupations closed to women. Personnel who are transitioning from male to female may not serve in male-only occupations as long as this policy remains in place. Those transitioning from female to male may hold these jobs, assuming that they are able to meet the physical standards (UK Ministry of Defence, 2009). Transgender personnel may hold positions that have unique standards related to the occupation, as long as they can meet the physical and other requirements for the specific position. Finally, according to the policy, service members may request that their medals be transferred to a new name by submitting the request in writing. They are allowed to continue wearing qualifications earned while serving as their birth gender. However, this may indicate their transgender status to others (UK Ministry of Defence, 2009).

Effects on Cohesion and Readiness

As indicated in Chapter Six, while there is limited research on the effects of transgender personnel serving openly in foreign militaries, the available evidence indicated no significant effect on cohesion, operational effectiveness, or readiness. In the Australian case, there is no evidence and there have been no reports of any effect on cohesion, operational effectiveness, or readiness (Frank, 2010). In the Israeli case, there has also been no reported effect on cohesion or readiness (Speckhard and Paz, 2014). Transgender personnel in these militaries report feeling supported and accommodated throughout their gender transition, and there has been no evidence of any effect on operational effectiveness (Speckhard and Paz, 2014). As noted earlier, commanders report that transgender personnel perform their military duties and contribute to their units effectively (Speckhard and Paz, 2014). Interviews with commanders in the United Kingdom also found no effect on operational effectiveness or readiness (Frank, 2010). Some commanders reported that increases in diversity had led to increases in readiness and performance. Interviews with these same commanders also found no effect on cohesion, though there were some reports of resistance to the policy change within the general military population, which led to a less-than-welcoming environment for transgender personnel. However, this resistance was apparently short-lived (Frank, 2010).

The most extensive research on the potential effects of openly serving transgender personnel on readiness and cohesion has been conducted in Canada. This research involved an extensive review of internal defense reports and memos, an analysis of existing literature, and interviews with military commanders. It found no evidence of any effect on operational effectiveness or readiness. In fact, the researchers

heard from commanders that the increased diversity improved readiness by giving units the tools to address a wider variety of situations and challenges (Okros and Scott, 2015). They also found no evidence of any effect on unit or overall cohesion. However, there have been reports of bullying and hostility toward transgender personnel, and some sources have described the environment as somewhat hostile for transgender personnel (Okros and Scott, 2015).

To summarize, our review of the limited available research found no evidence from Australia, Canada, Israel, or the United Kingdom that allowing transgender personnel to serve openly has had any negative effect on operational effectiveness, cohesion, or readiness. However, it is worth noting that the four militaries considered here have had fairly low numbers of openly serving transgender personnel, and this may be a factor in the limited effect on operational readiness and cohesion.

Best Practices from Foreign Militaries

Several best practices and lessons learned emerged both directly from research articles describing the evolution of policy and the experiences of foreign militaries and indirectly from commonalities in the policies and experiences across our four case studies. The best practices that extended across all cases include the following:

The Importance of Leadership

Sources from each of our case-study countries stressed that leadership support was important to executing the policy change. Leaders provided the impetus to draft and implement new policies and were integral to communicating a message of inclusion to the entire force. Supportive leaders were also important in holding accountable those personnel who participated in discrimination (Okros and Scott, 2015; Speckhard and Paz, 2014). Each of the cases underscores the importance of having strong leadership support to back and enforce the policy change, along with clearly written policies that are linked to national policy wherever possible (Frank, 2010). The militaries found that presenting a “business case” for diversity and emphasizing the advantages of an inclusive military, including better retention and recruiting, can help reduce resistance to a policy change (Frank, 2010).

Awareness Through Broad Diversity Training

The most effective way to educate the force on matters related to transgender personnel is to integrate training on these matters into the diversity and harassment training already given to the entire force. This training addresses all forms of harassment and bullying, including that based on religion, race, and ethnicity (Frank, 2010; Okros and Scott, 2015; Belkin and McNichol, 2000–2001).

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In the four cases we reviewed in-depth, we found that targeting only commanders with training and information on what it means to be transgender is not as effective in fostering an inclusive and supportive environment as training that targets the entire force and is integrated into broader forcewide diversity training. The foreign militaries that we examined train not only units with transitioning individuals but also the entire force by including gender identity alongside sexual orientation, religion, ethnicity, and other markers of difference in diversity training and education. However, efforts must be made simultaneously to protect the privacy of transitioning service members. In some cases, telling a unit that a transgender member is arriving before that individual arrives can be counterproductive (Frank, 2010).

The Importance of an Inclusive Environment

An all-inclusive military environment—not just as it pertains to transgender personnel, sexual orientation, or gender identity, but a culture that embraces diversity—can support the integration of openly serving transgender personnel. In this context, gender identity is just one marker of diversity.⁵

Ensuring Availability of Subject-Matter Experts to Advise Commanders

Most of the four countries we examined in-depth also make subject-matter experts (e.g., chaplains, psychiatrists) and gender advisers (individuals who have special training in gender awareness and gender mainstreaming in the military context) available to commanders tasked with the integration of transgender personnel. Gender advisers were originally intended to deal primarily with issues associated with integrating women into male-dominated military environments, but they could also help with other gender-related matters, including transgender personnel policy. They serve directly within military units and are a readily available resource to commanders. Adopting a similar practice of integrating advisers with expertise in the area of transgender personnel policy and gender transition-related matters might also support the integration of transgender service members in the U.S. military.

Lessons Learned and Issues to Consider for U.S. Military Policy

Based on these best practices and the broader experiences of four foreign militaries, there are some key lessons to be learned and possible issues to consider when crafting U.S. military transgender personnel policy. First, in each of the four foreign militaries, there were some reports of resistance, bullying, and harassment of transgender personnel who made their gender transition public. This harassment ranged from exclusion to more aggressive behavior. In most cases, this behavior was relatively limited; however,

⁵ Remarks by a Canadian subject-matter expert in a phone discussion with RAND researchers, November 2015.

in some cases, it did contribute to a hostile work environment for transgender personnel and had the effect of discouraging these personnel from being open about their gender transition or gender identity (Okros and Scott, 2015; Frank, 2010). Although the foreign militaries we examined tended to adopt a policy of no tolerance for this type of harassment, some bullying behavior may have gone unreported (Okros and Scott, 2015; Frank, 2010). In the case of Canada, the issue of restrooms for transgender personnel is an ongoing topic of discussion, and restrooms have been a common site of harassment and discrimination (Okros and Scott, 2015).

A second lesson learned is related to problems caused by the lack of an explicit, clearly written policy. For instance, in the IDF, without a clear policy, some transitioning individuals are placed in difficult and uncomfortable situations. For example, in some cases, personnel who have been permitted to begin hormone therapy cannot be housed with members of their target gender or grow their hair and fingernails (in the case of individuals transitioning from male to female). Others have been isolated, assigned to separate housing, or asked to use separate restrooms (Speckhard and Paz, 2014). Recognizing these challenges, IDF leadership is working to design a clear and explicit policy. In the Israeli case, transgender individuals were allowed to serve openly before a formal policy was written. Only when it was faced with questions about the integration of transgender personnel did the IDF begin to create a formal policy.⁶ In Canada, a similar policy gap arose when transgender personnel were allowed to serve openly following a national policy revision that ended discrimination based on sexual orientation or gender. However, the focus at that point was on gay and lesbian service members, and no formal policy was created to address transgender personnel explicitly. When matters related to the medical care of transgender personnel arose, Canadian defense leaders developed a policy that just addressed this narrow, pressing issue, and did not develop policies to address the other matters (e.g., housing, restrooms, name changes). Commanders complained that the original policy was too vague and lacked sufficient details. A new, revised policy was written in 2012, and commanders have responded with positive feedback.⁷ The lack of a clear, written policy has also been an issue in Australia.

A third and final issue that has come up in at least two of the countries we surveyed is that of awards and medals. In the UK case, medals and awards received prior to gender transition can be transferred to the service member's post-transition name (UK Ministry of Defence, 2009). In the Canadian case, this is not possible, and the awards remain associated only with the original name. This is a cause for concern among transgender personnel in the Canadian military, but Canadian officials have responded that they cannot rewrite history (Okros and Scott, 2015). This is a policy area that the United States should consider alongside other administrative policies.

⁶ Remarks by a Canadian subject-matter expert in a phone discussion with RAND researchers, November 2015.

⁷ Remarks by a Canadian subject-matter expert in a phone discussion with RAND researchers, November 2015.

CHAPTER EIGHT

Which DoD Policies Would Need to Be Changed if Transgender Service Members Are Allowed to Serve Openly?

This chapter reviews DoD accession, retention, separation, and deployment policies and provides an assessment of the impact of changes required to allow transgender personnel to serve openly. For our analysis of DoD policies, we reviewed 20 current accession, retention, separation, and deployment regulations across the services and the Office of the Secretary of Defense. We also reviewed 16 other regulations that have been replaced by more recent regulations or did not mention transgender policies.¹ DoDI 6130.03 establishes medical standards for entry into military service, including a list of disqualifying physical and mental conditions, some of which are transgender-related.² Current DoD policy also authorizes, but no longer requires, the discharge of transgender personnel for reasons related to both medical conditions that generate disabilities, as well as mental health concerns.³ However, a July 2015 directive from the Office of the Secretary of Defense elevated decisions to administratively separate transgender service members to the Office of the Under Secretary of Defense for Personnel and Readiness (DoD, 2015b).

Note that our review focused on transgender-specific DoD instructions that may contain unnecessarily restrictive conditions and reflect outdated terminology and assessment processes. However, in simply removing these restrictions, DoD could inadvertently affect overall standards. While we focus on reforms to specific instruc-

¹ These additional policies are listed in Appendix D.

² The instruction specifies conditions that disqualify accessions, including “current or history of psychosexual conditions, including but not limited to transsexualism, exhibitionism, transvestism, voyeurism, and other paraphilias”; “history of major abnormalities or defects of the genitalia including but not limited to change of sex, hermaphroditism, pseudohermaphroditism, or pure gonadal dysgenesis”; and “history of major abnormalities or defects of the genitalia such as change of sex, hermaphroditism, pseudohermaphroditism, or pure gonadal dysgenesis” (DoDI 6130.03, 2011, enclosure 4).

³ “Sexual gender and identity disorders” are specified as medical conditions that may generate disabilities under DoDI 1332.38, enclosure 5 (2006). Mental health conditions are specified in DoDI 1332.14 (2014) and DoDI 1332.30 (2013) for enlisted and officers, respectively. DoDI 1332.18, issued on August 5, 2014, updated these guidelines and established general criteria for referral for disability evaluation and defers to service-specific standards for retention. However, a recent review of this revision suggests that service-specific regulations may still disqualify transgender personnel, and the new guidance may not overrule those service policies (Pollock and Minter, 2014).

tions and directives, we note that DoD may wish to conduct a more expansive review of personnel policies to ensure that individuals who join and remain in service can perform at the desired level, regardless of gender identity.

Accession Policy

The language pertaining to transgender individuals in accession instructions does not match that used in DSM-5.⁴ This results in restrictions in DoD policy that do not match current medical understanding of gender identity issues and thus may be misapplied or difficult to interpret in the context of current medical treatments and diagnoses. Under current guidelines, otherwise qualified individuals could be excluded for conditions that are unlikely to affect their military service, and individuals with true restrictions may be more difficult to screen for and identify. Modernizing the terminology to match current psychological and medical understanding of gender identity would help ensure that existing procedures do not inadvertently exclude otherwise qualified individuals who might want to join the military. We recommend that DoD review and revise the language to match the DSM-5 for conditions related to mental fitness so that mental health screening language matches current disorders and facilitates appropriate screening and review processes for disorders that may affect fitness for duty. Similarly, physical fitness standards should specify physical requirements, rather than physical conditions. Finally, the physical fitness language should clarify when in the transition process the service member's target gender requirements will begin to apply.

Retention Policy

We recommend that DoD expand and enhance its guidance and directives to clarify and adjust, where necessary, standards for retention of service members during and after gender transition. Evidence from Canada and Australia suggests that transgender personnel may need to be held medically exempt from physical fitness testing and requirements during transition (Canadian Armed Forces, 2012; Royal Australian Air Force, 2015). However, after completing transition, the service member could be required to meet the standards of the acquired gender. The determination of when the service member is "medically ready" to complete the physical fitness test occurs on a case-by-case basis and is typically made by the unit commander.

⁴ Two key changes are that the term *transsexualism* has been replaced, and *gender dysphoria* is no longer in the chapter "Sexual Desire Disorders, Sexual Dysfunctions, and Paraphilias" but, rather, has its own chapter (Mihiser, 2014).

Separation Policy

DoD may wish to revise the current separation process based on lessons learned from the repeal of Don't Ask, Don't Tell. The current process relies on administrative decisions outside the purview of the standard medical and physical review process. This limits the available documentation and opportunities for review, and it could prove burdensome if transgender-related discharges become subject to re-review. When medically appropriate, DoD may wish to establish guidance on when and how such discharge reviews should be handled. We also recommend that DoD develop and disseminate clear criteria for assessing whether transgender-related conditions may interfere with duty performance.

Deployment Policy

Deployment conditions vary significantly based on the unique environment of each deployment, with some deployed environments able to accommodate transgender individuals, even those who are undergoing medical treatments. Moreover, recent medical advancements can minimize the invasiveness of treatments and allow for telemedicine or other forms of remote medical care. Given medical and technological advances, DoD may wish to adjust some of its processes and deployment restrictions to minimize the impact on readiness. For example, current regulations specify that conditions requiring regular laboratory visits make service members ineligible for deployment, including all service members who are receiving hormone treatments,⁵ since such treatments require laboratory monitoring every three months for the first year as hormone levels stabilize (Hembree et al., 2009; Elders et al., 2014). Such a change would require DoD to either permit more flexible monitoring strategies⁶ or provide training to deployed medical personnel.⁷ Similarly, the use of refrigerated medications is a disqualifying condition for deployment,⁸ even though nearly all hormone therapies are available in other formats that do not require refrigeration.

⁵ Current regulations state that “medications that require laboratory monitoring or special assessment of a type or frequency that is not available or feasible in a deployed environment” disqualify an individual from deployment (Office of the Assistant Secretary of Defense for Health Affairs, 2013, p. 3).

⁶ Some experts suggest that alternatives, such as telehealth reviews, would address this issue for rural populations with limited access to medical care (see, for example, WPATH, 2011).

⁷ “Independent duty corpsmen, physician assistants, and nurses can supervise hormone treatment initiated by a physician” (Elders et al., 2014).

⁸ The memo issued by the Office of the Assistant Secretary of Defense for Health Affairs states, “Medications that disqualify an individual for deployment include . . . [m]edications that have special storage considerations, such as refrigeration (does not include those medications maintained at medical facilities for inpatient or emergency use)” (Office of the Assistant Secretary of Defense for Health Affairs 2013, p. 3).

CHAPTER NINE

Conclusion

By many measures, there are currently serving U.S. military personnel who are transgender. Overall, our study found that the number of U.S. transgender service members who are likely to seek transition-related care is so small that a change in policy will likely have a marginal impact on health care costs and the readiness of the force. We estimate, based on state-level surveys of transgender prevalence, that between 1,320 and 6,630 transgender personnel may be serving in the AC, and 830–4,160 may be serving in the SR. Estimates based on studies from multiple states, weighted for population and the gender distribution in the military, imply that there are around 2,450 transgender service members in the AC and 1,510 in the SR.¹

However, only a small proportion of these service members will seek gender transition–related treatment each year. Employing utilization and cost data from the private health insurance system, we estimated the potential impact of providing this care to openly serving transgender personnel on AC health care utilization and costs. Directly applying private health insurance utilization rates to the AC military population indicated that a very small number of service members will access gender transition–related care annually. Our estimates based on private health insurance data ranged from a lower-bound estimate of 29 AC service members to an upper-bound estimate of 129 annually using care, including those seeking both surgical and other medical treatments.

Using estimates from two states and adjusting for the male/female AC distribution, we also estimate a total of 45 gender transition–related surgeries, with 50 service members initiating transition-related hormone therapy annually in the AC.² We estimate 30 gender transition-related surgeries and 25 service members initiating hormone therapy treatments in the SR. These are likely to be upper-bound estimates, given the nonrepresentative sample selection procedures used in the NTDS. Furthermore, the best prevalence estimates that we were able to identify were from two of the more transgender-tolerant states in the country, and the empirical evidence that trans-

¹ Estimates are based on FY 2014 AC and SR personnel numbers.

² For hormone therapy recipients, the number of treatments and recipients is the same, and these estimates can be treated as counts of individuals.

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gender prevalence is higher in the military than in the general population is weak. As a point of comparison, we also compared these estimated values to mental health utilization in the AC population overall. Using data from McKibben et al. (2013), we calculated that approximately 278,517 AC service members accessed mental health care treatment in 2014, the implication being that health care for the transgender population will be a very small part of the total health care provided to AC service members across the MHS.

With respect to health care costs, actuarial estimates from the private health insurance sector indicate that covering gender transition–related care for transgender employees increased premiums by less than 1 percent. Taking a weighted average of the identified firm-level data, we estimate that covering transgender-related care for service members will increase the U.S. military’s AC health care spending by only 0.038–0.054 percent. Using these baseline estimates, we estimate that MHS health care costs will increase by between \$2.4 million and \$8.4 million. These numbers represent only a small proportion of FY 2014 AC health care expenditures (\$6.27 billion) and the FY 2014 Unified Medical Program budget (\$49.3 billion). This is consistent with our estimate of relatively low AC rates of gender transition–related health care utilization in the MHS.

Similarly, when considering the impact on readiness, we found that using either the prevalence-based approach or the utilization-based approach yielded an estimate of less than 0.0015 percent of total labor-years likely to be affected by a change in policy. This is much smaller than the current lost labor-years due to medical care in the Army alone.

Even if transgender personnel serve in the military at twice the rate of their prevalence in the general population and we use the upper-bound rates of health care utilization, the total proportion of the force that is transgender and would seek treatment would be less than 0.1 percent, with fewer than 130 AC surgical cases per year even at the highest utilization rates. Given this, true usage rates from civilian case studies imply only 30 treatments in the AC, suggesting that the total number of individuals seeking treatment may be substantially smaller than 0.1 percent of the total force. Thus, we estimate the impact on readiness to be negligible.

We conclude with some general recommendations and insights based on the experiences of foreign militaries that permit transgender individuals to serve openly—specifically, Australia, Canada, Israel, and the United Kingdom. Our case studies provide some guidance that policymakers should consider as they develop policies to govern the employment of transgender personnel in the U.S. military. These cases also suggested a number of key implementation practices if a decision is made to allow transgender service members to serve openly:

- Ensure strong leadership support.
- Develop an explicit written policy on all aspects of the gender transition process.

Conclusion 71

- Provide education and training to the rest of the force on transgender personnel policy, but integrate this training with other diversity-related training and education.
- Develop and enforce a clear anti-harassment policy that addresses harassment aimed at transgender personnel alongside other forces of harassment.
- Make subject-matter experts and gender advisers serving within military units available to commanders seeking guidance or advice on gender transition-related issues.
- Identify and communicate the benefits of an inclusive and diverse workforce.

APPENDIX A

Terminology

Augmentation mammoplasty: breast augmentation involving implants or lipofilling

Buccal administration: placement of medication between the gums and cheek

Chest surgery: surgery to create a contoured, male-looking chest

Clitoroplasty: surgical creation/restoration of a clitoris

Cross-dresser: someone who dresses in the clothes of the other gender, not always on a full-time basis

Female-to-male: those assigned female sex at birth who identify as male; transgender men; transmen

Gender: an individual's gender identity, which is influenced by societal norms and expectations; public, lived role as male or female

Gender assignment: initial assignment at birth as male or female; yields "natal gender" (APA, 2013, p. 451)

Gender atypical: behaviors not typical for one's gender "in a given society and historical era" (APA, 2013, p. 451)

Gender identity: "one's inner sense of one's own gender, which may or may not match the sex assigned at birth" (Office of Personnel Management, 2015, p. 2)

Gender dysphoria: "discomfort or distress that is caused by a discrepancy between a person's gender identity and that person's sex assigned at birth (and the associated gender role and/or primary and secondary sex characteristics)" (WPATH, 2011, p. 2).

Gender nonconformity: "the extent to which a person's gender identity, role, or expression differs from the cultural norms prescribed for people of a particular sex" (WPATH, 2011, p. 5, citing Institute of Medicine definition)

Gender transition—related surgery/gender-confirming surgery/sex reassignment surgery: surgery to mitigate distress associated with gender dysphoria by aligning sex characteristics with gender identity

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Genderqueer: those who “define their gender outside the construct of male or female, such as having no gender, being androgynous, or having elements of multiple genders” (Roller, Sedlak, and Draucker, 2015, p. 417)

Gluteal augmentation: buttocks augmentation involving implants or lipofilling

Hormone therapy: “the administration of exogenous endocrine agents to induce feminizing or masculinizing changes” (WPATH, 2011, p. 33)

Hysterectomy: surgery to remove the uterus

Intersex: “a general term used for a variety of conditions in which a person is born with a reproductive or sexual anatomy that doesn’t seem to fit the typical definitions of female or male” (Intersex Society of North America, undated)

Labiaplasty: plastic surgery for altering or creating the labia

Lipofilling: injection of fat rather than artificial implants

Male-to-female: those assigned male sex at birth who identify as female; transgender females; transwomen

Mastectomy: surgical removal of one or both breasts

Metoidioplasty: surgically relocating a clitoris that has been enlarged by hormone therapy to a more forward position that more closely resembles that of a penis; average length is 1.5–2 inches

Oophorectomy: surgical removal of one or both ovaries

Orchiectomy: surgical removal of one or both testicles

Ovariectomy: surgical removal of one or both ovaries

Parenteral administration: intravenous injection (into a vein) or intramuscular infusion (into muscle) of medication

Penectomy: surgical removal of the penis

Phalloplasty: surgical creation/reconstruction of a penis using one of a variety of techniques including free or pedicled (attached) flap (see Rashid and Tamimy, 2013)

Primary sex characteristics: physical characteristics/sex organs directly involved in reproduction

Salpingo-oophorectomy: removal of the ovaries and fallopian tubes

Scrotoplasty: surgical creation/reconstruction of testicles; in transmen, native labia tissue is used; testicular implants can be used

Secondary sex characteristics: physical characteristics that appear at puberty and vary by sex but are not directly involved in reproduction (e.g., breasts)

Sex: a person's biological status as male or female based on chromosomes, gonads, hormones, and genitals (intersex is a rare exception)

Sexual orientation: sexual identity in relation to the gender to which someone is attracted: heterosexual, homosexual, or bisexual

Thyroid chondroplasty: removal or reduction of the Adam's apple

Transdermal administration: delivery of medication across the skin with patches

Transgender: "an umbrella term used for individuals who have sexual identity or gender expression that differs from their assigned sex at birth" (Roller, Sedlak, and Draucker, 2015, p. 417)

Transsexual: someone whose gender identity is inconsistent with their assigned sex and who desires to permanently transition their physical characteristics to match their inner sense of their own gender

Urethroplasty: surgical reconstruction or fabrication of the urethra.

Vaginectomy (colpectomy): surgical removal of all or part of the vagina

Vaginoplasty: surgical creation/reconstruction of a vagina

Vulvoplasty: surgical creation/reconstruction of the vulva

APPENDIX B

History of DSM Terminology and Diagnoses

A brief historical understanding of the evolving diagnostic nomenclature pertaining to transgender status is important to discussions of related health care. DSM-III (APA, 1980) first contained the diagnosis of transsexualism. DSM-III-R (APA, 1987) introduced gender identity disorder, non-transsexual type. In DSM-IV (APA, 1994), these two diagnoses were merged and called *gender identity disorder*. Gender identity disorder, together with the paraphilias (disorders of extreme, dangerous, or abnormal sexual desire, including transvestic fetishism, sometimes referred to as cross-dressing), constituted the DSM-IV section “Sexual and Gender Identity Disorders.”

With DSM-5 (APA, 2013) came the migration from *gender identity disorder* to *gender dysphoria*. The clinical significance of the shift in DSM-5 was great: For the first time, without accompanying symptoms of distress, transgender individuals were no longer considered to have a diagnosable mental disorder. The historical parallel with homosexuality is hard to miss: In 1980, DSM-III similarly normalized the DSM-II diagnosis of homosexuality, moving instead to ego-dystonic homosexuality, a diagnosis reserved only for gay persons who felt related distress. In the next DSM iteration, DSM-III-R, all reference to homosexuality as a diagnostic term was removed. In the aftermath of depathologizing gender nonconformity, a similar move relating to transgender status appears to be underway.

As noted in this report, there is a consensus among clinicians and their professional organizations that transition-related treatment with hormones or surgery constitutes necessary health care, though there is a divide over whether it serves as “a strategy to diminish the serious suffering” of the patient or “a method to assist people in finding self-actualization” (Gijs and Brewaeys, 2007, p. 184). The conclusion that transition-related surgery “is an effective treatment for gender identity disorder in adults” is based primarily on retrospective studies of satisfaction rather than randomized controlled trials or prospective studies (Gijs and Brewaeys, 2007, p. 199). The prevalence of post-operative regret is very low, though “little empirical research has been done” on related risk and protective factors (Gijs and Brewaeys, 2007, pp. 201, 204). Overall, surgery is considered “the most appropriate treatment to alleviate the suffering of extremely gender dysphoric individuals,” but rigorous controlled-outcome studies evaluating its

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effectiveness should be conducted despite feasibility and ethical challenges (Gijs and Brewaeys, 2007, pp. 215–216; Buchholz, 2015, p. 1786).

DSM-5 Diagnostic Criteria: Gender Dysphoria in Adolescents and Adults 302.85 (F64.1)

- A. A marked incongruence between one's experienced/expressed gender and assigned gender, of at least 6 months' duration, as manifested by at least two of the following:
 - 1. A marked incongruence between one's experienced/expressed gender and primary and/or secondary sex characteristics (or in young adolescents, the anticipated secondary sex characteristics).
 - 2. A strong desire to be rid of one's primary and/or secondary sex characteristics because of a marked incongruence with one's experienced/expressed gender (or in young adolescents, a desire to prevent the development of the anticipated secondary sex characteristics).
 - 3. A strong desire for the primary and/or secondary sex characteristics of the other gender.
 - 4. A strong desire to be of the other gender (or some alternative gender different from one's assigned gender).
 - 5. A strong desire to be treated as the other gender (or some alternative gender different from one's assigned gender).
 - 6. A strong conviction that one has the typical feelings and reactions of the other gender (or some alternative gender different from one's assigned gender).
- B. The condition is associated with clinically significant distress or impairment in social, occupational, or other important areas of functioning.

APPENDIX C

Treatments for Gender Dysphoria

In this appendix, we provide additional details about psychosocial, pharmacologic, surgical, and other treatments for gender dysphoria (GD).

Psychotherapy

The emphasis of psychotherapy for this population today is on “affirming a unique transgender identity,” rather than focusing on gender transition (Institute of Medicine, 2011, p. 52). Mental health professionals can also help patients presenting with GD navigate the process of coming out to family, friends, and peers; treat comorbid mental health conditions;¹ weigh options related to gender identity, gender expression, and transition-related treatment interventions; and conduct assessments, make referrals, and guide preparation for and provide support through the transition-related treatment process (WPATH, 2011, pp. 22–26). Referral from a mental health professional is necessary under the standards of care for those seeking breast/chest or genital surgeries, and the latter also requires confirmation from an independent mental health provider (WPATH, 2011, p. 27). Mental health providers may also serve an important role on behalf of their patients by providing education and advocacy within the community and supporting changes to identity documents (WPATH, 2011, p. 31).

Of note, treatment aimed at changing one’s gender identity to align with the sex assigned at birth has proven unsuccessful and is no longer considered ethical care; mental health providers who are unwilling or unable to provide appropriate care should refer patients to a provider who is (WPATH, 2011, p. 32).

Hormone Therapy

Hormone therapy is necessary for many individuals with GD (WPATH, 2011, p. 33). It has two major goals: (1) reduce naturally occurring hormones to minimize secondary sex characteristics and (2) maximize desired feminization/masculinization using the principles and medications used for hormone replacement in non-transgender patients who do not produce enough hormones, such as women who have had hyster-

¹ Co-occurring mental health conditions could range from anxiety and depression, which are common among the transgender population, to more severe and rare illnesses, such as schizophrenia or bipolar disorder.

ectomies or men with low testosterone (WPATH, 2011, p. 33; Hembree et al., 2009). As with most medications, there are risks, which may increase in the presence of some health conditions or behaviors (such as smoking); these should be evaluated and managed (Hembree et al., 2009).

For those transitioning from female to male, hormone therapy should lead to “deepened voice, clitoral enlargement (variable, 3–8 cm), growth in facial and body hair, cessation of menses, atrophy of breast tissue, increased libido, and increased percentage of body fat.” For those transitioning from male to female, hormone therapy should lead to “breast growth (variable), decreased libido and erections, decreased testicular size, and increased percentage of body fat” (WPATH, 2011, p. 36). The timeline for these and other physical changes varies by individual; expected onset is within months, and maximum expected effect (such as body fat and muscle mass changes) is generally achieved in three or more years. Feminizing hormone therapy typically involves both estrogen and antiandrogens.² Masculinizing hormone therapy consists primarily of testosterone, which is available in oral, transdermal, parenteral (intravenous/intramuscular), buccal (cheek), and implantable administrations; brief use of progestin can help stop menstrual periods early in treatment (WPATH, 2011, p. 49). Detailed clinical practice guidelines are available from the Endocrine Society (Hembree et al., 2009).

Gender Transition–Related Surgery

As noted, gender transition–related surgery (also called sex reassignment surgery or gender-confirming surgery) is necessary for some transgender patients. Under the standards of care, mental health professionals must refer patients for surgery; in addition, criteria for both breast/chest and genital surgery include persistent and well-documented GD, the capacity to make informed decisions and to consent, and for other mental or general health concerns to be reasonably well controlled if present (WPATH, 2011, p. 59). Hormone therapy is not a prerequisite for breast/chest (also called “top”) surgery, though it is recommended for 12–24 months for male-to-female patients to achieve optimal results (Hembree et al., 2009).

For genital (also called “bottom”) surgery, 12 continuous months of hormone therapy are required prior to oophorectomy or orchiectomy (surgical removal of ovaries or testicles), unless contraindicated; health record documentation of “12 continuous months of living in a gender role that is congruent with their gender identity . . . consistently, on a day-to-day basis and across all settings of life” is also required for metoidioplasty (surgical relocation of an enlarged clitoris), phalloplasty (surgical creation of a penis), or vaginoplasty (surgical creation of a vagina; WPATH, 2011,

² Transdermal rather than oral estrogen is recommended. Common antiandrogens include spironolactone (an antihypertensive agent that requires electrolyte monitoring); cyproterone acetate (not approved in the United States); GnRH agonists, such as goserelin, buserelin, or triptorelin (available as injectables or implants); and 5-alpha reductase inhibitors, such as finasteride and dutasteride (WPATH, 2011, p. 48).

pp. 60–61). Mastectomy is often the only surgery undertaken by the female-to-male population; for those who do undergo genital surgery, phalloplasty is relatively uncommon, as it often requires multiple procedures and has frequent complications (WPATH, 2011, pp. 63–64). Surgeons should work closely with patients and other care providers, if needed, to ensure that the advantages, disadvantages, and risks of various treatments and procedures are well understood.

Other Treatments

Aside from breast/chest and genital surgery, other surgical interventions may include liposuction, lipofilling, and various aesthetic procedures. For male-to-female patients, these may include “facial feminization surgery, voice surgery, thyroid cartilage reduction, gluteal augmentation (implants/lipofilling), [and] hair reconstruction”; female-to-male patients may seek pectoral implants (WPATH, 2011, pp. 57–58). There is ongoing debate regarding whether these and other transition-related treatments are “medically necessary” (and therefore covered by insurance). For example, in some circumstances, facial hair removal for male-to-female patients may constitute necessary transition-related treatment: One study found that those who have undergone the procedure were “less likely to experience harassment in public spaces,” and harassment can “have a negative impact on the success of a person’s treatment for gender dysphoria” (Herman, 2013b, p. 19). In addition, voice and communication therapy to develop vocal characteristics and nonverbal communication patterns congruent with gender identity may prevent “vocal misuse and long-term vocal damage” (WPATH, 2011, pp. 52–54).

APPENDIX D

Review of Accession, Retention, and Separation Regulations

Directive	Date	Department
Air Force Instruction 36-2002, <i>Regular Air Force and Special Category Accessions</i>	4/7/1999, revised 6/2/2014	Air Force
Air Force Instruction Guidance Memorandum AFI48-123_AFGM2015-01, "Guidance Memorandum: AFI 48-123, <i>Medical Examinations and Standards</i> "	8/27/2015	Air Force
Air Force Instruction Guidance Memorandum 48-123_AFGM4, "Air Force Guidance Memorandum to AFI 48-123, <i>Medical Examinations and Standards</i> "	1/29/2013	Air Force
Air Force Recruiting Service Instruction 36-2001, <i>Recruiting Procedures for the Air Force</i>	8/1/2012	Air Force
Air Force Instruction 41-210, <i>TRICARE Operations and Patient Administration Functions</i>	6/6/2012	Air Force
U.S. Army Recruiting Command, <i>Pocket Recruiter Guide</i>	7/1/2013	Army
Army Regulation 635-40, <i>Physical Evaluation for Retention, Retirement, or Separation</i>	3/20/2012	Army
Army Regulation 601-280, <i>Army Retention Program</i>	9/15/2011	Army
Army Regulation 40-501, <i>Standards of Medical Fitness</i>	8/4/2011	Army
Army Regulation 40-66, <i>Medical Record Administration and Healthcare Documentation</i>	1/4/2010	Army
Army Regulation 635-200, <i>Active Duty Enlisted Administrative Separations</i>	9/6/2011	Army
Army Regulation 601-210, <i>Active and Reserve Components Enlistment Program</i>	3/12/2013	Army
DoDI 6130.03, <i>Medical Standards for Appointment, Enlistment, or Induction in the Military Services</i>	4/28/2010, revised 9/13/11	DoD
DoDI 1332.18, <i>Disability Evaluation System (DES)</i>	8/5/2014	DoD
Office of the Under Secretary of Defense for Personnel and Readiness, <i>Disability Evaluation System (DES) Pilot Operations Manual</i>	12/2008	DoD

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Directive	Date	Department
Marine Corps Order 1040.31, <i>Enlisted Retention and Career Development Program</i>	9/8/2010	Marine Corps
Marine Corps Order 6110.3, <i>Marine Corps Body Composition and Military Appearance Program</i>	8/8/2008	Marine Corps
Marine Administrative Message 064/11, "Amplification to Testing Accession Standards for the Purpose of Application to Marine Office Commissioning Programs"	1/26/2011	Marine Corps
Navy Military Personnel Manual 1306-964, "Recruiting Duty"	5/9/2014	Navy
Navy Medicine Manual P-117, <i>Manual of the Medical Department</i> , Chapter 15, Article 15-31, "Waivers of Physical Standards"	5/3/2012	Navy and Marine Corps

References

- American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders (DSM-III)*, 3rd ed., Arlington, Va., 1980.
- , *Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R)*, 3rd ed., revised, Arlington, Va., 1987.
- , *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*, 4th ed., revised, Arlington, Va., 1994.
- , *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*, 5th ed., Arlington, Va., 2013a.
- , “Gender Dysphoria,” fact sheet, 2013b. As of January 5, 2016:
<http://www.dsm5.org/documents/gender%20dysphoria%20fact%20sheet.pdf>
- APA—See American Psychiatric Association.
- Army Regulation 40-501, *Standards of Medical Fitness*, December 14, 2007, revised August 4, 2011.
- Army Regulation 600-8-101, *Personnel Processing (In-, Out-, Soldier Readiness, and Deployment Cycle)*, February 19, 2015.
- Bakker, A., P. J. van Kesteren, L. J. Gooren, and P. D. Bezemer, “The Prevalence of Transsexualism in the Netherlands,” *Acta Psychiatrica Scandinavica*, Vol. 87, No. 4, April 1993, pp. 237–238.
- Belkin, Aaron, “Caring for Our Transgender Troops—The Negligible Cost of Transition-Related Care,” *New England Journal of Medicine*, Vol. 373, No. 12, September 17, 2015, pp. 1089–1092.
- Belkin, Aaron, and Jason McNichol, “Homosexual Personnel Policy in the Canadian Forces: Did Lifting the Gay Ban Undermine Military Performance?” *International Journal*, Vol. 56, No. 1, Winter 2000–2001, pp. 73–88.
- Blakely, Katherine, and Don J. Jansen, *Post-Traumatic Stress Disorder and Other Mental Health Problems in the Military: Oversight Issues for Congress*, Washington, D.C.: Congressional Research Service, August 8, 2013.
- Blosnich, John R., Adam J. Gordon, and Michael J. Fine, “Associations of Sexual and Gender Minority Status with Health Indicators, Health Risk Factors, and Social Stressors in a National Sample of Young Adults with Military Experience,” *Annals of Epidemiology*, Vol. 25, No. 9, September 2015, pp. 661–667.
- British Army, “Diversity,” web page, undated. As of January 4, 2016:
<http://www.army.mod.UK/join/38473.aspx>

86 Assessing the Implications of Allowing Transgender Personnel to Serve Openly

Brown, David, "Amputations and Genital Injuries Increase Sharply Among Soldiers in Afghanistan," *Washington Post*, May 4, 2011. As of January 5, 2016:
https://www.washingtonpost.com/national/amputations-and-genital-injuries-increase-sharply-among-soldiers-in-afghanistan/2011/02/25/ABX0TqN_story.html

Brown, George R., "Transsexuals in the Military: Flight into Hypermasculinity," *Archives of Sexual Behavior*, Vol. 17, No. 6, December 1988, pp. 527–537.

Buchholz, Laura, "Transgender Care Moves into the Mainstream," *Journal of the American Medical Association*, Vol. 314, No. 17, November 3, 2015, pp. 1785–1787.

California Department of Health Services, *California Lesbian, Gay, Bisexual, and Transgender Tobacco Survey 2004*, San Francisco, Calif., 2004.

Canadian Armed Forces, Military Personnel Instruction 01/11, "Management of Transsexual Members," 2012.

Conron, Kerith, Gunner Scott, Grace Sterling Stowell, and Stewart J. Landers, "Transgender Health in Massachusetts: Results from a Household Probability Sample of Results," *American Journal of Public Health*, Vol. 102, No. 1, January 2012, pp. 118–122.

Cox, Matthew, "Army Has 50,000 Active Soldiers Who Can't Deploy, Top NCO Says," *Military.com*, November 25, 2015. As of March 16, 2016:
<http://www.military.com/daily-news/2015/11/25/army-has-50000-active-soldiers-who-cant-deploy-top-nco-says.html>

De Cuypere, G., M. Van Hemelrijck, A. Michel, B. Crael, G. Heylens, R. Rubens, P. Hoebeke, and S. Monstrey, "Prevalence and Demography of Transsexualism in Belgium," *European Psychiatry*, Vol. 22, No. 3, 2007, pp. 137–141.

Defense Health Agency, TRICARE Management Activity, *Evaluation of the TRICARE Program: Access, Cost, and Quality, Fiscal Year 2015*, 2015. As of January 5, 2016:
<http://www.health.mil/Military-Health-Topics/Access-Cost-Quality-and-Safety/Health-Care-Program-Evaluation/Annual-Evaluation-of-the-TRICARE-Program>

DoD—See U.S. Department of Defense.

Eklund, P. L., L. J. Gooren, and P. D. Bezemer, "Prevalence of Transsexualism in the Netherlands," *British Journal of Psychiatry*, Vol. 152, No. 5, May 1988, pp. 638–640.

Elders, Joycelyn, Alan M. Steinman, George R. Brown, Eli Coleman, and Thomas A. Kolditz, *Report of the Transgender Military Service Commission*, Santa Barbara, Calif.: Palm Center, March 2014.

Ender, Morten G., David E. Rohall, and Michael D. Matthews, "Cadet and Civilian Undergraduate Attitudes Toward Transgender People: A Research Note," *Armed Forces and Society*, Vol. 42, No. 2, April 2016, pp. 427–435.

Flores, Andrew R., "Attitudes Toward Transgender Rights: Perceived Knowledge and Secondary Interpersonal Contact," *Politics, Groups, and Identities*, Vol. 3, No. 3, 2015.

Frank, Nathaniel, *Gays in Foreign Militaries 2010: A Global Primer*, Santa Barbara, Calif.: Palm Center, 2010.

Gates, Gary J., *How Many People Are Lesbian, Gay, Bisexual, and Transgender?* Los Angeles, Calif.: Williams Institute, University of California, Los Angeles, School of Law, April 2011.

Gates, Gary J., and Jody L. Herman, "Transgender Military Service in the United States," Los Angeles, Calif.: Williams Institute, University of California, Los Angeles, School of Law, May 2014.

Gijs, Luk, and Anne Brewaeys, "Surgical Treatment of Gender Dysphoria in Adults and Adolescents: Recent Developments, Effectiveness, and Challenges," *Annual Review of Sex Research*, Vol. 18, No. 1, 2007, pp. 178–224.

Gould, Elise, *A Decade of Declines in Employer-Sponsored Health Insurance Coverage*, Washington, D.C.: Economic Policy Institute, February 2012. As of January 5, 2016:
<http://www.epi.org/publication/bp337-employer-sponsored-health-insurance>

Grant, Jaime M., Lisa A. Mottet, and Justin Tanis, with Jack Harrison, Jody L. Herman, and Mara Keisling, *Injustice at Every Turn: A Report of the National Transgender Discrimination Survey*, Washington, D.C.: National Center for Transgender Equality and National Gay and Lesbian Task Force, 2011.

Harrell, Margaret C., Laura Werber, Peter Schirmer, Bryan W. Hallmark, Jennifer Kavanagh, Daniel Gershwin, and Paul S. Steinberg, *Assessing the Assignment Policy for Army Women*, Santa Monica, Calif.: RAND Corporation, MG-590-1-OSD, 2007. As of March 17, 2016:
<http://www.rand.org/pubs/monographs/MG590-1.html>

Harris, Benjamin Cerf, *Likely Transgender Individuals in the U.S. Federal Administrative Records and the 2010 Census*, Washington, D.C.: U.S. Census Bureau, May 4, 2015.

Hembree, Wylie C., Peggy Cohen-Kettenis, Henriette A. Delemarre-van de Waal, Louis J. Gooren, Walter J. Meyer III, Norman P. Spack, Vin Tangpricha, and Victor M. Montori, "Endocrine Treatment of Transsexual Persons: An Endocrine Society Clinical Practice Guideline," *Journal of Clinical Endocrinology and Metabolism*, Vol. 94, No. 9, September 2009, pp. 3132–3154.

Herman, Jody L., *The Cost of Employment and Housing Discrimination Against Transgender Residents of New York*, Los Angeles, Calif.: Williams Institute, University of California, Los Angeles, School of Law, April 2013a.

———, *Costs and Benefits of Providing Transition-Related Health Care Coverage in Employee Health Benefits Plans: Findings from a Survey of Employers*, Los Angeles, Calif.: Williams Institute, University of California, Los Angeles, School of Law, September 2013b.

Hoening, J., and J. C. Kenna, "The Prevalence of Transsexualism in England and Wales," *British Journal of Psychiatry*, Vol. 124, No. 579, 1974, pp. 181–190.

Hoge, Charles W., Jennifer Auchterlonie, and Charles S. Millike, "Mental Health Problems, Use of Mental Health Services, and Attrition from Military Service After Returning from Deployment to Iraq or Afghanistan," *Journal of the American Medical Association*, Vol. 295, No. 9, March 1, 2006, pp. 1023–1032.

Horton, Mary Ann, "The Incidence and Prevalence of SRS Among US Residents," paper presented at the Out and Equal Workplace Summit, September 12, 2008. As of January 5, 2016:
<http://www.tgender.net/taw/thb/THBPrevalence-OE2008.pdf>

Institute of Medicine, *The Health of Lesbian, Gay, Bisexual, and Transgender People: Building a Foundation for Better Understanding*, Washington, D.C.: National Academies Press, 2011.

Intersex Society of North America, "What Is Intersex?" web page, undated. As of January 5, 2016:
http://www.isna.org/faq/what_is_intersex

Kates, Jen, Usha Ranji, Adara Beamesderfer, Alina Salganicoff, and Lindsey Dawson, *Health and Access to Care and Coverage for Lesbian, Gay, Bisexual, and Transgender Individuals in the U.S.*, Menlo Park, Calif.: Henry J. Kaiser Family Foundation, July 2015.

Kauth, Michael R., Jillian C. Shipherd, Jan Lindsay, John R. Blosnich, George R. Brown, and Kenneth T. Jones, "Access to Care for Transgender Veterans in the Veterans Health Administration: 2006–2013," *American Journal of Public Health*, Vol. 104, No. S4, September 2014, pp. S532–S534.

88 Assessing the Implications of Allowing Transgender Personnel to Serve Openly

Keen, Lisa, "Mass. Ranks Sixth for LGBT-Friendly Laws, Study Says," *Boston Globe*, May 28, 2015. As of March 17, 2016:

<https://www.bostonglobe.com/news/politics/2015/05/27/mass-ranks-sixth-for-lgbt-friendly-laws-study-says/sBX5TpZdNeusUo7Iuqs2qN/story.html>

Lambda Legal, "Professional Organization Statements Supporting Transgender People in Health Care," last updated June 8, 2012. As of January 4, 2016:

http://www.lambdalegal.org/sites/default/files/publications/downloads/fs_professional-org-statements-supporting-trans-health_1.pdf

McKibben, Jodi B. A., Carol S. Fullerton, Christine L. Gray, Ronald C. Kessler, Murray B. Stein, and Robert J. Ursano, "Mental Health Service Utilization in the U.S. Army," *Psychiatric Services*, Vol. 64, No. 4, April 2013, pp. 347–353.

Milhiser, Mark R., "Transgender Service: The Next Social Domino for the Army," *Military Law Review*, Vol. 220, Summer 2014, pp. 191–217.

Navy Medical Policy 07-009, *Deployment Medical Readiness*, April 6, 2007.

Norton, Aaron T., and Gregory M. Herek, "Heterosexuals' Attitudes Toward Transgender People: Findings from a National Probability Sample of U.S. Adults," *Sex Roles*, Vol. 68, No. 11, June 2013, pp. 738–753.

Office of the Assistant Secretary of Defense for Health Affairs, "Policy for Cosmetic Surgery Procedures in the Military Health System," Health Affairs Policy 05-020, October 25, 2005.

———, "Clinical Practice Guidance for Deployment-Limiting Mental Disorders and Psychotropic Medications," memorandum, October 7, 2013.

Office of Personnel Management, *Addressing Sexual Orientation and Gender Identity Discrimination in Federal Civilian Employment*, Washington, D.C., June 2015.

Okros, Alan, and Denise Scott, "Gender Identity in the Canadian Forces," *Armed Forces and Society*, Vol. 41, No. 2, April 2015, pp. 243–256.

Padula, William V., Shiona Heru, and Jonathan D. Campbell, "Societal Implications of Health Insurance Coverage for Medically Necessary Services in the U.S. Transgender Population: A Cost-Effectiveness Analysis," *Journal of General Internal Medicine*, October 19, 2015.

Parco, James E., David A. Levy, and Sarah R. Spears, "Transgender Military Personnel in the Post-DADT Repeal Era: A Phenomenological Study," *Armed Forces and Society*, Vol. 41, No. 2, 2015, pp. 221–242.

Polchar, Joshua, Tim Sweijjs, Phillip Marten, and Jan Gladega, *LGBT Military Personnel: A Strategic Vision for Inclusion*, The Hague, Netherlands: The Hague Centre for Strategic Studies, 2014.

Pollock, Gale S., and Shannon Minter, *Report of the Planning Commission on Transgender Military Service*, Santa Barbara, Calif.: Palm Center, August 2014.

RAND National Defense Research Institute, *Sexual Orientation and U.S. Military Personnel Policy: An Update of RAND's 1993 Study*, Santa Monica, Calif.: RAND Corporation, MG-1056-OSD, 2010. As of March 17, 2016:

<http://www.rand.org/pubs/monographs/MG1056.html>

Rashid, Mamoon, and Muhammad Sarmad Tamimy, "Phalloplasty: The Dream and the Reality," *Indian Journal of Plastic Surgery*, Vol. 46, No. 2, May 2013, pp. 283–293.

Reed, Bernard, Stephenne Rhodes, Pietà Schofield, and Kevan Wylie, *Gender Variance in the UK: Prevalence, Incidence, Growth and Geographic Distribution*, Surrey, UK: Gender Identity Research and Education Society, June 2009.

- Roller, Cyndi Gale, Carol Sedlak, and Claire Burke Draucker, "Navigating the System: How Transgender Individuals Engage in Health Care Services," *Journal of Nursing Scholarship*, Vol. 47, No. 5, September 2015, pp. 417–424.
- Ross, Allison, "The Invisible Army: Why the Military Needs to Rescind its Ban on Transgender Service Members," *Southern California Interdisciplinary Law Journal*, Vol. 23, No. 1, 2014, pp. 185–216.
- Rostker, Bernard D., Scott A. Harris, James P. Kahan, Erik J. Frinking, C. Neil Fulcher, Lawrence M. Hanser, Paul Koegel, John D. Winkler, Brent A. Boultinghouse, Joanna Heilbrunn, Janet Lever, Robert J. MacCoun, Peter Tiemeyer, Gail L. Zellman, Sandra H. Berry, Jennifer Hawes-Dawson, Samantha Ravich, Steven L. Schlossman, Timothy Haggarty, Tanjam Jacobson, Ancella Livers, Sherie Mershon, Andrew Cornell, Mark A. Schuster, David E. Kanouse, Raynard Kington, Mark Litwin, Conrad Peter Schmidt, Carl H. Builder, Peter Jacobson, Stephen A. Saltzburg, Roger Allen Brown, William Fedorochko, Marilyn Fisher Freemon, John F. Peterson, and James A. Dewar, *Sexual Orientation and U.S. Military Personnel Policy: Options and Assessment*, Santa Monica, Calif.: RAND Corporation, MR-323-OSD, 1993. As of March 17, 2016: http://www.rand.org/pubs/monograph_reports/MR323.html
- Royal Australian Air Force, *Air Force Diversity Handbook: Transitioning Gender in Air Force*, July 2015.
- Schaefer, Agnes Gereben, Jennie W. Wenger, Jennifer Kavanagh, Jonathan P. Wong, Gillian S. Oak, Thomas E. Trail, and Todd Nichols, *Implications of Integrating Women into the Marine Corps Infantry*, Santa Monica, Calif.: RAND Corporation, RR-1103-USMC, 2015. As of March 17, 2016: http://www.rand.org/pubs/research_reports/RR1103.html
- Sonier, Julie, Brett Fried, Caroline Au-Yeung, and Breanna Auringer, *State-Level Trends in Employer-Sponsored Health Insurance, A State-by-State Analysis*, Minneapolis, Minn.: State Health Access Data Center and Robert Wood Johnson Foundation, April 2013.
- Speckhard, Anne, and Reuven Paz, "Transgender Service in the Israeli Defense Forces: A Polar Opposite Stance to the U.S. Military Policy of Barring Transgender Soldiers from Service," unpublished research paper, 2014. As of January 4, 2016: <http://www.researchgate.net/publication/280093066>
- State of California, Department of Insurance, "Economic Impact Assessment: Gender Nondiscrimination in Health Insurance," Regulation File Number: REG-2011-00023, April 13, 2012. As of January 5, 2016: <http://transgenderlawcenter.org/wp-content/uploads/2013/04/Economic-Impact-Assessment-Gender-Nondiscrimination-In-Health-Insurance.pdf>
- Szayna, Thomas S., Eric V. Larson, Angela O'Mahony, Sean Robson, Agnes Gereben Schaefer, Miriam Matthews, J. Michael Polich, Lynsay Ayer, Derek Eaton, William Marcellino, Lisa Miyashiro, Marek Posard, James Syme, Zev Winkelman, Cameron Wright, Megan Zander-Cotugno, and William Welser, *Considerations for Integrating Women into Closed Occupations in the U.S. Special Operations Forces*, Santa Monica, Calif.: RAND Corporation, RR-1058-USSOCOM, 2015. As of March 17, 2016: http://www.rand.org/pubs/research_reports/RR1058.html
- Tan, Michelle, "SMA Calls for Bonus Money for Soldiers on Deployment, at NTC," *Army Times*, November 1, 2015. As of March 16, 2016: <http://www.armytimes.com/story/military/benefits/pay/allowances/2015/11/01/sma-calls-bonus-money-soldiers-deployment-ntc/74821828>
- Tsoi, W. F., "The Prevalence of Transsexualism in Singapore," *Acta Psychiatrica Scandinavica*, Vol. 78, No. 4, 1988, pp. 501–504.

90 Assessing the Implications of Allowing Transgender Personnel to Serve Openly

UK Ministry of Defence, “Policy for the Recruitment and Management of Transsexual Personnel in the Armed Forces,” January 2009.

UnitedHealthcare, “Gender Dysphoria (Gender Identity Disorder) Treatment,” Coverage Determination Guideline CDG.011.05, effective October 1, 2015. As of January 5, 2016: https://www.unitedhealthcareonline.com/ccmcontent/ProviderII/UHC/en-US/Assets/ProviderStaticFiles/ProviderStaticFilesPdf/Tools%20and%20Resources/Policies%20and%20Protocols/Medical%20Policies/Medical%20Policies/Gender_Identity_Disorder_CD.pdf

U.S. Central Command, “PPG-TAB A: Amplification of the Minimal Standards of Fitness for Deployment to the CENTCOM AOR; to Accompany MOD ELEVEN to USCENTCOM Individual Protection and Individual/Unit Deployment Policy,” December 2, 2013. As of March 17, 2016: <http://www.tam.usace.army.mil/Portals/53/docs/UDC/medical-disqualifiers.pdf>

U.S. Department of Defense, *2014 Demographics: Profile of the Military Community*, Washington, D.C., 2014. As of January 5, 2016: <http://download.militaryonesource.mil/12038/MOS/Reports/2014-Demographics-Report.pdf>

———, “DoD Announces Recruiting and Retention Numbers for Fiscal 2015, Through November 2014,” press release, No. NR-001-15, January 6, 2015a. As of January 4, 2016: <http://www.defense.gov/News/News-Releases/News-Release-View/Article/605335>

———, “Statement by Secretary of Defense Ash Carter on DoD Transgender Policy,” press release, No. NR-272-15, July 15, 2015b. As of March 16, 2016: <http://www.defense.gov/News/News-Releases/News-Release-View/Article/612778>

U.S. Department of Defense Instruction 1332.14, *Enlisted Administrative Separations*, January 27, 2014, incorporating change 1, December 4, 2014.

U.S. Department of Defense Instruction 1332.18, *Disability Evaluation System (DES)*, August 5, 2014.

U.S. Department of Defense Instruction 1332.30, *Separation of Regular and Reserve Commissioned Officers*, November 25, 2013.

U.S. Department of Defense Instruction 1332.38, *Physical Disability Evaluation*, November 14, 1996, incorporating change 1, July 10, 2006.

U.S. Department of Defense Instruction 6130.03, *Medical Standards for Appointment, Enlistment, or Induction in the Military Services*, April 28, 2010, incorporating change 1, September 13, 2011.

U.S. Government Accountability Office, *Personnel and Cost Data Associated with Implementing DOD’s Homosexual Conduct Policy*, Washington, D.C., GAO-11-170, January 2011.

Van Kesteren, Paul J., Louis J. Gooren, and Jos A. Megens, “An Epidemiological and Demographic Study of Transsexuals in the Netherlands,” *Archives of Sexual Behavior*, Vol. 25, No. 6, 1996, pp. 589–600.

Wälinder, Jan, “Transsexualism: Definition, Prevalence and Sex Distribution,” *Acta Psychiatrica Scandinavica*, Vol. 43, No. S203, August 1968, pp. 255–257.

———, “Incidence and Sex Ratio of Transsexualism in Sweden,” *British Journal of Psychiatry*, Vol. 119, No. 549, 1971, pp. 195–196.

Wallace, Duncan, “Trends in Traumatic Limb Amputation in Allied Forces in Iraq and Afghanistan,” *Journal of Military and Veterans’ Health*, Vol. 20, No. 2, April 2012.

Weitze, Cordula, and Susanne Osburg, "Transsexualism in Germany: Empirical Data on Epidemiology and Application of the German Transsexuals' Act During Its First Ten Years," *Archives of Sexual Behavior*, Vol. 25, No. 4, 1996, pp. 409–425.

Welsh, Ashley, "First U.S. Penis Transplants Planned to Help Wounded Vets," CBS News, December 7, 2015. As of January 5, 2016:
<http://www.cbsnews.com/news/first-penis-transplants-planned-in-u-s-to-help-wounded-vets>

Williams, Molly, and James Jezior, "Management of Combat-Related Urological Trauma in the Modern Era," *Nature Reviews Urology*, Vol. 10, No. 9, September 2013, pp. 504–512.

World Professional Association for Transgender Health, *Standards of Care for the Health of Transsexual, Transgender, and Gender Nonconforming People*, version 7, Elgin, Ill., 2011.

WPATH—See World Professional Association for Transgender Health.

Yerke, Adam F., and Valory Mitchell, "Transgender People in the Military: Don't Ask? Don't Tell? Don't Enlist!" *Journal of Homosexuality*, Vol. 60, Nos. 2–3, 2013, pp. 436–457.

Zitun, Yoav, "IDF to Support Transgender Recruits Throughout the Sex Change Process," *YNET News*, December 26, 2014. As of January 4, 2016:
<http://www.ynetnews.com/articles/0,7340,L-4608141,00.html>

Zucker, Kenneth J., Susan J. Bradley, Allison Owen-Anderson, Sarah J. Kibblewhite, and James M. Cantor, "Is Gender Identity Disorder in Adolescents Coming out of the Closet?" *Journal of Sex and Marital Therapy*, Vol. 34, No. 4, June 2008, pp. 287–290.

Zucker, Kenneth J., and Anne A. Lawrence, "Epidemiology of Gender Identity Disorder: Recommendations for the Standards of Care of the World Professional Association for Transgender Health," *International Journal of Transgenderism*, Vol. 11, No. 1, 2009, pp. 8–18.

Current U.S. Department of Defense (DoD) policy bans transgender personnel from serving openly in the military. DoD has begun considering changes to this policy, but the prospect raises questions regarding access to gender transition-related health care, the range of transition-related treatments that DoD will need to provide, the potential costs associated with these treatments, and the impact of these health care needs on force readiness and the deployability of transgender service members. A RAND study identified the health care needs of the transgender population and transgender service members in particular. It also examined the costs of covering transition-related treatments, assessed the potential readiness implications of a policy change, and reviewed the experiences of foreign militaries that permit transgender service members to serve openly.



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CERTIFICATE OF SERVICE

I hereby certify that I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the Ninth Circuit by using the appellate CM/ECF system on May 14, 2018. I certify that all participants in the case are registered CM/ECF users and that service will be accomplished by the appellate CM/ECF system.

s/ Daniel Siegfried
Daniel Siegfried

No. 18-35347

**United States Court of Appeals
for the Ninth Circuit**

RYAN KARNOSKI, ET AL.,

Plaintiffs-Appellees,

STATE OF WASHINGTON,

Intervenor-Plaintiff-Appellee,

v.

DONALD J. TRUMP, PRESIDENT OF THE UNITED STATES, ET AL.,

Defendants-Appellants.

**On Appeal from the United States District Court for the Western
District of Washington
Case No. 2:17-cv-01297-MJP**

**PLAINTIFFS-APPELLEES' SUPPLEMENTAL ADDENDUM,
PART 3**

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Exhibit D



Standards of Care

for the Health of Transsexual,
Transgender, and Gender
Nonconforming People

The World Professional Association for Transgender Health





Standards of Care

for the Health of Transsexual,
Transgender, and Gender
Nonconforming People

The World Professional Association for Transgender Health

7th Version¹ | www.wpath.org

¹ This is the seventh version of the Standards of Care. The original SOC were published in 1979. Previous revisions were in 1980, 1981, 1990, 1998, and 2001.

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Purpose and Use of the Standards of Care

The World Professional Association for Transgender Health (WPATH)¹ is an international, multidisciplinary, professional association whose mission is to promote evidence-based care, education, research, advocacy, public policy, and respect for transgender health. The vision of WPATH is to bring together diverse professionals dedicated to developing best practices and supportive policies worldwide that promote health, research, education, respect, dignity, and equality for transsexual, transgender, and gender nonconforming people in all cultural settings.

One of the main functions of WPATH is to promote the highest standards of health care for individuals through the articulation of *Standards of Care (SOC) for the Health of Transsexual, Transgender, and Gender Nonconforming People*. The SOC are based on the best available science and expert professional consensus.² Most of the research and experience in this field comes from a North American and Western European perspective; thus, adaptations of the SOC to other parts of the world are necessary. Suggestions for ways of thinking about cultural relativity and cultural competence are included in this version of the SOC.

The overall goal of the SOC is to provide clinical guidance for health professionals to assist transsexual, transgender, and gender nonconforming people with safe and effective pathways to achieving lasting personal comfort with their gendered selves, in order to maximize their overall health, psychological well-being, and self-fulfillment. This assistance may include primary care, gynecologic and urologic care, reproductive options, voice and communication therapy, mental health services (e.g., assessment, counseling, psychotherapy), and hormonal and surgical treatments. While this is primarily a document for health professionals, the SOC may also be used by individuals, their families, and social institutions to understand how they can assist with promoting optimal health for members of this diverse population.

WPATH recognizes that health is dependent upon not only good clinical care but also social and political climates that provide and ensure social tolerance, equality, and the full rights of citizenship. Health is promoted through public policies and legal reforms that promote tolerance and equity

1 Formerly the Harry Benjamin International Gender Dysphoria Association

2 *Standards of Care (SOC), Version 7* represents a significant departure from previous versions. Changes in this version are based upon significant cultural shifts, advances in clinical knowledge, and appreciation of the many health care issues that can arise for transsexual, transgender, and gender nonconforming people beyond hormone therapy and surgery (Coleman, 2009a, b, c, d).

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for gender and sexual diversity and that eliminate prejudice, discrimination, and stigma. WPATH is committed to advocacy for these changes in public policies and legal reforms.

The Standards of Care Are Flexible Clinical Guidelines

The SOC are intended to be flexible in order to meet the diverse health care needs of transsexual, transgender, and gender nonconforming people. While flexible, they offer standards for promoting optimal health care and guiding the treatment of people experiencing gender dysphoria – broadly defined as discomfort or distress that is caused by a discrepancy between a person’s gender identity and that person’s sex assigned at birth (and the associated gender role and/or primary and secondary sex characteristics) (Fisk, 1974; Knudson, De Cuypere, & Bockting, 2010b).

As for all previous versions of the SOC, the criteria put forth in this document for hormone therapy and surgical treatments for gender dysphoria are clinical guidelines; individual health professionals and programs may modify them. Clinical departures from the SOC may come about because of a patient’s unique anatomic, social, or psychological situation; an experienced health professional’s evolving method of handling a common situation; a research protocol; lack of resources in various parts of the world; or the need for specific harm reduction strategies. These departures should be recognized as such, explained to the patient, and documented through informed consent for quality patient care and legal protection. This documentation is also valuable for the accumulation of new data, which can be retrospectively examined to allow for health care – and the SOC – to evolve.

The SOC articulate standards of care but also acknowledge the role of making informed choices and the value of harm reduction approaches. In addition, this version of the SOC recognizes and validates various expressions of gender that may not necessitate psychological, hormonal, or surgical treatments. Some patients who present for care will have made significant self-directed progress towards gender role changes, transition, or other resolutions regarding their gender identity or gender dysphoria. Other patients will require more intensive services. Health professionals can use the SOC to help patients consider the full range of health services open to them, in accordance with their clinical needs and goals for gender expression.



Global Applicability of the Standards of Care

While the *SOC* are intended for worldwide use, WPATH acknowledges that much of the recorded clinical experience and knowledge in this area of health care is derived from North American and Western European sources. From place to place, both across and within nations, there are differences in all of the following: social attitudes towards transsexual, transgender, and gender nonconforming people; constructions of gender roles and identities; language used to describe different gender identities; epidemiology of gender dysphoria; access to and cost of treatment; therapies offered; number and type of professionals who provide care; and legal and policy issues related to this area of health care (Winter, 2009).

It is impossible for the *SOC* to reflect all of these differences. In applying these standards to other cultural contexts, health professionals must be sensitive to these differences and adapt the *SOC* according to local realities. For example, in a number of cultures, gender nonconforming people are found in such numbers and living in such ways as to make them highly socially visible (Peletz, 2006). In settings such as these, it is common for people to initiate a change in their gender expression and physical characteristics while in their teens, or even earlier. Many grow up and live in a social, cultural, and even linguistic context quite unlike that of Western cultures. Yet almost all experience prejudice (Peletz, 2006; Winter, 2009). In many cultures, social stigma towards gender nonconformity is widespread and gender roles are highly prescriptive (Winter et al., 2009). Gender nonconforming people in these settings are forced to be hidden, and therefore may lack opportunities for adequate health care (Winter, 2009).

The *SOC* are not intended to limit efforts to provide the best available care to all individuals. Health professionals throughout the world – even in areas with limited resources and training opportunities – can apply the many core principles that undergird the *SOC*. These principles include the following: Exhibit respect for patients with nonconforming gender identities (do not pathologize differences in gender identity or expression); provide care (or refer to knowledgeable colleagues) that affirms patients' gender identities and reduces the distress of gender dysphoria, when present; become knowledgeable about the health care needs of transsexual, transgender, and gender nonconforming people, including the benefits and risks of treatment options for gender dysphoria; match the treatment approach to the specific needs of patients, particularly their goals for gender expression and need for relief from gender dysphoria; facilitate access to appropriate care; seek patients' informed consent before providing treatment; offer continuity of care; and be prepared to support and advocate for patients within their families and communities (schools, workplaces, and other settings).

Terminology is culturally and time-dependent and is rapidly evolving. It is important to use respectful language in different places and times, and among different people. As the SOC are translated into other languages, great care must be taken to ensure that the meanings of terms are accurately translated. Terminology in English may not be easily translated into other languages, and vice versa. Some languages do not have equivalent words to describe the various terms within this document; hence, translators should be cognizant of the underlying goals of treatment and articulate culturally applicable guidance for reaching those goals.



The Difference Between Gender Nonconformity and Gender Dysphoria

Being Transsexual, Transgender, or Gender Nonconforming Is a Matter of Diversity, Not Pathology

WPATH released a statement in May 2010 urging the de-psychopathologization of gender nonconformity worldwide (WPATH Board of Directors, 2010). This statement noted that “the expression of gender characteristics, including identities, that are not stereotypically associated with one’s assigned sex at birth is a common and culturally-diverse human phenomenon [that] should not be judged as inherently pathological or negative.”

Unfortunately, there is stigma attached to gender nonconformity in many societies around the world. Such stigma can lead to prejudice and discrimination, resulting in “minority stress” (I. H. Meyer, 2003). Minority stress is unique (additive to general stressors experienced by all people), socially based, and chronic, and may make transsexual, transgender, and gender nonconforming individuals more vulnerable to developing mental health concerns such as anxiety and depression (Institute of Medicine, 2011). In addition to prejudice and discrimination in society at large, stigma can contribute to abuse and neglect in one’s relationships with peers and family members, which in turn can lead to psychological distress. However, these symptoms are socially induced and are not inherent to being transsexual, transgender, or gender nonconforming.

Gender Nonconformity Is Not the Same as Gender Dysphoria

Gender nonconformity refers to the extent to which a person's gender identity, role, or expression differs from the cultural norms prescribed for people of a particular sex (Institute of Medicine, 2011). *Gender dysphoria* refers to discomfort or distress that is caused by a discrepancy between a person's gender identity and that person's sex assigned at birth (and the associated gender role and/or primary and secondary sex characteristics) (Fisk, 1974; Knudson, De Cuypere, & Bockting, 2010b). Only *some* gender nonconforming people experience gender dysphoria at *some* point in their lives.

Treatment is available to assist people with such distress to explore their gender identity and find a gender role that is comfortable for them (Bockting & Goldberg, 2006). Treatment is individualized: What helps one person alleviate gender dysphoria might be very different from what helps another person. This process may or may not involve a change in gender expression or body modifications. Medical treatment options include, for example, feminization or masculinization of the body through hormone therapy and/or surgery, which are effective in alleviating gender dysphoria and are medically necessary for many people. Gender identities and expressions are diverse, and hormones and surgery are just two of many options available to assist people with achieving comfort with self and identity.

Gender dysphoria can in large part be alleviated through treatment (Murad et al., 2010). Hence, while transsexual, transgender, and gender nonconforming people may experience gender dysphoria at some point in their lives, many individuals who receive treatment will find a gender role and expression that is comfortable for them, even if these differ from those associated with their sex assigned at birth, or from prevailing gender norms and expectations.

Diagnoses Related to Gender Dysphoria

Some people experience gender dysphoria at such a level that the distress meets criteria for a formal diagnosis that might be classified as a mental disorder. Such a diagnosis is not a license for stigmatization or for the deprivation of civil and human rights. Existing classification systems such as the *Diagnostic Statistical Manual of Mental Disorders (DSM)* (American Psychiatric Association, 2000) and the *International Classification of Diseases (ICD)* (World Health Organization, 2007) define hundreds of mental disorders that vary in onset, duration, pathogenesis, functional disability, and treatability. All of these systems attempt to classify clusters of symptoms and conditions, not the individuals themselves. A disorder is a description of something with which a person might struggle, not a description of the person or the person's identity.

Thus, transsexual, transgender, and gender nonconforming individuals are not inherently disordered. Rather, the distress of gender dysphoria, when present, is the concern that might be diagnosable and for which various treatment options are available. The existence of a diagnosis for such dysphoria often facilitates access to health care and can guide further research into effective treatments.

Research is leading to new diagnostic nomenclatures, and terms are changing in both the *DSM* (Cohen-Kettenis & Pfäfflin, 2010; Knudson, De Cuypere, & Bockting, 2010b; Meyer-Bahlburg, 2010; Zucker, 2010) and the *ICD*. For this reason, familiar terms are employed in the *SOC* and definitions are provided for terms that may be emerging. Health professionals should refer to the most current diagnostic criteria and appropriate codes to apply in their practice areas.

IV

Epidemiologic Considerations

Formal epidemiologic studies on the incidence³ and prevalence⁴ of transsexualism specifically or transgender and gender nonconforming identities in general have not been conducted, and efforts to achieve realistic estimates are fraught with enormous difficulties (Institute of Medicine, 2011; Zucker & Lawrence, 2009). Even if epidemiologic studies established that a similar proportion of transsexual, transgender, or gender nonconforming people existed all over the world, it is likely that cultural differences from one country to another would alter both the behavioral expressions of different gender identities and the extent to which gender dysphoria – distinct from one’s gender identity – is actually occurring in a population. While in most countries, crossing normative gender boundaries generates moral censure rather than compassion, there are examples in certain cultures of gender nonconforming behaviors (e.g., in spiritual leaders) that are less stigmatized and even revered (Besnier, 1994; Bolin, 1988; Chiñas, 1995; Coleman, Colgan, & Gooren, 1992; Costa & Matzner, 2007; Jackson & Sullivan, 1999; Nanda, 1998; Taywaditep, Coleman, & Dumronggittigule, 1997).

For various reasons, researchers who have studied incidence and prevalence have tended to focus on the most easily counted subgroup of gender nonconforming individuals: transsexual individuals who experience gender dysphoria and who present for gender-transition-related care at specialist gender clinics (Zucker & Lawrence, 2009). Most studies have been conducted in European

³ **incidence**—the number of new cases arising in a given period (e.g., a year)

⁴ **prevalence**—the number of individuals having a condition, divided by the number of people in the general population

countries such as Sweden (Wälinder, 1968, 1971), the United Kingdom (Hoenig & Kenna, 1974), the Netherlands (Bakker, Van Kesteren, Gooren, & Bezemer, 1993; Eklund, Gooren, & Bezemer, 1988; van Kesteren, Gooren, & Megens, 1996), Germany (Weitze & Osburg, 1996), and Belgium (De Cuypere et al., 2007). One was conducted in Singapore (Tsoi, 1988).

De Cuypere and colleagues (2007) reviewed such studies, as well as conducted their own. Together, those studies span 39 years. Leaving aside two outlier findings from Pauly in 1968 and Tsoi in 1988, ten studies involving eight countries remain. The prevalence figures reported in these ten studies range from 1:11,900 to 1:45,000 for male-to-female individuals (MtF) and 1:30,400 to 1:200,000 for female-to-male (FtM) individuals. Some scholars have suggested that the prevalence is much higher, depending on the methodology used in the research (for example, Olyslager & Conway, 2007).

Direct comparisons across studies are impossible, as each differed in their data collection methods and in their criteria for documenting a person as transsexual (e.g., whether or not a person had undergone genital reconstruction, versus had initiated hormone therapy, versus had come to the clinic seeking medically-supervised transition services). The trend appears to be towards higher prevalence rates in the more recent studies, possibly indicating increasing numbers of people seeking clinical care. Support for this interpretation comes from research by Reed and colleagues (2009), who reported a doubling of the numbers of people accessing care at gender clinics in the United Kingdom every five or six years. Similarly, Zucker and colleagues (2008) reported a four- to five-fold increase in child and adolescent referrals to their Toronto, Canada clinic over a 30-year period.

The numbers yielded by studies such as these can be considered minimum estimates at best. The published figures are mostly derived from clinics where patients met criteria for severe gender dysphoria and had access to health care at those clinics. These estimates do not take into account that treatments offered in a particular clinic setting might not be perceived as affordable, useful, or acceptable by all self-identified gender dysphoric individuals in a given area. By counting only those people who present at clinics for a specific type of treatment, an unspecified number of gender dysphoric individuals are overlooked.

Other clinical observations (not yet firmly supported by systematic study) support the likelihood of a higher prevalence of gender dysphoria: (i) Previously unrecognized gender dysphoria is occasionally diagnosed when patients are seen with anxiety, depression, conduct disorder, substance abuse, dissociative identity disorders, borderline personality disorder, sexual disorders, and disorders of sex development (Cole, O'Boyle, Emory, & Meyer III, 1997). (ii) Some crossdressers, drag queens/kings or female/male impersonators, and gay and lesbian individuals may be experiencing gender dysphoria (Bullough & Bullough, 1993). (iii) The intensity of some people's gender dysphoria fluctuates below and above a clinical threshold (Docter, 1988). (iv) Gender nonconformity among FtM individuals tends to be relatively invisible in many cultures, particularly to Western health

professionals and researchers who have conducted most of the studies on which the current estimates of prevalence and incidence are based (Winter, 2009).

Overall, the existing data should be considered a starting point, and health care would benefit from more rigorous epidemiologic study in different locations worldwide.



Overview of Therapeutic Approaches for Gender Dysphoria

Advancements in the Knowledge and Treatment of Gender Dysphoria

In the second half of the 20th century, awareness of the phenomenon of gender dysphoria increased when health professionals began to provide assistance to alleviate gender dysphoria by supporting changes in primary and secondary sex characteristics through hormone therapy and surgery, along with a change in gender role. Although Harry Benjamin already acknowledged a spectrum of gender nonconformity (Benjamin, 1966), the initial clinical approach largely focused on identifying who was an appropriate candidate for sex reassignment to facilitate a physical change from male to female or female to male as completely as possible (e.g., Green & Fleming, 1990; Hastings, 1974). This approach was extensively evaluated and proved to be highly effective. Satisfaction rates across studies ranged from 87% of MtF patients to 97% of FtM patients (Green & Fleming, 1990), and regrets were extremely rare (1-1.5% of MtF patients and <1% of FtM patients; Pfäfflin, 1993). Indeed, hormone therapy and surgery have been found to be medically necessary to alleviate gender dysphoria in many people (American Medical Association, 2008; Anton, 2009; The World Professional Association for Transgender Health, 2008).

As the field matured, health professionals recognized that while many individuals need both hormone therapy and surgery to alleviate their gender dysphoria, others need only one of these treatment options and some need neither (Bockting & Goldberg, 2006; Bockting, 2008; Lev, 2004). Often with the help of psychotherapy, some individuals integrate their trans- or cross-gender feelings into the gender role they were assigned at birth and do not feel the need to feminize or masculinize their body. For others, changes in gender role and expression are sufficient to alleviate

gender dysphoria. Some patients may need hormones, a possible change in gender role, but not surgery; others may need a change in gender role along with surgery, but not hormones. In other words, treatment for gender dysphoria has become more individualized.

As a generation of transsexual, transgender, and gender nonconforming individuals has come of age – many of whom have benefitted from different therapeutic approaches – they have become more visible as a community and demonstrated considerable diversity in their gender identities, roles, and expressions. Some individuals describe themselves not as gender nonconforming but as unambiguously cross-sexed (i.e., as a member of the other sex; Bockting, 2008). Other individuals affirm their unique gender identity and no longer consider themselves either male or female (Bornstein, 1994; Kimberly, 1997; Stone, 1991; Warren, 1993). Instead, they may describe their gender identity in specific terms such as transgender, bigender, or genderqueer, affirming their unique experience that may transcend a male/female binary understanding of gender (Bockting, 2008; Ekins & King, 2006; Nestle, Wilchins, & Howell, 2002). They may not experience their process of identity affirmation as a “transition,” because they never fully embraced the gender role they were assigned at birth or because they actualize their gender identity, role, and expression in a way that does not involve a change from one gender role to another. For example, some youth identifying as genderqueer have always experienced their gender identity and role as such (genderqueer). Greater public visibility and awareness of gender diversity (Feinberg, 1996) has further expanded options for people with gender dysphoria to actualize an identity and find a gender role and expression that is comfortable for them.

Health professionals can assist gender dysphoric individuals with affirming their gender identity, exploring different options for expression of that identity, and making decisions about medical treatment options for alleviating gender dysphoria.

Options for Psychological and Medical Treatment of Gender Dysphoria

For individuals seeking care for gender dysphoria, a variety of therapeutic options can be considered. The number and type of interventions applied and the order in which these take place may differ from person to person (e.g., Bockting, Knudson, & Goldberg, 2006; Bolin, 1994; Rachlin, 1999; Rachlin, Green, & Lombardi, 2008; Rachlin, Hansbury, & Pardo, 2010). Treatments options include the following:

- Changes in gender expression and role (which may involve living part time or full time in another gender role, consistent with one’s gender identity);
- Hormone therapy to feminize or masculinize the body;

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- Surgery to change primary and/or secondary sex characteristics (e.g., breasts/chest, external and/or internal genitalia, facial features, body contouring);
- Psychotherapy (individual, couple, family, or group) for purposes such as exploring gender identity, role, and expression; addressing the negative impact of gender dysphoria and stigma on mental health; alleviating internalized transphobia; enhancing social and peer support; improving body image; or promoting resilience.

Options for Social Support and Changes in Gender Expression

In addition (or as an alternative) to the psychological and medical treatment options described above, other options can be considered to help alleviate gender dysphoria, for example:

- Offline and online peer support resources, groups, or community organizations that provide avenues for social support and advocacy;
- Offline and online support resources for families and friends;
- Voice and communication therapy to help individuals develop verbal and non-verbal communication skills that facilitate comfort with their gender identity;
- Hair removal through electrolysis, laser treatment, or waxing;
- Breast binding or padding, genital tucking or penile prostheses, padding of hips or buttocks;
- Changes in name and gender marker on identity documents.

VI

Assessment and Treatment of Children and Adolescents with Gender Dysphoria

There are a number of differences in the phenomenology, developmental course, and treatment approaches for gender dysphoria in children, adolescents, and adults. In children and adolescents, a rapid and dramatic developmental process (physical, psychological, and sexual) is involved and

there is greater fluidity and variability in outcomes, particular in prepubertal children. Accordingly, this section of the *SOC* offers specific clinical guidelines for the assessment and treatment of gender dysphoric children and adolescents.

Differences between Children and Adolescents with Gender Dysphoria

An important difference between gender dysphoric children and adolescents is in the proportion for whom dysphoria persists into adulthood. Gender dysphoria during childhood does not inevitably continue into adulthood.⁵ Rather, in follow-up studies of prepubertal children (mainly boys) who were referred to clinics for assessment of gender dysphoria, the dysphoria persisted into adulthood for only 6-23% of children (Cohen-Kettenis, 2001; Zucker & Bradley, 1995). Boys in these studies were more likely to identify as gay in adulthood than as transgender (Green, 1987; Money & Russo, 1979; Zucker & Bradley, 1995; Zuger, 1984). Newer studies, also including girls, showed a 12-27% persistence rate of gender dysphoria into adulthood (Drummond, Bradley, Peterson-Badali, & Zucker, 2008; Wallien & Cohen-Kettenis, 2008).

In contrast, the persistence of gender dysphoria into adulthood appears to be much higher for adolescents. No formal prospective studies exist. However, in a follow-up study of 70 adolescents who were diagnosed with gender dysphoria and given puberty suppressing hormones, all continued with the actual sex reassignment, beginning with feminizing/masculinizing hormone therapy (de Vries, Steensma, Doreleijers, & Cohen-Kettenis, 2010).

Another difference between gender dysphoric children and adolescents is in the sex ratios for each age group. In clinically referred, gender dysphoric children under age 12, the male/female ratio ranges from 6:1 to 3:1 (Zucker, 2004). In clinically referred, gender dysphoric adolescents older than age 12, the male/female ratio is close to 1:1 (Cohen-Kettenis & Pfäfflin, 2003).

As discussed in section IV and by Zucker and Lawrence (2009), formal epidemiologic studies on gender dysphoria – in children, adolescents, and adults – are lacking. Additional research is needed to refine estimates of its prevalence and persistence in different populations worldwide.

⁵ Gender nonconforming behaviors in children may continue into adulthood, but such behaviors are not necessarily indicative of gender dysphoria and a need for treatment. As described in section III, gender dysphoria is not synonymous with diversity in gender expression.

Phenomenology in Children

Children as young as age two may show features that could indicate gender dysphoria. They may express a wish to be of the other sex and be unhappy about their physical sex characteristics and functions. In addition, they may prefer clothes, toys, and games that are commonly associated with the other sex and prefer playing with other-sex peers. There appears to be heterogeneity in these features: Some children demonstrate extremely gender nonconforming behavior and wishes, accompanied by persistent and severe discomfort with their primary sex characteristics. In other children, these characteristics are less intense or only partially present (Cohen-Kettenis et al., 2006; Knudson, De Cuypere, & Bockting, 2010a).

It is relatively common for gender dysphoric children to have co-existing internalizing disorders such as anxiety and depression (Cohen-Kettenis, Owen, Kaijser, Bradley, & Zucker, 2003; Wallien, Swaab, & Cohen-Kettenis, 2007; Zucker, Owen, Bradley, & Ameeriar, 2002). The prevalence of autistic spectrum disorders seems to be higher in clinically referred, gender dysphoric children than in the general population (de Vries, Noens, Cohen-Kettenis, van Berckelaer-Onnes, & Doreleijers, 2010).

Phenomenology in Adolescents

In most children, gender dysphoria will disappear before or early in puberty. However, in some children these feelings will intensify and body aversion will develop or increase as they become adolescents and their secondary sex characteristics develop (Cohen-Kettenis, 2001; Cohen-Kettenis & Pfäfflin, 2003; Drummond et al., 2008; Wallien & Cohen-Kettenis, 2008; Zucker & Bradley, 1995). Data from one study suggest that more extreme gender nonconformity in childhood is associated with persistence of gender dysphoria into late adolescence and early adulthood (Wallien & Cohen-Kettenis, 2008). Yet many adolescents and adults presenting with gender dysphoria do not report a history of childhood gender nonconforming behaviors (Docter, 1988; Landén, Wålinder, & Lundström, 1998). Therefore, it may come as a surprise to others (parents, other family members, friends, and community members) when a youth's gender dysphoria first becomes evident in adolescence.

Adolescents who experience their primary and/or secondary sex characteristics and their sex assigned at birth as inconsistent with their gender identity may be intensely distressed about it. Many, but not all, gender dysphoric adolescents have a strong wish for hormones and surgery. Increasing numbers of adolescents have already started living in their desired gender role upon entering high school (Cohen-Kettenis & Pfäfflin, 2003).

Among adolescents who are referred to gender identity clinics, the number considered eligible for early medical treatment – starting with GnRH analogues to suppress puberty in the first Tanner stages – differs among countries and centers. Not all clinics offer puberty suppression. If such treatment is offered, the pubertal stage at which adolescents are allowed to start varies from Tanner stage 2 to stage 4 (Delemarre-van de Waal & Cohen-Kettenis, 2006; Zucker et al., in press). The percentages of treated adolescents are likely influenced by the organization of health care, insurance aspects, cultural differences, opinions of health professionals, and diagnostic procedures offered in different settings.

Inexperienced clinicians may mistake indications of gender dysphoria for delusions. Phenomenologically, there is a qualitative difference between the presentation of gender dysphoria and the presentation of delusions or other psychotic symptoms. The vast majority of children and adolescents with gender dysphoria are not suffering from underlying severe psychiatric illness such as psychotic disorders (Steensma, Biemond, de Boer, & Cohen-Kettenis, published online ahead of print January 7, 2011).

It is more common for adolescents with gender dysphoria to have co-existing internalizing disorders such as anxiety and depression, and/or externalizing disorders such as oppositional defiant disorder (de Vries et al., 2010). As in children, there seems to be a higher prevalence of autistic spectrum disorders in clinically referred, gender dysphoric adolescents than in the general adolescent population (de Vries et al., 2010).

Competency of Mental Health Professionals Working with Children or Adolescents with Gender Dysphoria

The following are recommended minimum credentials for mental health professionals who assess, refer, and offer therapy to children and adolescents presenting with gender dysphoria:

1. Meet the competency requirements for mental health professionals working with adults, as outlined in section VII;
2. Trained in childhood and adolescent developmental psychopathology;
3. Competent in diagnosing and treating the ordinary problems of children and adolescents.

Roles of Mental Health Professionals Working with Children and Adolescents with Gender Dysphoria

The roles of mental health professionals working with gender dysphoric children and adolescents may include the following:

1. Directly assess gender dysphoria in children and adolescents (see general guidelines for assessment, below).
2. Provide family counseling and supportive psychotherapy to assist children and adolescents with exploring their gender identity, alleviating distress related to their gender dysphoria, and ameliorating any other psychosocial difficulties.
3. Assess and treat any co-existing mental health concerns of children or adolescents (or refer to another mental health professional for treatment). Such concerns should be addressed as part of the overall treatment plan.
4. Refer adolescents for additional physical interventions (such as puberty suppressing hormones) to alleviate gender dysphoria. The referral should include documentation of an assessment of gender dysphoria and mental health, the adolescent's eligibility for physical interventions (outlined below), the mental health professional's relevant expertise, and any other information pertinent to the youth's health and referral for specific treatments.
5. Educate and advocate on behalf of gender dysphoric children, adolescents, and their families in their community (e.g., day care centers, schools, camps, other organizations). This is particularly important in light of evidence that children and adolescents who do not conform to socially prescribed gender norms may experience harassment in school (Grossman, D'Augelli, & Salter, 2006; Grossman, D'Augelli, Howell, & Hubbard, 2006; Sausa, 2005), putting them at risk for social isolation, depression, and other negative sequelae (Nuttbrock et al., 2010).
6. Provide children, youth, and their families with information and referral for peer support, such as support groups for parents of gender nonconforming and transgender children (Gold & MacNish, 2011; Pleak, 1999; Rosenberg, 2002).

Assessment and psychosocial interventions for children and adolescents are often provided within a multi-disciplinary gender identity specialty service. If such a multidisciplinary service is not available, a mental health professional should provide consultation and liaison arrangements with a pediatric endocrinologist for the purpose of assessment, education, and involvement in any decisions about physical interventions.

Psychological Assessment of Children and Adolescents

When assessing children and adolescents who present with gender dysphoria, mental health professionals should broadly conform to the following guidelines:

1. Mental health professionals should not dismiss or express a negative attitude towards nonconforming gender identities or indications of gender dysphoria. Rather, they should acknowledge the presenting concerns of children, adolescents, and their families; offer a thorough assessment for gender dysphoria and any co-existing mental health concerns; and educate clients and their families about therapeutic options, if needed. Acceptance and removal of secrecy can bring considerable relief to gender dysphoric children/adolescents and their families.
2. Assessment of gender dysphoria and mental health should explore the nature and characteristics of a child's or adolescent's gender identity. A psychodiagnostic and psychiatric assessment – covering the areas of emotional functioning, peer and other social relationships, and intellectual functioning/school achievement – should be performed. Assessment should include an evaluation of the strengths and weaknesses of family functioning. Emotional and behavioral problems are relatively common, and unresolved issues in a child's or youth's environment may be present (de Vries, Doreleijers, Steensma, & Cohen-Kettenis, 2011; Di Ceglie & Thümmel, 2006; Wallien et al., 2007).
3. For adolescents, the assessment phase should also be used to inform youth and their families about the possibilities and limitations of different treatments. This is necessary for informed consent, but also important for assessment. The way that adolescents respond to information about the reality of sex reassignment can be diagnostically informative. Correct information may alter a youth's desire for certain treatment, if the desire was based on unrealistic expectations of its possibilities.

Psychological and Social Interventions for Children and Adolescents

When supporting and treating children and adolescents with gender dysphoria, health professionals should broadly conform to the following guidelines:

1. Mental health professionals should help families to have an accepting and nurturing response to the concerns of their gender dysphoric child or adolescent. Families play an important role in the psychological health and well-being of youth (Brill & Pepper, 2008; Lev, 2004). This also applies to peers and mentors from the community, who can be another source of social support.

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2. Psychotherapy should focus on reducing a child's or adolescent's distress related to the gender dysphoria and on ameliorating any other psychosocial difficulties. For youth pursuing sex reassignment, psychotherapy may focus on supporting them before, during, and after reassignment. Formal evaluations of different psychotherapeutic approaches for this situation have not been published, but several counseling methods have been described (Cohen-Kettenis, 2006; de Vries, Cohen-Kettenis, & Delemarre-van de Waal, 2006; Di Ceglie & Thümmel, 2006; Hill, Menvielle, Sica, & Johnson, 2010; Malpas, in press; Menvielle & Tuerk, 2002; Rosenberg, 2002; Vanderburgh, 2009; Zucker, 2006).

Treatment aimed at trying to change a person's gender identity and expression to become more congruent with sex assigned at birth has been attempted in the past without success (Gelder & Marks, 1969; Greenson, 1964), particularly in the long term (Cohen-Kettenis & Kuiper, 1984; Pauly, 1965). Such treatment is no longer considered ethical.

1. Families should be supported in managing uncertainty and anxiety about their child's or adolescent's psychosexual outcomes and in helping youth to develop a positive self-concept.
2. Mental health professionals should not impose a binary view of gender. They should give ample room for clients to explore different options for gender expression. Hormonal or surgical interventions are appropriate for some adolescents, but not for others.
3. Clients and their families should be supported in making difficult decisions regarding the extent to which clients are allowed to express a gender role that is consistent with their gender identity, as well as the timing of changes in gender role and possible social transition. For example, a client might attend school while undergoing social transition only partly (e.g., by wearing clothing and having a hairstyle that reflects gender identity) or completely (e.g., by also using a name and pronouns congruent with gender identity). Difficult issues include whether and when to inform other people of the client's situation, and how others in their lives should respond.
4. Health professionals should support clients and their families as educators and advocates in their interactions with community members and authorities such as teachers, school boards, and courts.
5. Mental health professionals should strive to maintain a therapeutic relationship with gender nonconforming children/adolescents and their families throughout any subsequent social changes or physical interventions. This ensures that decisions about gender expression and the treatment of gender dysphoria are thoughtfully and recurrently considered. The same reasoning applies if a child or adolescent has already socially changed gender role prior to being seen by a mental health professional.

Social Transition in Early Childhood

Some children state that they want to make a social transition to a different gender role long before puberty. For some children, this may reflect an expression of their gender identity. For others, this could be motivated by other forces. Families vary in the extent to which they allow their young children to make a social transition to another gender role. Social transitions in early childhood do occur within some families with early success. This is a controversial issue, and divergent views are held by health professionals. The current evidence base is insufficient to predict the long-term outcomes of completing a gender role transition during early childhood. Outcomes research with children who completed early social transitions would greatly inform future clinical recommendations.

Mental health professionals can help families to make decisions regarding the timing and process of any gender role changes for their young children. They should provide information and help parents to weigh the potential benefits and challenges of particular choices. Relevant in this respect are the previously described relatively low persistence rates of childhood gender dysphoria (Drummond et al., 2008; Wallien & Cohen-Kettenis, 2008). A change back to the original gender role can be highly distressing and even result in postponement of this second social transition on the child's part (Steensma & Cohen-Kettenis, 2011). For reasons such as these, parents may want to present this role change as an exploration of living in another gender role, rather than an irreversible situation. Mental health professionals can assist parents in identifying potential in-between solutions or compromises (e.g., only when on vacation). It is also important that parents explicitly let the child know that there is a way back.

Regardless of a family's decisions regarding transition (timing, extent), professionals should counsel and support them as they work through the options and implications. If parents do not allow their young child to make a gender role transition, they may need counseling to assist them with meeting their child's needs in a sensitive and nurturing way, ensuring that the child has ample possibilities to explore gender feelings and behavior in a safe environment. If parents do allow their young child to make a gender role transition, they may need counseling to facilitate a positive experience for their child. For example, they may need support in using correct pronouns, maintaining a safe and supportive environment for their transitioning child (e.g., in school, peer group settings), and communicating with other people in their child's life. In either case, as a child nears puberty, further assessment may be needed as options for physical interventions become relevant.

Physical Interventions for Adolescents

Before any physical interventions are considered for adolescents, extensive exploration of psychological, family, and social issues should be undertaken, as outlined above. The duration of this exploration may vary considerably depending on the complexity of the situation.

Physical interventions should be addressed in the context of adolescent development. Some identity beliefs in adolescents may become firmly held and strongly expressed, giving a false impression of irreversibility. An adolescent's shift towards gender conformity can occur primarily to please the parents and may not persist or reflect a permanent change in gender dysphoria (Hembree et al., 2009; Steensma et al., published online ahead of print January 7, 2011).

Physical interventions for adolescents fall into three categories or stages (Hembree et al., 2009):

1. *Fully reversible interventions.* These involve the use of GnRH analogues to suppress estrogen or testosterone production and consequently delay the physical changes of puberty. Alternative treatment options include progestins (most commonly medroxyprogesterone) or other medications (such as spironolactone) that decrease the effects of androgens secreted by the testicles of adolescents who are not receiving GnRH analogues. Continuous oral contraceptives (or depot medroxyprogesterone) may be used to suppress menses.
2. *Partially reversible interventions.* These include hormone therapy to masculinize or feminize the body. Some hormone-induced changes may need reconstructive surgery to reverse the effect (e.g., gynaecomastia caused by estrogens), while other changes are not reversible (e.g., deepening of the voice caused by testosterone).
3. *Irreversible interventions.* These are surgical procedures.

A staged process is recommended to keep options open through the first two stages. Moving from one stage to another should not occur until there has been adequate time for adolescents and their parents to assimilate fully the effects of earlier interventions.

Fully Reversible Interventions

Adolescents may be eligible for puberty suppressing hormones as soon as pubertal changes have begun. In order for adolescents and their parents to make an informed decision about pubertal delay, it is recommended that adolescents experience the onset of puberty to at least Tanner Stage 2. Some children may arrive at this stage at very young ages (e.g., 9 years of age). Studies

evaluating this approach only included children who were at least 12 years of age (Cohen-Kettenis, Schagen, Steensma, de Vries, & Delemarre-van de Waal, 2011; de Vries, Steensma et al., 2010; Delemarre-van de Waal, van Weissenbruch, & Cohen Kettenis, 2004; Delemarre-van de Waal & Cohen-Kettenis, 2006).

Two goals justify intervention with puberty suppressing hormones: (i) their use gives adolescents more time to explore their gender nonconformity and other developmental issues; and (ii) their use may facilitate transition by preventing the development of sex characteristics that are difficult or impossible to reverse if adolescents continue on to pursue sex reassignment.

Puberty suppression may continue for a few years, at which time a decision is made to either discontinue all hormone therapy or transition to a feminizing/masculinizing hormone regimen. Pubertal suppression does not inevitably lead to social transition or to sex reassignment.

Criteria for puberty suppressing hormones

In order for adolescents to receive puberty suppressing hormones, the following minimum criteria must be met:

1. The adolescent has demonstrated a long-lasting and intense pattern of gender nonconformity or gender dysphoria (whether suppressed or expressed);
2. Gender dysphoria emerged or worsened with the onset of puberty;
3. Any co-existing psychological, medical, or social problems that could interfere with treatment (e.g., that may compromise treatment adherence) have been addressed, such that the adolescent's situation and functioning are stable enough to start treatment;
4. The adolescent has given informed consent and, particularly when the adolescent has not reached the age of medical consent, the parents or other caretakers or guardians have consented to the treatment and are involved in supporting the adolescent throughout the treatment process.

Regimens, monitoring, and risks for puberty suppression

For puberty suppression, adolescents with male genitalia should be treated with GnRH analogues, which stop luteinizing hormone secretion and therefore testosterone secretion. Alternatively, they may be treated with progestins (such as medroxyprogesterone) or with other medications that block testosterone secretion and/or neutralize testosterone action. Adolescents with female genitalia should be treated with GnRH analogues, which stop the production of estrogens and

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progesterone. Alternatively, they may be treated with progestins (such as medroxyprogesterone). Continuous oral contraceptives (or depot medroxyprogesterone) may be used to suppress menses. In both groups of adolescents, use of GnRH analogues is the preferred treatment (Hembree et al., 2009), but their high cost is prohibitive for some patients

During pubertal suppression, an adolescent's physical development should be carefully monitored – preferably by a pediatric endocrinologist – so that any necessary interventions can occur (e.g., to establish an adequate gender appropriate height, to improve iatrogenic low bone marrow density) (Hembree et al., 2009).

Early use of puberty suppressing hormones may avert negative social and emotional consequences of gender dysphoria more effectively than their later use would. Intervention in early adolescence should be managed with pediatric endocrinological advice, when available. Adolescents with male genitalia who start GnRH analogues early in puberty should be informed that this could result in insufficient penile tissue for penile inversion vaginoplasty techniques (alternative techniques, such as the use of a skin graft or colon tissue, are available).

Neither puberty suppression nor allowing puberty to occur is a neutral act. On the one hand, functioning in later life can be compromised by the development of irreversible secondary sex characteristics during puberty and by years spent experiencing intense gender dysphoria. On the other hand, there are concerns about negative physical side effects of GnRH analog use (e.g., on bone development and height). Although the very first results of this approach (as assessed for adolescents followed over 10 years) are promising (Cohen-Kettenis et al., 2011; Delemarre-van de Waal & Cohen-Kettenis, 2006), the long-term effects can only be determined when the earliest treated patients reach the appropriate age.

Partially Reversible Interventions

Adolescents may be eligible to begin feminizing/masculinizing hormone therapy, preferably with parental consent. In many countries, 16-year-olds are legal adults for medical decision-making and do not require parental consent. Ideally, treatment decisions should be made among the adolescent, the family, and the treatment team.

Regimens for hormone therapy in gender dysphoric adolescents differ substantially from those used in adults (Hembree et al., 2009). The hormone regimens for youth are adapted to account for the somatic, emotional, and mental development that occurs throughout adolescence (Hembree et al., 2009).

Irreversible Interventions

Genital surgery should not be carried out until (i) patients reach the legal age of majority in a given country, and (ii) patients have lived continuously for at least 12 months in the gender role that is congruent with their gender identity. The age threshold should be seen as a minimum criterion and not an indication in and of itself for active intervention.

Chest surgery in FtM patients could be carried out earlier, preferably after ample time of living in the desired gender role and after one year of testosterone treatment. The intent of this suggested sequence is to give adolescents sufficient opportunity to experience and socially adjust in a more masculine gender role, before undergoing irreversible surgery. However, different approaches may be more suitable, depending on an adolescent's specific clinical situation and goals for gender identity expression.

Risks of Withholding Medical Treatment for Adolescents

Refusing timely medical interventions for adolescents might prolong gender dysphoria and contribute to an appearance that could provoke abuse and stigmatization. As the level of gender-related abuse is strongly associated with the degree of psychiatric distress during adolescence (Nuttbrock et al., 2010), withholding puberty suppression and subsequent feminizing or masculinizing hormone therapy is not a neutral option for adolescents.

VII

Mental Health

Transsexual, transgender, and gender nonconforming people might seek the assistance of a mental health professional for any number of reasons. Regardless of a person's reason for seeking care, mental health professionals should have familiarity with gender nonconformity, act with appropriate cultural competence, and exhibit sensitivity in providing care.

This section of the SOC focuses on the role of mental health professionals in the care of adults seeking help for gender dysphoria and related concerns. Professionals working with gender dysphoric children, adolescents, and their families should consult section VI.

Competency of Mental Health Professionals Working with Adults Who Present with Gender Dysphoria

The training of mental health professionals competent to work with gender dysphoric adults rests upon basic general clinical competence in the assessment, diagnosis, and treatment of mental health concerns. Clinical training may occur within any discipline that prepares mental health professionals for clinical practice, such as psychology, psychiatry, social work, mental health counseling, marriage and family therapy, nursing, or family medicine with specific training in behavioral health and counseling. The following are recommended minimum credentials for mental health professionals who work with adults presenting with gender dysphoria:

1. A master's degree or its equivalent in a clinical behavioral science field. This degree or a more advanced one should be granted by an institution accredited by the appropriate national or regional accrediting board. The mental health professional should have documented credentials from a relevant licensing board or equivalent for that country.
2. Competence in using the *Diagnostic Statistical Manual of Mental Disorders* and/or the *International Classification of Diseases* for diagnostic purposes.
3. Ability to recognize and diagnose co-existing mental health concerns and to distinguish these from gender dysphoria.
4. Documented supervised training and competence in psychotherapy or counseling.
5. Knowledgeable about gender nonconforming identities and expressions, and the assessment and treatment of gender dysphoria.
6. Continuing education in the assessment and treatment of gender dysphoria. This may include attending relevant professional meetings, workshops, or seminars; obtaining supervision from a mental health professional with relevant experience; or participating in research related to gender nonconformity and gender dysphoria.

In addition to the minimum credentials above, it is recommended that mental health professionals develop and maintain cultural competence to facilitate their work with transsexual, transgender, and gender nonconforming clients. This may involve, for example, becoming knowledgeable about current community, advocacy, and public policy issues relevant to these clients and their families. Additionally, knowledge about sexuality, sexual health concerns, and the assessment and treatment of sexual disorders is preferred.

Mental health professionals who are new to the field (irrespective of their level of training and other experience) should work under the supervision of a mental health professional with established competence in the assessment and treatment of gender dysphoria.

Tasks of Mental Health Professionals Working with Adults Who Present with Gender Dysphoria

Mental health professionals may serve transsexual, transgender, and gender nonconforming individuals and their families in many ways, depending on a client's needs. For example, mental health professionals may serve as a psychotherapist, counselor, or family therapist, or as a diagnostician/assessor, advocate, or educator.

Mental health professionals should determine a client's reasons for seeking professional assistance. For example, a client may be presenting for any combination of the following health care services: psychotherapeutic assistance to explore gender identity and expression or to facilitate a coming out process; assessment and referral for feminizing/masculinizing medical interventions; psychological support for family members (partners, children, extended family); or psychotherapy unrelated to gender concerns or other professional services.

Below are general guidelines for common tasks that mental health professionals may fulfill in working with adults who present with gender dysphoria.

Tasks Related to Assessment and Referral

1. Assess gender dysphoria

Mental health professionals assess clients' gender dysphoria in the context of an evaluation of their psychosocial adjustment (Bockting et al., 2006; Lev, 2004, 2009). The evaluation includes, at a minimum, assessment of gender identity and gender dysphoria, history and development of gender dysphoric feelings, the impact of stigma attached to gender nonconformity on mental health, and the availability of support from family, friends, and peers (for example, in person or online contact with other transsexual, transgender, or gender nonconforming individuals or groups). The evaluation may result in no diagnosis, in a formal diagnosis related to gender dysphoria, and/or in other diagnoses that describe aspects of the client's health and psychosocial adjustment. The role

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of mental health professionals includes making reasonably sure that the gender dysphoria is not secondary to or better accounted for by other diagnoses.

Mental health professionals with the competencies described above (hereafter called “a qualified mental health professional”) are best prepared to conduct this assessment of gender dysphoria. However, this task may instead be conducted by another type of health professional who has appropriate training in behavioral health and is competent in the assessment of gender dysphoria, particularly when functioning as part of a multidisciplinary specialty team that provides access to feminizing/masculinizing hormone therapy. This professional may be the prescribing hormone therapy provider or a member of that provider’s health care team.

2. Provide information regarding options for gender identity and expression and possible medical interventions

An important task of mental health professionals is to educate clients regarding the diversity of gender identities and expressions and the various options available to alleviate gender dysphoria. Mental health professionals then may facilitate a process (or refer elsewhere) in which clients explore these various options, with the goals of finding a comfortable gender role and expression and becoming prepared to make a fully informed decision about available medical interventions, if needed. This process may include referral for individual, family, and group therapy and/or to community resources and avenues for peer support. The professional and the client discuss the implications, both short- and long-term, of any changes in gender role and use of medical interventions. These implications can be psychological, social, physical, sexual, occupational, financial, and legal (Bockting et al., 2006; Lev, 2004).

This task is also best conducted by a qualified mental health professional, but may be conducted by another health professional with appropriate training in behavioral health and with sufficient knowledge about gender nonconforming identities and expressions and about possible medical interventions for gender dysphoria, particularly when functioning as part of a multidisciplinary specialty team that provides access to feminizing/masculinizing hormone therapy.

3. Assess, diagnose, and discuss treatment options for co-existing mental health concerns

Clients presenting with gender dysphoria may struggle with a range of mental health concerns (Gómez-Gil, Trilla, Salamero, Godás, & Valdés, 2009; Murad et al., 2010) whether related or unrelated to what is often a long history of gender dysphoria and/or chronic minority stress. Possible concerns include anxiety, depression, self-harm, a history of abuse and neglect, compulsivity, substance abuse, sexual concerns, personality disorders, eating disorders, psychotic disorders, and autistic spectrum disorders (Bockting et al., 2006; Nuttbrock et al., 2010; Robinow, 2009). Mental health professionals should screen for these and other mental health concerns and incorporate

the identified concerns into the overall treatment plan. These concerns can be significant sources of distress and, if left untreated, can complicate the process of gender identity exploration and resolution of gender dysphoria (Bockting et al., 2006; Fraser, 2009a; Lev, 2009). Addressing these concerns can greatly facilitate the resolution of gender dysphoria, possible changes in gender role, the making of informed decisions about medical interventions, and improvements in quality of life.

Some clients may benefit from psychotropic medications to alleviate symptoms or treat co-existing mental health concerns. Mental health professionals are expected to recognize this and either provide pharmacotherapy or refer to a colleague who is qualified to do so. The presence of co-existing mental health concerns does not necessarily preclude possible changes in gender role or access to feminizing/masculinizing hormones or surgery; rather, these concerns need to be optimally managed prior to or concurrent with treatment of gender dysphoria. In addition, clients should be assessed for their ability to provide educated and informed consent for medical treatments.

Qualified mental health professionals are specifically trained to assess, diagnose, and treat (or refer to treatment for) these co-existing mental health concerns. Other health professionals with appropriate training in behavioral health, particularly when functioning as part of a multidisciplinary specialty team providing access to feminizing/masculinizing hormone therapy, may also screen for mental health concerns and, if indicated, provide referral for comprehensive assessment and treatment by a qualified mental health professional.

4. If applicable, assess eligibility, prepare, and refer for hormone therapy

The SOC provide criteria to guide decisions regarding feminizing/masculinizing hormone therapy (outlined in section VIII and Appendix C). Mental health professionals can help clients who are considering hormone therapy to be both psychologically prepared (for example, has made a fully informed decision with clear and realistic expectations; is ready to receive the service in line with the overall treatment plan; has included family and community as appropriate) and practically prepared (for example, has been evaluated by a physician to rule out or address medical contraindications to hormone use; has considered the psychosocial implications). If clients are of childbearing age, reproductive options (section IX) should be explored before initiating hormone therapy.

It is important for mental health professionals to recognize that decisions about hormones are first and foremost the client's decisions – as are all decisions regarding healthcare. However, mental health professionals have a responsibility to encourage, guide, and assist clients with making fully informed decisions and becoming adequately prepared. To best support their clients' decisions, mental health professionals need to have functioning working relationships with their clients and sufficient information about them. Clients should receive prompt and attentive evaluation, with the goal of alleviating their gender dysphoria and providing them with appropriate medical services.

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Referral for feminizing/masculinizing hormone therapy

People may approach a specialized provider in any discipline to pursue feminizing/masculinizing hormone therapy. However, transgender health care is an interdisciplinary field, and coordination of care and referral among a client's overall care team is recommended.

Hormone therapy can be initiated with a referral from a qualified mental health professional. Alternatively, a health professional who is appropriately trained in behavioral health and competent in the assessment of gender dysphoria may assess eligibility, prepare, and refer the patient for hormone therapy, particularly in the absence of significant co-existing mental health concerns and when working in the context of a multidisciplinary specialty team. The referring health professional provides documentation – in the chart and/or referral letter – of the patient's personal and treatment history, progress, and eligibility. Health professionals who recommend hormone therapy share the ethical and legal responsibility for that decision with the physician who provides the service.

The recommended content of the referral letter for feminizing/masculinizing hormone therapy is as follows:

1. The client's general identifying characteristics;
2. Results of the client's psychosocial assessment, including any diagnoses;
3. The duration of the referring health professional's relationship with the client, including the type of evaluation and therapy or counseling to date;
4. An explanation that the criteria for hormone therapy have been met, and a brief description of the clinical rationale for supporting the client's request for hormone therapy;
5. A statement about the fact that informed consent has been obtained from the patient;
6. A statement that the referring health professional is available for coordination of care and welcomes a phone call to establish this.

For providers working within a multidisciplinary specialty team, a letter may not be necessary, rather, the assessment and recommendation can be documented in the patient's chart.

5. If applicable, assess eligibility, prepare, and refer for surgery

The SOC also provide criteria to guide decisions regarding breast/chest surgery and genital surgery (outlined in section XI and Appendix C). Mental health professionals can help clients who are considering surgery to be both psychologically prepared (for example, has made a fully informed

decision with clear and realistic expectations; is ready to receive the service in line with the overall treatment plan; has included family and community as appropriate) and practically prepared (for example, has made an informed choice about a surgeon to perform the procedure; has arranged aftercare). If clients are of childbearing age, reproductive options (section IX) should be explored before undergoing genital surgery.

The SOC do not state criteria for other surgical procedures, such as feminizing or masculinizing facial surgery; however, mental health professionals can play an important role in helping their clients to make fully informed decisions about the timing and implications of such procedures in the context of the overall coming out or transition process.

It is important for mental health professionals to recognize that decisions about surgery are first and foremost a client's decisions – as are all decisions regarding healthcare. However, mental health professionals have a responsibility to encourage, guide, and assist clients with making fully informed decisions and becoming adequately prepared. To best support their clients' decisions, mental health professionals need to have functioning working relationships with their clients and sufficient information about them. Clients should receive prompt and attentive evaluation, with the goal of alleviating their gender dysphoria and providing them with appropriate medical services.

Referral for surgery

Surgical treatments for gender dysphoria can be initiated with a referral (one or two, depending on the type of surgery) from a qualified mental health professional. The mental health professional provides documentation – in the chart and/or referral letter – of the patient's personal and treatment history, progress, and eligibility. Mental health professionals who recommend surgery share the ethical and legal responsibility for that decision with the surgeon.

- One referral from a qualified mental health professional is needed for breast/chest surgery (e.g., mastectomy, chest reconstruction, or augmentation mammoplasty).
- Two referrals – from qualified mental health professionals who have independently assessed the patient – are needed for genital surgery (i.e., hysterectomy/salpingo-oophorectomy, orchiectomy, genital reconstructive surgeries). If the first referral is from the patient's psychotherapist, the second referral should be from a person who has only had an evaluative role with the patient. Two separate letters, or one letter signed by both (e.g., if practicing within the same clinic) may be sent. Each referral letter, however, is expected to cover the same topics in the areas outlined below.

The recommended content of the referral letters for surgery is as follows:

1. The client's general identifying characteristics;

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2. Results of the client's psychosocial assessment, including any diagnoses;
3. The duration of the mental health professional's relationship with the client, including the type of evaluation and therapy or counseling to date;
4. An explanation that the criteria for surgery have been met, and a brief description of the clinical rationale for supporting the patient's request for surgery;
5. A statement about the fact that informed consent has been obtained from the patient;
6. A statement that the mental health professional is available for coordination of care and welcomes a phone call to establish this.

For providers working within a multidisciplinary specialty team, a letter may not be necessary, rather, the assessment and recommendation can be documented in the patient's chart.

Relationship of Mental Health Professionals with Hormone-Prescribing Physicians, Surgeons, and other Health Professionals

It is ideal for mental health professionals to perform their work and periodically discuss progress and obtain peer consultation from other professionals (both in mental health care and other health disciplines) who are competent in the assessment and treatment of gender dysphoria. The relationship among professionals involved in a client's health care should remain collaborative, with coordination and clinical dialogue taking place as needed. Open and consistent communication may be necessary for consultation, referral, and management of postoperative concerns.

Tasks Related to Psychotherapy

1. Psychotherapy is not an absolute requirement for hormone therapy and surgery

A mental health screening and/or assessment as outlined above is needed for referral to hormonal and surgical treatments for gender dysphoria. In contrast, psychotherapy – although highly recommended – is not a requirement.

The SOC do not recommend a minimum number of psychotherapy sessions prior to hormone therapy or surgery. The reasons for this are multifaceted (Lev, 2009). First, a minimum number of sessions tends to be construed as a hurdle, which discourages the genuine opportunity for personal growth. Second, mental health professionals can offer important support to clients throughout all

phases of exploration of gender identity, gender expression, and possible transition – not just prior to any possible medical interventions. Third, clients differ in their abilities to attain similar goals in a specified time period.

2. Goals of psychotherapy for adults with gender concerns

The general goal of psychotherapy is to find ways to maximize a person's overall psychological well-being, quality of life, and self-fulfillment. Psychotherapy is not intended to alter a person's gender identity; rather, psychotherapy can help an individual to explore gender concerns and find ways to alleviate gender dysphoria, if present (Bockting et al., 2006; Bockting & Coleman, 2007; Fraser, 2009a; Lev, 2004). Typically, the overarching treatment goal is to help transsexual, transgender, and gender nonconforming individuals achieve long-term comfort in their gender identity expression, with realistic chances for success in their relationships, education, and work. For additional details, see Fraser (Fraser, 2009c).

Therapy may consist of individual, couple, family, or group psychotherapy, the latter being particularly important to foster peer support.

3. Psychotherapy for transsexual, transgender, and gender nonconforming clients, including counseling and support for changes in gender role

Finding a comfortable gender role is, first and foremost, a psychosocial process. Psychotherapy can be invaluable in assisting transsexual, transgender, and gender nonconforming individuals with all of the following: (i) clarifying and exploring gender identity and role, (ii) addressing the impact of stigma and minority stress on one's mental health and human development, and (iii) facilitating a coming out process (Bockting & Coleman, 2007; Devor, 2004; Lev, 2004), which for some individuals may include changes in gender role expression and the use of feminizing/masculinizing medical interventions.

Mental health professionals can provide support and promote interpersonal skills and resilience in individuals and their families as they navigate a world that often is ill prepared to accommodate and respect transgender, transsexual, and gender nonconforming people. Psychotherapy can also aid in alleviating any co-existing mental health concerns (e.g., anxiety, depression) identified during screening and assessment.

For transsexual, transgender, and gender nonconforming individuals who plan to change gender roles permanently and make a social gender role transition, mental health professionals can facilitate the development of an individualized plan with specific goals and timelines. While the experience of changing one's gender role differs from person to person, the social aspects of the experience are usually challenging – often more so than the physical aspects. Because changing

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gender role can have profound personal and social consequences, the decision to do so should include an awareness of what the familial, interpersonal, educational, vocational, economic, and legal challenges are likely to be, so that people can function successfully in their gender role.

Many transsexual, transgender, and gender nonconforming people will present for care without ever having been related to or accepted in the gender role that is most congruent with their gender identity. Mental health professionals can help these clients to explore and anticipate the implications of changes in gender role, and to pace the process of implementing these changes. Psychotherapy can provide a space for clients to begin to express themselves in ways that are congruent with their gender identity and, for some clients, overcome fear about changes in gender expression. Calculated risks can be taken outside of therapy to gain experience and build confidence in the new role. Assistance with coming out to family and community (friends, school, workplace) can be provided.

Other transsexual, transgender, and gender nonconforming individuals will present for care already having acquired experience (minimal, moderate, or extensive) living in a gender role that differs from that associated with their birth-assigned sex. Mental health professionals can help these clients to identify and work through potential challenges and foster optimal adjustment as they continue to express changes in their gender role.

4. Family therapy or support for family members

Decisions about changes in gender role and medical interventions for gender dysphoria have implications for not only clients, but also their families (Emerson & Rosenfeld, 1996; Fraser, 2009a; Lev, 2004). Mental health professionals can assist clients with making thoughtful decisions about communicating with family members and others about their gender identity and treatment decisions. Family therapy may include work with spouses or partners, as well as with children and other members of a client's extended family.

Clients may also request assistance with their relationships and sexual health. For example, they may want to explore their sexuality and intimacy related concerns.

Family therapy might be offered as part of the client's individual therapy and, if clinically appropriate, by the same provider. Alternatively, referrals can be made to other therapists with relevant expertise to work with family members, or to sources of peer support (e.g., online or offline support networks of partners or families).

5. Follow-up care throughout life

Mental health professionals may work with clients and their families at many stages of their lives. Psychotherapy may be helpful at different times and for various issues throughout the life cycle.

6. Etherapy, online counseling, or distance counseling

Online or etherapy has been shown to be particularly useful for people who have difficulty accessing competent psychotherapeutic treatment and who may experience isolation and stigma (Derrig-Palumbo & Zeine, 2005; Fenichel et al., 2004; Fraser, 2009b). By extrapolation, etherapy may be a useful modality for psychotherapy with transsexual, transgender, and gender nonconforming people. Etherapy offers opportunities for potentially enhanced, expanded, creative, and tailored delivery of services; however, as a developing modality it may also carry unexpected risk. Telemedicine guidelines are clear in some disciplines in some parts of the United States (Fraser, 2009b; Maheu, Pulier, Wilhelm, McMEnamin, & Brown-Connolly, 2005) but not all; the international situation is even less defined (Maheu et al., 2005). Until sufficient evidence-based data on this use of etherapy is available, caution in its use is advised.

Mental health professionals engaging in etherapy are advised to stay current with their particular licensing board, professional association, and country's regulations, as well as the most recent literature pertaining to this rapidly evolving medium. A more thorough description of the potential uses, processes, and ethical concerns related to etherapy has been published (Fraser, 2009b).

Other Tasks of the Mental Health Professional

1. Educate and advocate on behalf of clients within their community (schools, workplaces, other organizations) and assist clients with making changes in identity documents

Transsexual, transgender, and gender nonconforming people may face challenges in their professional, educational, and other types of settings as they actualize their gender identity and expression (Lev, 2004, 2009). Mental health professionals can play an important role by educating people in these settings regarding gender nonconformity and by advocating on behalf of their clients (Currah, Juang, & Minter, 2006) (Currah & Minter, 2000). This role may involve consultation with school counselors, teachers, and administrators, human resources staff, personnel managers and employers, and representatives from other organizations and institutions. In addition, health providers may be called upon to support changes in a client's name and/or gender marker on identity documents such as passports, driver's licenses, birth certificates, and diplomas.

2. Provide information and referral for peer support

For some transsexual, transgender, and gender nonconforming people, an experience in peer support groups may be more instructive regarding options for gender expression than anything individual psychotherapy could offer (Rachlin, 2002). Both experiences are potentially valuable, and all people exploring gender issues should be encouraged to participate in community activities, if possible. Resources for peer support and information should be made available.

Culture and its Ramifications for Assessment and Psychotherapy

Health professionals work in enormously different environments across the world. Forms of distress that cause people to seek professional assistance in any culture are understood and classified by people in terms that are products of their own cultures (Frank & Frank, 1993). Cultural settings also largely determine how such conditions are understood by mental health professionals. Cultural differences related to gender identity and expression can affect patients, mental health professionals, and accepted psychotherapy practice. WPATH recognizes that the SOC have grown out of a Western tradition and may need to be adapted depending on the cultural context.

Ethical Guidelines Related to Mental Health Care

Mental health professionals need to be certified or licensed to practice in a given country according to that country's professional regulations (Fraser, 2009b; Pope & Vasquez, 2011). Professionals must adhere to the ethical codes of their professional licensing or certifying organizations in all of their work with transsexual, transgender, and gender nonconforming clients.

Treatment aimed at trying to change a person's gender identity and lived gender expression to become more congruent with sex assigned at birth has been attempted in the past (Gelder & Marks, 1969; Greenson, 1964), yet without success, particularly in the long term (Cohen-Kettenis & Kuiper, 1984; Pauly, 1965). Such treatment is no longer considered ethical.

If mental health professionals are uncomfortable with or inexperienced in working with transsexual, transgender, and gender nonconforming individuals and their families, they should refer clients to a competent provider or, at minimum, consult with an expert peer. If no local practitioners are available, consultation may be done via telehealth methods, assuming local requirements for distance consultation are met.

Issues of Access to Care

Qualified mental health professionals are not universally available; thus, access to quality care might be limited. WPATH aims to improve access and provides regular continuing education opportunities to train professionals from various disciplines to provide quality, transgender-specific health care. Providing mental health care from a distance through the use of technology may be one way to improve access (Fraser, 2009b).

In many places around the world, access to health care for transsexual, transgender, and gender nonconforming people is also limited by a lack of health insurance or other means to pay for needed care. WPATH urges health insurance companies and other third-party payers to cover the medically necessary treatment to alleviate gender dysphoria (American Medical Association, 2008; Anton, 2009; The World Professional Association for Transgender Health, 2008).

When faced with a client who is unable to access services, referral to available peer support resources (offline and online) is recommended. Finally, harm reduction approaches might be indicated to assist clients with making healthy decisions to improve their lives.

VIII

Hormone Therapy

Medical Necessity of Hormone Therapy

Feminizing/masculinizing hormone therapy – the administration of exogenous endocrine agents to induce feminizing or masculinizing changes – is a medically necessary intervention for many transsexual, transgender, and gender nonconforming individuals with gender dysphoria (Newfield, Hart, Dibble, & Kohler, 2006; Pfäfflin & Junge, 1998). Some people seek maximum feminization/masculinization, while others experience relief with an androgynous presentation resulting from hormonal minimization of existing secondary sex characteristics (Factor & Rothblum, 2008). Evidence for the psychosocial outcomes of hormone therapy is summarized in Appendix D.

Hormone therapy must be individualized based on a patient's goals, the risk/benefit ratio of medications, the presence of other medical conditions, and consideration of social and economic issues. Hormone therapy can provide significant comfort to patients who do not wish to make a social gender role transition or undergo surgery, or who are unable to do so (Meyer III, 2009).

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Hormone therapy is a recommended criterion for some, but not all, surgical treatments for gender dysphoria (see section XI and Appendix C).

Criteria for Hormone Therapy

Initiation of hormone therapy may be undertaken after a psychosocial assessment has been conducted and informed consent has been obtained by a qualified health professional, as outlined in section VII of the SOC. A referral is required from the mental health professional who performed the assessment, unless the assessment was done by a hormone provider who is also qualified in this area.

The criteria for hormone therapy are as follows:

1. Persistent, well-documented gender dysphoria;
2. Capacity to make a fully informed decision and to consent for treatment;
3. Age of majority in a given country (if younger, follow the *Standards of Care* outlined in section VI);
4. If significant medical or mental health concerns are present, they must be reasonably well-controlled.

As noted in section VII of the SOC, the presence of co-existing mental health concerns does not necessarily preclude access to feminizing/masculinizing hormones; rather, these concerns need to be managed prior to or concurrent with treatment of gender dysphoria.

In selected circumstances, it can be acceptable practice to provide hormones to patients who have not fulfilled these criteria. Examples include facilitating the provision of monitored therapy using hormones of known quality as an alternative to illicit or unsupervised hormone use or to patients who have already established themselves in their affirmed gender and who have a history of prior hormone use. It is unethical to deny availability or eligibility for hormone therapy solely on the basis of blood seropositivity for blood-borne infections such as HIV or hepatitis B or C.

In rare cases, hormone therapy may be contraindicated due to serious individual health conditions. Health professionals should assist these patients with accessing non-hormonal interventions for gender dysphoria. A qualified mental health professional familiar with the patient is an excellent resource in these circumstances.

Informed Consent

Feminizing/masculinizing hormone therapy may lead to irreversible physical changes. Thus, hormone therapy should be provided only to those who are legally able to provide informed consent. This includes people who have been declared by a court to be emancipated minors, incarcerated people, and cognitively impaired people who are considered competent to participate in their medical decisions (see also Bockting et al., 2006). Providers should document in the medical record that comprehensive information has been provided and understood about all relevant aspects of the hormone therapy, including both possible benefits and risks and the impact on reproductive capacity.

Relationship between the Standards of Care and Informed Consent Model Protocols

A number of community health centers in the United States have developed protocols for providing hormone therapy based on an approach that has become known as the Informed Consent Model (Callen Lorde Community Health Center, 2000, 2011; Fenway Community Health Transgender Health Program, 2007; Tom Waddell Health Center, 2006). These protocols are consistent with the guidelines presented in the WPATH *Standards of Care, Version 7*. The SOC are flexible clinical guidelines; they allow for tailoring of interventions to the needs of the individual receiving services and for tailoring of protocols to the approach and setting in which these services are provided (Ehrbar & Gorton, 2010).

Obtaining informed consent for hormone therapy is an important task of providers to ensure that patients understand the psychological and physical benefits and risks of hormone therapy, as well as its psychosocial implications. Providers prescribing the hormones or health professionals recommending the hormones should have the knowledge and experience to assess gender dysphoria. They should inform individuals of the particular benefits, limitations, and risks of hormones, given the patient's age, previous experience with hormones, and concurrent physical or mental health concerns.

Screening for and addressing acute or current mental health concerns is an important part of the informed consent process. This may be done by a mental health professional or by an appropriately trained prescribing provider (see section VII of the SOC). The same provider or another appropriately trained member of the health care team (e.g., a nurse) can address the psychosocial implications of taking hormones when necessary (e.g., the impact of masculinization/feminization on how one is perceived and its potential impact on relationships with family, friends, and coworkers). If indicated, these providers will make referrals for psychotherapy and for the assessment and treatment of co-existing mental health concerns such as anxiety or depression.

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The difference between the Informed Consent Model and *SOC, Version 7* is that the *SOC* puts greater emphasis on the important role that mental health professionals can play in alleviating gender dysphoria and facilitating changes in gender role and psychosocial adjustment. This may include a comprehensive mental health assessment and psychotherapy, when indicated. In the Informed Consent Model, the focus is on obtaining informed consent as the threshold for the initiation of hormone therapy in a multidisciplinary, harm-reduction environment. Less emphasis is placed on the provision of mental health care until the patient requests it, unless significant mental health concerns are identified that would need to be addressed before hormone prescription.

Physical Effects of Hormone Therapy

Feminizing/masculinizing hormone therapy will induce physical changes that are more congruent with a patient's gender identity.

- In FtM patients, the following physical changes are expected to occur: deepened voice, clitoral enlargement (variable), growth in facial and body hair, cessation of menses, atrophy of breast tissue, increased libido, and decreased percentage of body fat compared to muscle mass.
- In MtF patients, the following physical changes are expected to occur: breast growth (variable), decreased libido and erections, decreased testicular size, and increased percentage of body fat compared to muscle mass.

Most physical changes, whether feminizing or masculinizing, occur over the course of two years. The amount of physical change and the exact timeline of effects can be highly variable. Tables 1a and 1b outline the approximate time course of these physical changes.

TABLE 1A: EFFECTS AND EXPECTED TIME COURSE OF MASCULINIZING HORMONES^A

Effect	Expected Onset ^B	Expected Maximum Effect ^B
Skin oiliness/acne	1-6 months	1-2 years
Facial/body hair growth	3-6 months	3-5 years
Scalp hair loss	>12 months ^C	variable
Increased muscle mass/strength	6-12 months	2-5 years ^D
Body fat redistribution	3-6 months	2-5 years
Cessation of menses	2-6 months	n/a
Clitoral enlargement	3-6 months	1-2 years
Vaginal atrophy	3-6 months	1-2 years
Deepened voice	3-12 months	1-2 years

^A Adapted with permission from Hembree et al. (2009). *Copyright 2009, The Endocrine Society.*

^B Estimates represent published and unpublished clinical observations.

^C Highly dependent on age and inheritance; may be minimal.

^D Significantly dependent on amount of exercise.

TABLE 1B: EFFECTS AND EXPECTED TIME COURSE OF FEMINIZING HORMONES ^A

Effect	Expected Onset ^B	Expected Maximum Effect ^B
Body fat redistribution	3-6 months	2-5 years
Decreased muscle mass/ strength	3-6 months	1-2 years ^C
Softening of skin/decreased oiliness	3-6 months	unknown
Decreased libido	1-3 months	1-2 years
Decreased spontaneous erections	1-3 months	3-6 months
Male sexual dysfunction	variable	variable
Breast growth	3-6 months	2-3 years
Decreased testicular volume	3-6 months	2-3 years
Decreased sperm production	variable	variable
Thinning and slowed growth of body and facial hair	6-12 months	> 3 years ^D
Male pattern baldness	No regrowth, loss stops 1-3 months	1-2 years

^A Adapted with permission from Hembree et al. (2009). *Copyright 2009, The Endocrine Society.*

^B Estimates represent published and unpublished clinical observations.

^C Significantly dependent on amount of exercise.

^D Complete removal of male facial and body hair requires electrolysis, laser treatment, or both.

The degree and rate of physical effects depends in part on the dose, route of administration, and medications used, which are selected in accordance with a patient's specific medical goals (e.g., changes in gender role expression, plans for sex reassignment) and medical risk profile. There is no current evidence that response to hormone therapy – with the possible exception of voice deepening in FtM persons – can be reliably predicted based on age, body habitus, ethnicity, or family appearance. All other factors being equal, there is no evidence to suggest that any medically approved type or method of administering hormones is more effective than any other in producing the desired physical changes.

Risks of Hormone Therapy

All medical interventions carry risks. The likelihood of a serious adverse event is dependent on numerous factors: the medication itself, dose, route of administration, and a patient's clinical characteristics (age, co-morbidities, family history, health habits). It is thus impossible to predict whether a given adverse effect will happen in an individual patient.

The risks associated with feminizing/masculinizing hormone therapy for the transsexual, transgender, and gender nonconforming population as a whole are summarized in Table 2. Based on the level of evidence, risks are categorized as follows: (i) likely increased risk with hormone therapy, (ii) possibly increased risk with hormone therapy, or (iii) inconclusive or no increased risk. Items in the last category include those that may present risk, but for which the evidence is so minimal that no clear conclusion can be reached.

Additional detail about these risks can be found in Appendix B, which is based on two comprehensive, evidence-based literature reviews of masculinizing/feminizing hormone therapy (Feldman & Safer, 2009; Hembree et al., 2009), along with a large cohort study (Asscheman et al., 2011). These reviews can serve as detailed references for providers, along with other widely recognized, published clinical materials (Dahl, Feldman, Goldberg, & Jaber, 2006; Ettner, Monstrey, & Eyler, 2007).

TABLE 2: RISKS ASSOCIATED WITH HORMONE THERAPY. BOLDDED ITEMS ARE CLINICALLY SIGNIFICANT

Risk Level	Feminizing hormones	Masculinizing hormones
Likely increased risk	Venous thromboembolic disease^A Gallstones Elevated liver enzymes Weight gain Hypertriglyceridemia	Polycythemia Weight gain Acne Androgenic alopecia (balding) Sleep apnea
Likely increased risk with presence of additional risk factors ^B	Cardiovascular disease	
Possible increased risk	Hypertension Hyperprolactinemia or prolactinoma ^A	Elevated liver enzymes Hyperlipidemia
Possible increased risk with presence of additional risk factors ^B	Type 2 diabetes^A	Destabilization of certain psychiatric disorders^C Cardiovascular disease Hypertension Type 2 diabetes
No increased risk or inconclusive	Breast cancer	Loss of bone density Breast cancer Cervical cancer Ovarian cancer Uterine cancer

^A Risk is greater with oral estrogen administration than with transdermal estrogen administration.

^B Additional risk factors include age.

^C Includes bipolar, schizoaffective, and other disorders that may include manic or psychotic symptoms. This adverse event appears to be associated with higher doses or supraphysiologic blood levels of testosterone.

Competency of Hormone-Prescribing Physicians, Relationship with Other Health Professionals

Feminizing/masculinizing hormone therapy is best undertaken in the context of a complete approach to health care that includes comprehensive primary care and a coordinated approach to psychosocial issues (Feldman & Safer, 2009). While psychotherapy or ongoing counseling is not required for the initiation of hormone therapy, if a therapist is involved, then regular communication among health professionals is advised (with the patient's consent) to ensure that the transition process is going well, both physically and psychosocially.

With appropriate training, feminizing/masculinizing hormone therapy can be managed by a variety of providers, including nurse practitioners and primary care physicians (Dahl et al., 2006). Medical visits relating to hormone maintenance provide an opportunity to deliver broader care to a population that is often medically underserved (Clements, Wilkinson, Kitano, & Marx, 1999; Feldman, 2007; Xavier, 2000). Many of the screening tasks and management of co-morbidities associated with long-term hormone use, such as cardiovascular risk factors and cancer screening, fall more uniformly within the scope of primary care rather than specialist care (American Academy of Family Physicians, 2005; Eyler, 2007; World Health Organization, 2008), particularly in locations where dedicated gender teams or specialized physicians are not available.

Given the multidisciplinary needs of transsexual, transgender, and gender nonconforming people seeking hormone therapy, as well as the difficulties associated with fragmentation of care in general (World Health Organization, 2008), WPATH strongly encourages the increased training and involvement of primary care providers in the area of feminizing/masculinizing hormone therapy. If hormones are prescribed by a specialist, there should be close communication with the patient's primary care provider. Conversely, an experienced hormone provider or endocrinologist should be involved if the primary care physician has no experience with this type of hormone therapy, or if the patient has a pre-existing metabolic or endocrine disorder that could be affected by endocrine therapy.

While formal training programs in transgender medicine do not yet exist, hormone providers have a responsibility to obtain appropriate knowledge and experience in this field. Clinicians can increase their experience and comfort in providing feminizing/masculinizing hormone therapy by co-managing care or consulting with a more experienced provider, or by providing more limited types of hormone therapy before progressing to initiation of hormone therapy. Because this field of medicine is evolving, clinicians should become familiar and keep current with the medical literature, and discuss emerging issues with colleagues. Such discussions might occur through networks established by WPATH and other national/local organizations.

Responsibilities of Hormone-Prescribing Physicians

In general, clinicians who prescribe hormone therapy should engage in the following tasks:

1. Perform an initial evaluation that includes discussion of a patient's physical transition goals, health history, physical examination, risk assessment, and relevant laboratory tests.
2. Discuss with patients the expected effects of feminizing/masculinizing medications and the possible adverse health effects. These effects can include a reduction in fertility (Feldman & Safer, 2009; Hembree et al., 2009). Therefore, reproductive options should be discussed with patients before starting hormone therapy (see section IX).
3. Confirm that patients have the capacity to understand the risks and benefits of treatment and are capable of making an informed decision about medical care.
4. Provide ongoing medical monitoring, including regular physical and laboratory examination to monitor hormone effectiveness and side effects.
5. Communicate as needed with a patient's primary care provider, mental health professional, and surgeon.
6. If needed, provide patients with a brief written statement indicating that they are under medical supervision and care that includes feminizing/masculinizing hormone therapy. Particularly during the early phases of hormone treatment, a patient may wish to carry this statement at all times to help prevent difficulties with the police and other authorities.

Depending on the clinical situation for providing hormones (see below), some of these responsibilities are less relevant. Thus, the degree of counseling, physical examinations, and laboratory evaluations should be individualized to a patient's needs.

Clinical Situations for Hormone Therapy

There are circumstances in which clinicians may be called upon to provide hormones without necessarily initiating or maintaining long-term feminizing/masculinizing hormone therapy. By acknowledging these different clinical situations (see below, from least to highest level of complexity), it may be possible to involve clinicians in feminizing/masculinizing hormone therapy who might not otherwise feel able to offer this treatment.

1. Bridging

Whether prescribed by another clinician or obtained through other means (e.g., purchased over the internet), patients may present for care already on hormone therapy. Clinicians can provide a limited (1-6 month) prescription for hormones while helping patients find a provider who can prescribe long-term hormone therapy. Providers should assess a patient's current regimen for safety and drug interactions and substitute safer medications or doses when indicated (Dahl et al., 2006; Feldman & Safer, 2009). If hormones were previously prescribed, medical records should be requested (with the patient's permission) to obtain the results of baseline examinations and laboratory tests and any adverse events. Hormone providers should also communicate with any mental health professional who is currently involved in a patient's care. If a patient has never had a psychosocial assessment as recommended by the SOC (see section VII), clinicians should refer the patient to a qualified mental health professional if appropriate and feasible (Feldman & Safer, 2009). Providers who prescribe bridging hormones need to work with patients to establish limits as to the duration of bridging therapy.

2. Hormone therapy following gonad removal

Hormone replacement with estrogen or testosterone is usually continued lifelong after an oophorectomy or orchiectomy, unless medical contraindications arise. Because hormone doses are often decreased after these surgeries (Basson, 2001; Levy, Crown, & Reid, 2003; Moore, Wisniewski, & Dobs, 2003) and only adjusted for age and co-morbid health concerns, hormone management in this situation is quite similar to hormone replacement in any hypogonadal patient.

3. Hormone maintenance prior to gonad removal

Once patients have achieved maximal feminizing/masculinizing benefits from hormones (typically two or more years), they remain on a maintenance dose. The maintenance dose is then adjusted for changes in health conditions, aging, or other considerations such as lifestyle changes (Dahl et al., 2006). When a patient on maintenance hormones presents for care, the provider should assess the patient's current regimen for safety and drug interactions and substitute safer medications or doses when indicated. The patient should continue to be monitored by physical examinations and laboratory testing on a regular basis, as outlined in the literature (Feldman & Safer, 2009; Hembree et al., 2009). The dose and form of hormones should be revisited regularly with any changes in the patient's health status and available evidence on the potential long-term risks of hormones (See *Hormone Regimens*, below).

4. Initiating hormonal feminization/masculinization

This clinical situation requires the greatest commitment in terms of provider time and expertise. Hormone therapy must be individualized based on a patient's goals, the risk/benefit ratio of medications, the presence of other medical conditions, and consideration of social and economic issues. Although a wide variety of hormone regimens have been published (Dahl et al., 2006; Hembree et al., 2009; Moore et al., 2003), there are no published reports of randomized clinical trials comparing safety and efficacy. Despite this variation, a reasonable framework for initial risk assessment and ongoing monitoring of hormone therapy can be constructed, based on the efficacy and safety evidence presented above.

Risk Assessment and Modification for Initiating Hormone Therapy

The initial evaluation for hormone therapy assesses a patient's clinical goals and risk factors for hormone-related adverse events. During the risk assessment, the patient and clinician should develop a plan for reducing risks wherever possible, either prior to initiating therapy or as part of ongoing harm reduction.

All assessments should include a thorough physical exam, including weight, height, and blood pressure. The need for breast, genital, and rectal exams, which are sensitive issues for most transsexual, transgender, and gender nonconforming patients, should be based on individual risks and preventive health care needs (Feldman & Goldberg, 2006; Feldman, 2007).

Preventive care

Hormone providers should address preventive health care with patients, particularly if a patient does not have a primary care provider. Depending on a patient's age and risk profile, there may be appropriate screening tests or exams for conditions affected by hormone therapy. Ideally, these screening tests should be carried out prior to the start of hormone therapy.

Risk assessment and modification for feminizing hormone therapy (MtF)

There are no absolute contraindications to feminizing therapy *per se*, but absolute contraindications exist for the different feminizing agents, particularly estrogen. These include previous venous thrombotic events related to an underlying hypercoagulable condition, history of estrogen-sensitive neoplasm, and end-stage chronic liver disease (Charib et al., 2005).

Other medical conditions, as noted in Table 2 and Appendix B, can be exacerbated by estrogen or androgen blockade, and therefore should be evaluated and reasonably well controlled prior to starting hormone therapy (Feldman & Safer, 2009; Hembree et al., 2009). Clinicians should particularly attend to tobacco use, as it is associated with increased risk of venous thrombosis, which is further increased with estrogen use. Consultation with a cardiologist may be advisable for patients with known cardio- or cerebrovascular disease.

Baseline laboratory values are important to both assess initial risk and evaluate possible future adverse events. Initial labs should be based on the risks of feminizing hormone therapy outlined in Table 2, as well as individual patient risk factors, including family history. Suggested initial lab panels have been published (Feldman & Safer, 2009; Hembree et al., 2009). These can be modified for patients or health care systems with limited resources, and in otherwise healthy patients.

Risk assessment and modification for masculinizing hormone therapy (FtM)

Absolute contraindications to testosterone therapy include pregnancy, unstable coronary artery disease, and untreated polycythemia with a hematocrit of 55% or higher (Carnegie, 2004). Because the aromatization of testosterone to estrogen may increase risk in patients with a history of breast or other estrogen dependent cancers (Moore et al., 2003), consultation with an oncologist may be indicated prior to hormone use. Co-morbid conditions likely to be exacerbated by testosterone use should be evaluated and treated, ideally prior to starting hormone therapy (Feldman & Safer, 2009; Hembree et al., 2009). Consultation with a cardiologist may be advisable for patients with known cardio- or cerebrovascular disease.

An increased prevalence of polycystic ovarian syndrome (PCOS) has been noted among FtM patients even in the absence of testosterone use (Baba et al., 2007; Balen, Schachter, Montgomery, Reid, & Jacobs, 1993; Bosinski et al., 1997). While there is no evidence that PCOS is related to the development of a transsexual, transgender, or gender nonconforming identity, PCOS is associated with increased risk of diabetes, cardiac disease, high blood pressure, and ovarian and endometrial cancers (Cattrall & Healy, 2004). Signs and symptoms of PCOS should be evaluated prior to initiating testosterone therapy, as testosterone may affect many of these conditions. Testosterone can affect the developing fetus (Physicians' Desk Reference, 2011), and patients at risk of becoming pregnant require highly effective birth control.

Baseline laboratory values are important to both assess initial risk and evaluate possible future adverse events. Initial labs should be based on the risks of masculinizing hormone therapy outlined in Table 2, as well as individual patient risk factors, including family history. Suggested initial lab panels have been published (Feldman & Safer, 2009; Hembree et al., 2009). These can be modified for patients or health care systems with limited resources, and in otherwise healthy patients.

Clinical Monitoring during Hormone Therapy for Efficacy and Adverse Events

The purpose of clinical monitoring during hormone use is to assess the degree of feminization/masculinization and the possible presence of adverse effects of medication. However, as with the monitoring of any long-term medication, monitoring should take place in the context of comprehensive health care. Suggested clinical monitoring protocols have been published (Feldman & Safer, 2009; Hembree et al., 2009). Patients with co-morbid medical conditions may need to be monitored more frequently. Healthy patients in geographically remote or resource-poor areas may be able to use alternative strategies, such as telehealth, or cooperation with local providers such as nurses and physician assistants. In the absence of other indications, health professionals may prioritize monitoring for those risks that are either likely to be increased by hormone therapy or possibly increased by hormone therapy but clinically serious in nature.

Efficacy and risk monitoring during feminizing hormone therapy (MtF)

The best assessment of hormone efficacy is clinical response: Is a patient developing a feminized body while minimizing masculine characteristics, consistent with that patient's gender goals? In order to more rapidly predict the hormone dosages that will achieve clinical response, one can measure testosterone levels for suppression below the upper limit of the normal female range, and estradiol levels within a premenopausal female range but well below supraphysiologic levels (Feldman & Safer, 2009; Hembree et al., 2009).

Monitoring for adverse events should include both clinical and laboratory evaluation. Follow-up should include careful assessment for signs of cardiovascular impairment and venous thromboembolism (VTE) through measurement of blood pressure, weight, and pulse; heart and lung exams; and examination of the extremities for peripheral edema, localized swelling, or pain (Feldman & Safer, 2009). Laboratory monitoring should be based on the risks of hormone therapy described above, a patient's individual co-morbidities and risk factors, and the specific hormone regimen itself. Specific lab monitoring protocols have been published (Feldman & Safer, 2009; Hembree et al., 2009).

Efficacy and risk monitoring during masculinizing hormone therapy (FtM)

The best assessment of hormone efficacy is clinical response: Is a patient developing a masculinized body while minimizing feminine characteristics, consistent with that patient's gender goals? Clinicians can achieve a good clinical response with the least likelihood of adverse events by maintaining testosterone levels within the normal male range while avoiding supraphysiological

levels (Dahl et al., 2006; Hembree et al., 2009). For patients using intramuscular (IM) testosterone cypionate or enanthate, some clinicians check trough levels while others prefer midcycle levels (Dahl et al., 2006; Hembree et al., 2009; Tangpricha, Turner, Malabanan, & Holick, 2001; Tangpricha, Ducharme, Barber, & Chipkin, 2003).

Monitoring for adverse events should include both clinical and laboratory evaluation. Follow-up should include careful assessment for signs and symptoms of excessive weight gain, acne, uterine break-through bleeding, and cardiovascular impairment, as well as psychiatric symptoms in at-risk patients. Physical examinations should include measurement of pressure, weight, pulse, and skin; and heart and lung exams (Feldman & Safer, 2009). Laboratory monitoring should be based on the risks of hormone therapy described above, a patient's individual co-morbidities and risk factors, and the specific hormone regimen itself. Specific lab monitoring protocols have been published (Feldman & Safer, 2009; Hembree et al., 2009).

Hormone Regimens

To date, no controlled clinical trials of any feminizing/masculinizing hormone regimen have been conducted to evaluate safety or efficacy in producing physical transition. As a result, wide variation in doses and types of hormones have been published in the medical literature (Moore et al., 2003; Tangpricha et al., 2003; van Kesteren, Asscheman, Megens, & Gooren, 1997). In addition, access to particular medications may be limited by a patient's geographical location and/or social or economic situations. For these reasons, WPATH does not describe or endorse a particular feminizing/masculinizing hormone regimen. Rather, the medication classes and routes of administration used in most published regimens are broadly reviewed.

As outlined above, there are demonstrated safety differences in individual elements of various regimens. The Endocrine Society Guidelines (Hembree et al., 2009) and Feldman and Safer (2009) provide specific guidance regarding the types of hormones and suggested dosing to maintain levels within physiologic ranges for a patient's desired gender expression (based on goals of full feminization/masculinization). It is strongly recommend that hormone providers regularly review the literature for new information and use those medications that safely meet individual patient needs with available local resources.

Regimens for feminizing hormone therapy (MtF)

Estrogen

Use of oral estrogen, and specifically ethinyl estradiol, appears to increase the risk of VTE. Because of this safety concern, ethinyl estradiol is not recommended for feminizing hormone therapy. Transdermal estrogen is recommended for those patients with risks factors for VTE. The risk of adverse events increases with higher doses, particular those resulting in supraphysiologic levels (Hembree et al., 2009). Patients with co-morbid conditions that can be affected by estrogen should avoid oral estrogen if possible and be started at lower levels. Some patients may not be able to safely use the levels of estrogen needed to get the desired results. This possibility needs to be discussed with patients well in advance of starting hormone therapy.

Androgen reducing medications (“anti-androgens”)

A combination of estrogen and “anti-androgens” is the most commonly studied regimen for feminization. Androgen reducing medications, from a variety of classes of drugs, have the effect of reducing either endogenous testosterone levels or testosterone activity, and thus diminishing masculine characteristics such as body hair. They minimize the dosage of estrogen needed to suppress testosterone, thereby reducing the risks associated with high-dose exogenous estrogen (Prior, Vigna, Watson, Diewold, & Robinow, 1986; Prior, Vigna, & Watson, 1989).

Common anti-androgens include the following:

- Spironolactone, an antihypertensive agent, directly inhibits testosterone secretion and androgen binding to the androgen receptor. Blood pressure and electrolytes need to be monitored because of the potential for hyperkalemia.
- Cyproterone acetate is a progestational compound with anti-androgenic properties. This medication is not approved in the United States because of concerns over potential hepatotoxicity, but it is widely used elsewhere (De Cuypere et al., 2005).
- GnRH agonists (e.g., goserelin, buserelin, triptorelin) are neurohormones that block the gonadotropin releasing hormone receptor, thus blocking the release of follicle stimulating hormone and luteinizing hormone. This leads to highly effective gonadal blockade. However, these medications are expensive and only available as injectables or implants.
- 5-alpha reductase inhibitors (finasteride and dutasteride) block the conversion of testosterone to the more active agent, 5-alpha-dihydrotestosterone. These medications have beneficial effects on scalp hair loss, body hair growth, sebaceous glands, and skin consistency.

Cyproterone and spironolactone are the most commonly used anti-androgens and are likely the most cost-effective.

Progestins

With the exception of cyproterone, the inclusion of progestins in feminizing hormone therapy is controversial (Oriel, 2000). Because progestins play a role in mammary development on a cellular level, some clinicians believe that these agents are necessary for full breast development (Basson & Prior, 1998; Oriel, 2000). However, a clinical comparison of feminization regimens with and without progestins found that the addition of progestins neither enhanced breast growth nor lowered serum levels of free testosterone (Meyer III et al., 1986). There are concerns regarding potential adverse effects of progestins, including depression, weight gain, and lipid changes (Meyer III et al., 1986; Tangpricha et al., 2003). Progestins (especially medroxyprogesterone) are also suspected to increase breast cancer risk and cardiovascular risk in women (Rossouw et al., 2002). Micronized progesterone may be better tolerated and have a more favorable impact on the lipid profile than medroxyprogesterone does (de Lignières, 1999; Fitzpatrick, Pace, & Wiita, 2000).

Regimens for masculinizing hormone therapy (FtM)

Testosterone

Testosterone generally can be given orally, transdermally, or parenterally (IM), although buccal and implantable preparations are also available. Oral testosterone undecanoate, available outside the United States, results in lower serum testosterone levels than non-oral preparations and has limited efficacy in suppressing menses (Feldman, 2005, April; Moore et al., 2003). Because intramuscular testosterone cypionate or enanthate are often administered every 2-4 weeks, some patients may notice cyclic variation in effects (e.g., fatigue and irritability at the end of the injection cycle, aggression or expansive mood at the beginning of the injection cycle), as well as more time outside the normal physiologic levels (Jockenhövel, 2004). This may be mitigated by using a lower but more frequent dosage schedule or by using a daily transdermal preparation (Dobs et al., 1999; Jockenhövel, 2004; Nieschlag et al., 2004). Intramuscular testosterone undecanoate (not currently available in the United States) maintains stable, physiologic testosterone levels over approximately 12 weeks and has been effective in both the setting of hypogonadism and in FtM individuals (Mueller, Kiesewetter, Binder, Beckmann, & Dittrich, 2007; Zitzmann, Saad, & Nieschlag, 2006). There is evidence that transdermal and intramuscular testosterone achieve similar masculinizing results, although the timeframe may be somewhat slower with transdermal preparations (Feldman, 2005, April). Especially as patients age, the goal is to use the lowest dose needed to maintain the desired clinical result, with appropriate precautions being made to maintain bone density.

Other agents

Progestins, most commonly medroxyprogesterone, can be used for a short period of time to assist with menstrual cessation early in hormone therapy. GnRH agonists can be used similarly, as well as for refractory uterine bleeding in patients without an underlying gynecological abnormality.

Bioidentical and compounded hormones

As discussion surrounding the use of bioidentical hormones in postmenopausal hormone replacement has heightened, interest has also increased in the use of similar compounds in feminizing/masculinizing hormone therapy. There is no evidence that custom compounded bioidentical hormones are safer or more effective than government agency-approved bioidentical hormones (Sood, Shuster, Smith, Vincent, & Jatoi, 2011). Therefore, it has been advised by the North American Menopause Society (2010) and others to assume that, whether the hormone is from a compounding pharmacy or not, if the active ingredients are similar, it should have a similar side-effect profile. WPATH concurs with this assessment.

IX

Reproductive Health

Many transgender, transsexual, and gender nonconforming people will want to have children. Because feminizing/masculinizing hormone therapy limits fertility (Darney, 2008; Zhang, Gu, Wang, Cui, & Bremner, 1999), it is desirable for patients to make decisions concerning fertility before starting hormone therapy or undergoing surgery to remove/alter their reproductive organs. Cases are known of people who received hormone therapy and genital surgery and later regretted their inability to parent genetically related children (De Sutter, Kira, Verschuur, & Hotimsky, 2002).

Health care professionals – including mental health professionals recommending hormone therapy or surgery, hormone-prescribing physicians, and surgeons – should discuss reproductive options with patients prior to initiation of these medical treatments for gender dysphoria. These discussions should occur even if patients are not interested in these issues at the time of treatment, which may be more common for younger patients (De Sutter, 2009). Early discussions are desirable, but not always possible. If an individual has not had complete sex reassignment surgery, it may be possible to stop hormones long enough for natal hormones to recover, allowing the production of mature

gametes (Payer, Meyer III, & Walker, 1979; Van den Broecke, Van der Elst, Liu, Hovatta, & Dhont, 2001).

Besides debate and opinion papers, very few research papers have been published on the reproductive health issues of individuals receiving different medical treatments for gender dysphoria. Another group who faces the need to preserve reproductive function in light of loss or damage to their gonads are people with malignancies that require removal of reproductive organs or use of damaging radiation or chemotherapy. Lessons learned from that group can be applied to people treated for gender dysphoria.

MtF patients, especially those who have not already reproduced, should be informed about sperm preservation options and encouraged to consider banking their sperm prior to hormone therapy. In a study examining testes that were exposed to high-dose estrogen (Payer et al., 1979), findings suggest that stopping estrogen may allow the testes to recover. In an article reporting on the opinions of MtF individuals towards sperm freezing (De Sutter et al., 2002), the vast majority of 121 survey respondents felt that the availability of freezing sperm should be discussed and offered by the medical world. Sperm should be collected before hormone therapy or after stopping the therapy until the sperm count rises again. Cryopreservation should be discussed even if there is poor semen quality. In adults with azoospermia, a testicular biopsy with subsequent cryopreservation of biopsied material for sperm is possible, but may not be successful.

Reproductive options for FtM patients might include oocyte (egg) or embryo freezing. The frozen gametes and embryo could later be used with a surrogate woman to carry to pregnancy. Studies of women with polycystic ovarian disease suggest that the ovary can recover in part from the effects of high testosterone levels (Hunter & Sterrett, 2000). Stopping the testosterone briefly might allow for ovaries to recover enough to make eggs; success likely depends on the patient's age and duration of testosterone treatment. While not systematically studied, some FtM individuals are doing exactly that, and some have been able to become pregnant and deliver children (More, 1998).

Patients should be advised that these techniques are not available everywhere and can be very costly. Transsexual, transgender, and gender nonconforming people should not be refused reproductive options for any reason.

A special group of individuals are prepubertal or pubertal adolescents who will never develop reproductive function in their natal sex due to blockers or cross gender hormones. At this time there is no technique for preserving function from the gonads of these individuals.



Voice and Communication Therapy

Communication, both verbal and nonverbal, is an important aspect of human behavior and gender expression. Transsexual, transgender, and gender nonconforming people might seek the assistance of a voice and communication specialist to develop vocal characteristics (e.g., pitch, intonation, resonance, speech rate, phrasing patterns) and non-verbal communication patterns (e.g., gestures, posture/movement, facial expressions) that facilitate comfort with their gender identity. Voice and communication therapy may help to alleviate gender dysphoria and be a positive and motivating step towards achieving one's goals for gender role expression.

Competency of Voice and Communication Specialists Working with Transsexual, Transgender, and Gender Nonconforming Clients

Specialists may include speech-language pathologists, speech therapists, and speech-voice clinicians. In most countries the professional association for speech-language pathologists requires specific qualifications and credentials for membership. In some countries the government regulates practice through licensing, certification, or registration processes (American Speech-Language-Hearing Association, 2011; Canadian Association of Speech-Language Pathologists and Audiologists; Royal College of Speech Therapists, United Kingdom; Speech Pathology Australia; Vancouver Coastal Health, Vancouver, British Columbia, Canada).

The following are recommended minimum credentials for voice and communication specialists working with transsexual, transgender, and gender nonconforming clients:

1. Specialized training and competence in the assessment and development of communication skills in transsexual, transgender, and gender nonconforming clients.
2. A basic understanding of transgender health, including hormonal and surgical treatments for feminization/masculinization and trans-specific psychosocial issues as outlined in the SOC; and familiarity with basic sensitivity protocols such as the use of preferred gender pronoun and name (Canadian Association of Speech-Language Pathologists and Audiologists; Royal College of Speech Therapists, United Kingdom; Speech Pathology Australia).

3. Continuing education in the assessment and development of communication skills in transsexual, transgender, and gender nonconforming clients. This may include attendance at professional meetings, workshops, or seminars; participation in research related to gender identity issues; independent study; or mentoring from an experienced, certified clinician.

Other professionals such as vocal coaches, theatre professionals, singing teachers, and movement experts may play a valuable adjunct role. Such professionals will ideally have experience working with, or be actively collaborating with, speech-language pathologists.

Assessment and Treatment Considerations

The overall purpose of voice and communication therapy is to help clients adapt their voice and communication in a way that is both safe and authentic, resulting in communication patterns that clients feel are congruent with their gender identity and that reflect their sense of self (Adler, Hirsch, & Mordaunt, 2006). It is essential that voice and communication specialists be sensitive to individual communication preferences. Communication – style, voice, choice of language, etc. – is personal. Individuals should not be counseled to adopt behaviors with which they are not comfortable or which do not feel authentic. Specialists can best serve their clients by taking the time to understand a person's gender concerns and goals for gender role expression (American Speech-Language-Hearing Association, 2011; Canadian Association of Speech-Language Pathologists and Audiologists; Royal College of Speech Therapists, United Kingdom; Speech Pathology Australia).

Individuals may choose the communication behaviors that they wish to acquire in accordance with their gender identity. These decisions are also informed and supported by the knowledge of the voice and communication specialist and by the assessment data for a specific client (Hancock, Krissing, & Owen, 2010). Assessment includes a client's self-evaluation and a specialist's evaluation of voice, resonance, articulation, spoken language, and non-verbal communication (Adler et al., 2006; Hancock et al., 2010).

Voice and communication treatment plans are developed by considering the available research evidence, the clinical knowledge and experience of the specialist, and the client's own goals and values (American Speech-Language-Hearing Association, 2011; Canadian Association of Speech-Language Pathologists and Audiologists; Royal College of Speech Therapists, United Kingdom; Speech Pathology Australia; Vancouver Coastal Health, Vancouver, British Columbia, Canada). Targets of treatment typically include pitch, intonation, loudness and stress patterns, voice quality, resonance, articulation, speech rate and phrasing, language, and non-verbal communication (Adler et al., 2006; Davies & Goldberg, 2006; de Bruin, Coerts, & Greven, 2000; Gelfer, 1999; McNeill, 2006; Oates & Dacakis, 1983). Treatment may involve individual and/or group sessions. The frequency and duration of treatment will vary according to a client's needs. Existing protocols for voice and

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communication treatment can be considered in developing an individualized therapy plan (Carew, Dacakis, & Oates, 2007; Dacakis, 2000; Davies & Goldberg, 2006; Gelfer, 1999; McNeill, Wilson, Clark, & Deakin, 2008; Mount & Salmon, 1988).

Feminizing or masculinizing the voice involves non-habitual use of the voice production mechanism. Prevention measures are necessary to avoid the possibility of vocal misuse and long-term vocal damage. All voice and communication therapy services should therefore include a vocal health component (Adler et al., 2006).

Vocal Health Considerations after Voice Feminization Surgery

As noted in section XI, some transsexual, transgender, and gender nonconforming people will undergo voice feminization surgery. (Voice deepening can be achieved through masculinizing hormone therapy, but feminizing hormones do not have an impact on the adult MtF voice.) There are varying degrees of satisfaction, safety, and long-term improvement in patients who have had such surgery. It is recommended that individuals undergoing voice feminization surgery also consult a voice and communication specialist to maximize the surgical outcome, help protect vocal health, and learn non-pitch related aspects of communication. Voice surgery procedures should include follow-up sessions with a voice and communication specialist who is licensed and/or credentialed by the board responsible for speech therapists/speech-language pathologists in that country (Kanagalingam et al., 2005; Neumann & Welzel, 2004).

XI

Surgery

Sex Reassignment Surgery Is Effective and Medically Necessary

Surgery – particularly genital surgery – is often the last and the most considered step in the treatment process for gender dysphoria. While many transsexual, transgender, and gender nonconforming individuals find comfort with their gender identity, role, and expression without surgery, for many others surgery is essential and medically necessary to alleviate their gender dysphoria (Hage

& Karim, 2000). For the latter group, relief from gender dysphoria cannot be achieved without modification of their primary and/or secondary sex characteristics to establish greater congruence with their gender identity. Moreover, surgery can help patients feel more at ease in the presence of sex partners or in venues such as physicians' offices, swimming pools, or health clubs. In some settings, surgery might reduce risk of harm in the event of arrest or search by police or other authorities.

Follow-up studies have shown an undeniable beneficial effect of sex reassignment surgery on postoperative outcomes such as subjective well being, cosmesis, and sexual function (De Cuypere et al., 2005; Gijs & Brewaeys, 2007; Klein & Gorzalka, 2009; Pfäfflin & Junge, 1998). Additional information on the outcomes of surgical treatments are summarized in Appendix D.

Ethical Questions Regarding Sex Reassignment Surgery

In ordinary surgical practice, pathological tissues are removed to restore disturbed functions, or alterations are made to body features to improve a patient's self image. Some people, including some health professionals, object on ethical grounds to surgery as a treatment for gender dysphoria, because these conditions are thought not to apply.

It is important that health professionals caring for patients with gender dysphoria feel comfortable about altering anatomically normal structures. In order to understand how surgery can alleviate the psychological discomfort and distress of individuals with gender dysphoria, professionals need to listen to these patients discuss their symptoms, dilemmas, and life histories. The resistance against performing surgery on the ethical basis of "above all do no harm" should be respected, discussed, and met with the opportunity to learn from patients themselves about the psychological distress of having gender dysphoria and the potential for harm caused by denying access to appropriate treatments.

Genital and breast/chest surgical treatments for gender dysphoria are not merely another set of elective procedures. Typical elective procedures involve only a private mutually consenting contract between a patient and a surgeon. Genital and breast/chest surgeries as medically necessary treatments for gender dysphoria are to be undertaken only after assessment of the patient by qualified mental health professionals, as outlined in section VII of the *SOC*. These surgeries may be performed once there is written documentation that this assessment has occurred and that the person has met the criteria for a specific surgical treatment. By following this procedure, mental health professionals, surgeons, and of course patients, share responsibility for the decision to make irreversible changes to the body.

It is unethical to deny availability or eligibility for sex reassignment surgeries solely on the basis of blood seropositivity for blood-borne infections such as HIV or hepatitis C or B.

Relationship of Surgeons with Mental Health Professionals, Hormone-Prescribing Physicians (if Applicable), and Patients (Informed Consent)

The role of a surgeon in the treatment of gender dysphoria is not that of a mere technician. Rather, conscientious surgeons will have insight into each patient's history and the rationale that led to the referral for surgery. To that end, surgeons must talk at length with their patients and have close working relationships with other health professionals who have been actively involved in their clinical care.

Consultation is readily accomplished when a surgeon practices as part of an interdisciplinary health care team. In the absence of this, a surgeon must be confident that the referring mental health professional(s), and if applicable the physician who prescribes hormones, are competent in the assessment and treatment of gender dysphoria, because the surgeon is relying heavily on their expertise.

Once a surgeon is satisfied that the criteria for specific surgeries have been met (as outlined below), surgical treatment should be considered and a preoperative surgical consultation should take place. During this consultation, the procedure and postoperative course should be extensively discussed with the patient. Surgeons are responsible for discussing all of the following with patients seeking surgical treatments for gender dysphoria:

- The different surgical techniques available (with referral to colleagues who provide alternative options);
- The advantages and disadvantages of each technique;
- The limitations of a procedure to achieve “ideal” results; surgeons should provide a full range of before-and-after photographs of their own patients, including both successful and unsuccessful outcomes;
- The inherent risks and possible complications of the various techniques; surgeons should inform patients of their own complication rates with each procedure.

These discussions are the core of the informed consent process, which is both an ethical and legal requirement for any surgical procedure. Ensuring that patients have a realistic expectation of outcomes is important in achieving a result that will alleviate their gender dysphoria.

All of this information should be provided to patients in writing, in a language in which they are fluent, and in graphic illustrations. Patients should receive the information in advance (possibly via the internet) and given ample time to review it carefully. The elements of informed consent should always be discussed face-to-face prior to the surgical intervention. Questions can then be answered and written informed consent can be provided by the patient. Because these surgeries are irreversible, care should be taken to ensure that patients have sufficient time to absorb information fully before they are asked to provide informed consent. A minimum of 24 hours is suggested.

Surgeons should provide immediate aftercare and consultation with other physicians serving the patient in the future. Patients should work with their surgeon to develop an adequate aftercare plan for the surgery.

Overview of Surgical Procedures for the Treatment of Patients with Gender Dysphoria

For the male-to-female (MtF) patient, surgical procedures may include the following:

1. Breast/chest surgery: augmentation mammoplasty (implants/lipofilling);
2. Genital surgery: penectomy, orchiectomy, vaginoplasty, clitoroplasty, vulvoplasty;
3. Non-genital, non-breast surgical interventions: facial feminization surgery, liposuction, lipofilling, voice surgery, thyroid cartilage reduction, gluteal augmentation (implants/lipofilling), hair reconstruction, and various aesthetic procedures.

For the female-to-male (FtM) patient, surgical procedures may include the following:

1. Breast/chest surgery: subcutaneous mastectomy, creation of a male chest;
2. Genital surgery: hysterectomy/ovariectomy, reconstruction of the fixed part of the urethra, which can be combined with a metoidioplasty or with a phalloplasty (employing a pedicled or free vascularized flap), vaginectomy, scrotoplasty, and implantation of erection and/or testicular prostheses;

3. Non-genital, non-breast surgical interventions: voice surgery (rare), liposuction, lipofilling, pectoral implants, and various aesthetic procedures.

Reconstructive Versus Aesthetic Surgery

The question of whether sex reassignment surgery should be considered “aesthetic” surgery or “reconstructive” surgery is pertinent not only from a philosophical point of view, but also from a financial point of view. Aesthetic or cosmetic surgery is mostly regarded as not medically necessary and therefore is typically paid for entirely by the patient. In contrast, reconstructive procedures are considered medically necessary – with unquestionable therapeutic results – and thus paid for partially or entirely by national health systems or insurance companies.

Unfortunately, in the field of plastic and reconstructive surgery (both in general and specifically for gender-related surgeries), there is no clear distinction between what is purely reconstructive and what is purely cosmetic. Most plastic surgery procedures actually are a mixture of both reconstructive and cosmetic components.

While most professionals agree that genital surgery and mastectomy cannot be considered purely cosmetic, opinions diverge as to what degree other surgical procedures (e.g., breast augmentation, facial feminization surgery) can be considered purely reconstructive. Although it may be much easier to see a phalloplasty or a vaginoplasty as an intervention to end lifelong suffering, for certain patients an intervention like a reduction rhinoplasty can have a radical and permanent effect on their quality of life, and therefore is much more medically necessary than for somebody without gender dysphoria.

Criteria for Surgeries

As for all of the SOC, the criteria for initiation of surgical treatments for gender dysphoria were developed to promote optimal patient care. While the SOC allow for an individualized approach to best meet a patient’s health care needs, a criterion for all breast/chest and genital surgeries is documentation of persistent gender dysphoria by a qualified mental health professional. For some surgeries, additional criteria include preparation and treatment consisting of feminizing/masculinizing hormone therapy and one year of continuous living in a gender role that is congruent with one’s gender identity.

These criteria are outlined below. Based on the available evidence and expert clinical consensus, different recommendations are made for different surgeries.

The SOC do not specify an order in which different surgeries should occur. The number and sequence of surgical procedures may vary from patient to patient, according to their clinical needs.

Criteria for breast/chest surgery (one referral)

Criteria for mastectomy and creation of a male chest in FtM patients:

1. Persistent, well-documented gender dysphoria;
2. Capacity to make a fully informed decision and to consent for treatment;
3. Age of majority in a given country (if younger, follow the SOC for children and adolescents);
4. If significant medical or mental health concerns are present, they must be reasonably well controlled.

Hormone therapy is not a pre-requisite.

Criteria for breast augmentation (implants/lipofilling) in MtF patients:

1. Persistent, well-documented gender dysphoria;
2. Capacity to make a fully informed decision and to consent for treatment;
3. Age of majority in a given country (if younger, follow the SOC for children and adolescents);
4. If significant medical or mental health concerns are present, they must be reasonably well controlled.

Although not an explicit criterion, it is recommended that MtF patients undergo feminizing hormone therapy (minimum 12 months) prior to breast augmentation surgery. The purpose is to maximize breast growth in order to obtain better surgical (aesthetic) results.

Criteria for genital surgery (two referrals)

The criteria for genital surgery are specific to the type of surgery being requested.

Criteria for hysterectomy and ovariectomy in FtM patients and for orchiectomy in MtF patients:

1. Persistent, well documented gender dysphoria;
2. Capacity to make a fully informed decision and to consent for treatment;
3. Age of majority in a given country;
4. If significant medical or mental health concerns are present, they must be well controlled.
5. 12 continuous months of hormone therapy as appropriate to the patient's gender goals (unless the patient has a medical contraindication or is otherwise unable or unwilling to take hormones).

The aim of hormone therapy prior to gonadectomy is primarily to introduce a period of reversible estrogen or testosterone suppression, before the patient undergoes irreversible surgical intervention.

These criteria do not apply to patients who are having these procedures for medical indications other than gender dysphoria.

Criteria for metoidioplasty or phalloplasty in FtM patients and for vaginoplasty in MtF patients:

1. Persistent, well documented gender dysphoria;
2. Capacity to make a fully informed decision and to consent for treatment;
3. Age of majority in a given country;
4. If significant medical or mental health concerns are present, they must be well controlled;
5. 12 continuous months of hormone therapy as appropriate to the patient's gender goals (unless the patient has a medical contraindication or is otherwise unable or unwilling to take hormones).
6. 12 continuous months of living in a gender role that is congruent with their gender identity;

Although not an explicit criterion, it is recommended that these patients also have regular visits with a mental health or other medical professional.

Rationale for a preoperative, 12-month experience of living in an identity-congruent gender role:

The criterion noted above for some types of genital surgeries – i.e., that patients engage in 12 continuous months of living in a gender role that is congruent with their gender identity – is based on expert clinical consensus that this experience provides ample opportunity for patients to experience and socially adjust in their desired gender role, before undergoing irreversible surgery. As noted in section VII, the social aspects of changing one's gender role are usually challenging – often more so than the physical aspects. Changing gender role can have profound personal and social consequences, and the decision to do so should include an awareness of what the familial, interpersonal, educational, vocational, economic, and legal challenges are likely to be, so that people can function successfully in their gender role. Support from a qualified mental health professional and from peers can be invaluable in ensuring a successful gender role adaptation (Bockting, 2008).

The duration of 12 months allows for a range of different life experiences and events that may occur throughout the year (e.g., family events, holidays, vacations, season-specific work or school experiences). During this time, patients should present consistently, on a day-to-day basis and across all settings of life, in their desired gender role. This includes coming out to partners, family, friends, and community members (e.g., at school, work, other settings).

Health professionals should clearly document a patient's experience in the gender role in the medical chart, including the start date of living full time for those who are preparing for genital surgery. In some situations, if needed, health professionals may request verification that this criterion has been fulfilled: They may communicate with individuals who have related to the patient in an identity-congruent gender role, or request documentation of a legal name and/or gender marker change, if applicable.

Surgery for Persons with Psychotic Conditions and Other Serious Mental Illnesses

When patients with gender dysphoria are also diagnosed with severe psychiatric disorders and impaired reality testing (e.g., psychotic episodes, bipolar disorder, dissociative identity disorder, borderline personality disorder), an effort must be made to improve these conditions with psychotropic medications and/or psychotherapy before surgery is contemplated. Reevaluation by a mental health professional qualified to assess and manage psychotic conditions should be

conducted prior to surgery, describing the patient's mental status and readiness for surgery. It is preferable that this mental health professional be familiar with the patient. No surgery should be performed while a patient is actively psychotic (De Cuypere & Vercauteren, 2009).

Competency of Surgeons Performing Breast/Chest or Genital Surgery

Physicians who perform surgical treatments for gender dysphoria should be urologists, gynecologists, plastic surgeons, or general surgeons, and board-certified as such by the relevant national and/or regional association. Surgeons should have specialized competence in genital reconstructive techniques as indicated by documented supervised training with a more experienced surgeon. Even experienced surgeons must be willing to have their surgical skills reviewed by their peers. An official audit of surgical outcomes and publication of these results would be greatly reassuring to both referring health professionals and patients. Surgeons should regularly attend professional meetings where new techniques are presented. The internet is often effectively used by patients to share information on their experience with surgeons and their teams.

Ideally, surgeons should be knowledgeable about more than one surgical technique for genital reconstruction so that they, in consultation with patients, can choose the ideal technique for each individual. Alternatively, if a surgeon is skilled in a single technique and this procedure is either not suitable for or desired by a patient, the surgeon should inform the patient about other procedures and offer referral to another appropriately skilled surgeon.

Breast/Chest Surgery Techniques and Complications

Although breast/chest appearance is an important secondary sex characteristic, breast presence or size is not involved in the legal definitions of sex and gender and is not necessary for reproduction. The performance of breast/chest operations for treatment of gender dysphoria should be considered with the same care as beginning hormone therapy, as both produce relatively irreversible changes to the body.

For the MtF patient, a breast augmentation (sometimes called "chest reconstruction") is not different from the procedure in a natal female patient. It is usually performed through implantation of breast prostheses and occasionally with the lipofilling technique. Infections and capsular fibrosis are rare complications of augmentation mammoplasty in MtF patients (Kanhai, Hage, Karim, & Mulder, 1999).

For the FtM patient, a mastectomy or “male chest contouring” procedure is available. For many FtM patients, this is the only surgery undertaken. When the amount of breast tissue removed requires skin removal, a scar will result and the patient should be so informed. Complications of subcutaneous mastectomy can include nipple necrosis, contour irregularities, and unsightly scarring (Monstrey et al., 2008).

Genital Surgery Techniques and Complications

Genital surgical procedures for the MtF patient may include orchiectomy, penectomy, vaginoplasty, clitoroplasty, and labiaplasty. Techniques include penile skin inversion, pedicled colosigmoid transplant, and free skin grafts to line the neovagina. Sexual sensation is an important objective in vaginoplasty, along with creation of a functional vagina and acceptable cosmesis.

Surgical complications of MtF genital surgery may include complete or partial necrosis of the vagina and labia, fistulas from the bladder or bowel into the vagina, stenosis of the urethra, and vaginas that are either too short or too small for coitus. While the surgical techniques for creating a neovagina are functionally and aesthetically excellent, anorgasmia following the procedure has been reported, and a second stage labiaplasty may be needed for cosmesis (Klein & Gorzalka, 2009; Lawrence, 2006).

Genital surgical procedures for FtM patients may include hysterectomy, ovariectomy (salpingo-oophorectomy), vaginectomy, metoidioplasty, scrotoplasty, urethroplasty, placement of testicular prostheses, and phalloplasty. For patients without former abdominal surgery, the laparoscopic technique for hysterectomy and salpingo-oophorectomy is recommended to avoid a lower-abdominal scar. Vaginal access may be difficult as most patients are nulliparous and have often not experienced penetrative intercourse. Current operative techniques for phalloplasty are varied. The choice of techniques may be restricted by anatomical or surgical considerations and by a client's financial considerations. If the objectives of phalloplasty are a neophallus of good appearance, standing micturition, sexual sensation, and/or coital ability, patients should be clearly informed that there are several separate stages of surgery and frequent technical difficulties, which may require additional operations. Even metoidioplasty, which in theory is a one-stage procedure for construction of a microphallus, often requires more than one operation. The objective of standing micturition with this technique can not always be ensured (Monstrey et al., 2009).

Complications of phalloplasty in FtMs may include frequent urinary tract stenoses and fistulas, and occasionally necrosis of the neophallus. Metoidioplasty results in a micropenis, without the capacity for standing urination. Phalloplasty, using a pedicled or a free vascularized flap, is a lengthy, multi-stage procedure with significant morbidity that includes frequent urinary complications and

unavoidable donor site scarring. For this reason, many FtM patients never undergo genital surgery other than hysterectomy and salpingo-oophorectomy (Hage & De Graaf, 1993).

Even patients who develop severe surgical complications seldom regret having undergone surgery. The importance of surgery can be appreciated by the repeated finding that quality of surgical results is one of the best predictors of the overall outcome of sex reassignment (Lawrence, 2006).

Other Surgeries

Other surgeries for assisting in body feminization include reduction thyroid chondroplasty (reduction of the Adam's apple), voice modification surgery, suction-assisted lipoplasty (contour modeling) of the waist, rhinoplasty (nose correction), facial bone reduction, face-lift, and blepharoplasty (rejuvenation of the eyelid). Other surgeries for assisting in body masculinization include liposuction, lipofilling, and pectoral implants. Voice surgery to obtain a deeper voice is rare but may be recommended in some cases, such as when hormone therapy has been ineffective.

Although these surgeries do not require referral by mental health professionals, such professionals can play an important role in assisting clients in making a fully informed decision about the timing and implications of such procedures in the context of the social transition.

Although most of these procedures are generally labeled “purely aesthetic,” these same operations in an individual with severe gender dysphoria can be considered medically necessary, depending on the unique clinical situation of a given patient's condition and life situation. This ambiguity reflects reality in clinical situations, and allows for individual decisions as to the need and desirability of these procedures.

XII

Postoperative Care and Follow-up

Long-term postoperative care and follow-up after surgical treatments for gender dysphoria are associated with good surgical and psychosocial outcomes (Monstrey et al., 2009). Follow-up is important to a patient's subsequent physical and mental health and to a surgeon's knowledge about the benefits and limitations of surgery. Surgeons who operate on patients coming from long

distances should include personal follow-up in their care plan and attempt to ensure affordable local long-term aftercare in their patients' geographic region.

Postoperative patients may sometimes exclude themselves from follow-up by specialty providers, including the hormone-prescribing physician (for patients receiving hormones), not recognizing that these providers are often best able to prevent, diagnose, and treat medical conditions that are unique to hormonally and surgically treated patients. The need for follow-up equally extends to mental health professionals, who may have spent a longer period of time with the patient than any other professional and therefore are in an excellent position to assist in any postoperative adjustment difficulties. Health professionals should stress the importance of postoperative follow-up care with their patients and offer continuity of care.

Postoperative patients should undergo regular medical screening according to recommended guidelines for their age. This is discussed more in the next section.

XIII

Lifelong Preventive and Primary Care

Transsexual, transgender, and gender nonconforming people need health care throughout their lives. For example, to avoid the negative secondary effects of having a gonadectomy at a relatively young age and/or receiving long-term, high-dose hormone therapy, patients need thorough medical care by providers experienced in primary care and transgender health. If one provider is not able to provide all services, ongoing communication among providers is essential.

Primary care and health maintenance issues should be addressed before, during, and after any possible changes in gender role and medical interventions to alleviate gender dysphoria. While hormone providers and surgeons play important roles in preventive care, every transsexual, transgender, and gender nonconforming person should partner with a primary care provider for overall health care needs (Feldman, 2007).

General Preventive Health Care

Screening guidelines developed for the general population are appropriate for organ systems that are unlikely to be affected by feminizing/masculinizing hormone therapy. However, in areas such

as cardiovascular risk factors, osteoporosis, and some cancers (breast, cervical, ovarian, uterine, and prostate), such general guidelines may either over- or underestimate the cost-effectiveness of screening individuals who are receiving hormone therapy.

Several resources provide detailed protocols for the primary care of patients undergoing feminizing/masculinizing hormone therapy, including therapy that is provided after sex reassignment surgeries (Center of Excellence for Transgender Health, UCSF, 2011; Feldman & Goldberg, 2006; Feldman, 2007; Gorton, Buth, & Spade, 2005). Clinicians should consult their national evidence-based guidelines and discuss screening with their patients in light of the effects of hormone therapy on their baseline risk.

Cancer Screening

Cancer screening of organ systems that are associated with sex can present particular medical and psychosocial challenges for transsexual, transgender, and gender nonconforming patients and their health care providers. In the absence of large-scale prospective studies, providers are unlikely to have enough evidence to determine the appropriate type and frequency of cancer screenings for this population. Over-screening results in higher health care costs, high false positive rates, and often unnecessary exposure to radiation and/or diagnostic interventions such as biopsies. Under-screening results in diagnostic delay for potentially treatable cancers. Patients may find cancer screening gender affirming (such as mammograms for MtF patients) or both physically and emotionally painful (such as Pap smears offer continuity of care for FtM patients).

Urogenital Care

Gynecologic care may be necessary for transsexual, transgender, and gender nonconforming people of both sexes. For FtM patients, such care is needed predominantly for individuals who have not had genital surgery. For MtF patients, such care is needed after genital surgery. While many surgeons counsel patients regarding postoperative urogenital care, primary care clinicians and gynecologists should also be familiar with the special genital concerns of this population.

All MtF patients should receive counseling regarding genital hygiene, sexuality, and prevention of sexually transmitted infections; those who have had genital surgery should also be counseled on the need for regular vaginal dilation or penetrative intercourse in order to maintain vaginal depth and width (van Trotsenburg, 2009). Due to the anatomy of the male pelvis, the axis and the dimensions

of the neovagina differ substantially from those of a biologic vagina. This anatomic difference can affect intercourse if not understood by MtF patients and their partners (van Trotsenburg, 2009).

Lower urinary tract infections occur frequently in MtF patients who have had surgery because of the reconstructive requirements of the shortened urethra. In addition, these patients may suffer from functional disorders of the lower urinary tract; such disorders may be caused by damage of the autonomous nerve supply of the bladder floor during dissection between the rectum and the bladder, and by a change of the position of the bladder itself. A dysfunctional bladder (e.g., overactive bladder, stress or urge urinary incontinence) may occur after sex reassignment surgery (Hoebeke et al., 2005; Kuhn, Hildebrand, & Birkhauser, 2007).

Most FtM patients do not undergo vaginectomy (colpectomy). For patients who take masculinizing hormones, despite considerable conversion of testosterone to estrogens, atrophic changes of the vaginal lining can be observed regularly and may lead to pruritus or burning. Examination can be both physically and emotionally painful, but lack of treatment can seriously aggravate the situation. Gynecologists treating the genital complaints of FtM patients should be aware of the sensitivity that patients with a male gender identity and masculine gender expression might have around having genitals typically associated with the female sex.

XIV

Applicability of the Standards of Care to People Living in Institutional Environments

The SOC in their entirety apply to all transsexual, transgender, and gender nonconforming people, irrespective of their housing situation. People should not be discriminated against in their access to appropriate health care based on where they live, including institutional environments such as prisons or long-/intermediate-term health care facilities (Brown, 2009). Health care for transsexual, transgender, and gender nonconforming people living in an institutional environment should mirror that which would be available to them if they were living in a non-institutional setting within the same community.

All elements of assessment and treatment as described in the SOC can be provided to people living in institutions (Brown, 2009). Access to these medically necessary treatments should not be denied on the basis of institutionalization or housing arrangements. If the in-house expertise of health professionals in the direct or indirect employ of the institution does not exist to assess

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and/or treat people with gender dysphoria, it is appropriate to obtain outside consultation from professionals who are knowledgeable about this specialized area of health care.

People with gender dysphoria in institutions may also have co-existing mental health conditions (Cole et al., 1997). These conditions should be evaluated and treated appropriately.

People who enter an institution on an appropriate regimen of hormone therapy should be continued on the same, or similar, therapies and monitored according to the *SOC*. A “freeze frame” approach is not considered appropriate care in most situations (*Kosilek v. Massachusetts Department of Corrections/Maloney*, C.A. No. 92-12820-MLW, 2002). People with gender dysphoria who are deemed appropriate for hormone therapy (following the *SOC*) should be started on such therapy. The consequences of abrupt withdrawal of hormones or lack of initiation of hormone therapy when medically necessary include a high likelihood of negative outcomes such as surgical self-treatment by autocastration, depressed mood, dysphoria, and/or suicidality (Brown, 2010).

Reasonable accommodations to the institutional environment can be made in the delivery of care consistent with the *SOC*, if such accommodations do not jeopardize the delivery of medically necessary care to people with gender dysphoria. An example of a reasonable accommodation is the use of injectable hormones, if not medically contraindicated, in an environment where diversion of oral preparations is highly likely (Brown, 2009). Denial of needed changes in gender role or access to treatments, including sex reassignment surgery, on the basis of residence in an institution are not reasonable accommodations under the *SOC* (Brown, 2010).

Housing and shower/bathroom facilities for transsexual, transgender, and gender nonconforming people living in institutions should take into account their gender identity and role, physical status, dignity, and personal safety. Placement in a single-sex housing unit, ward, or pod on the sole basis of the appearance of the external genitalia may not be appropriate and may place the individual at risk for victimization (Brown, 2009).

Institutions where transsexual, transgender, and gender nonconforming people reside and receive health care should monitor for a tolerant and positive climate to ensure that residents are not under attack by staff or other residents.

XV

Applicability of the Standards of Care to People With Disorders of Sex Development

Terminology

The term *disorder of sex development* (DSD) refers to a somatic condition of atypical development of the reproductive tract (Hughes, Houk, Ahmed, Lee, & LWPES1/ESPE2 Consensus Group, 2006). DSDs include the condition that used to be called *intersexuality*. Although the terminology was changed to *DSD* during an international consensus conference in 2005 (Hughes et al., 2006), disagreement about language use remains. Some people object strongly to the “disorder” label, preferring instead to view these congenital conditions as a matter of diversity (Diamond, 2009) and to continue using the terms *intersex* or *intersexuality*. In the *SOC*, WPATH uses the term *DSD* in an objective and value-free manner, with the goal of ensuring that health professionals recognize this medical term and use it to access relevant literature as the field progresses. WPATH remains open to new terminology that will further illuminate the experience of members of this diverse population and lead to improvements in health care access and delivery.

Rationale for Addition to the *SOC*

Previously, individuals with a DSD who also met the *DSM-IV-TR*'s behavioral criteria for Gender Identity Disorder (American Psychiatric Association, 2000) were excluded from that general diagnosis. Instead, they were categorized as having a “Gender Identity Disorder - Not Otherwise Specified.” They were also excluded from the WPATH *Standards of Care*.

The current proposal for *DSM-5* (www.dsm5.org) is to replace the term *gender identity disorder* with *gender dysphoria*. Moreover, the proposed changes to the *DSM* consider gender dysphoric people with a DSD to have a subtype of gender dysphoria. This proposed categorization – which explicitly differentiates between gender dysphoric individuals with and without a DSD – is justified: In people with a DSD, gender dysphoria differs in its phenomenological presentation, epidemiology, life trajectories, and etiology (Meyer-Bahlburg, 2009).

Adults with a DSD and gender dysphoria have increasingly come to the attention of health professionals. Accordingly, a brief discussion of their care is included in this version of the SOC.

Health History Considerations

Health professionals assisting patients with both a DSD and gender dysphoria need to be aware that the medical context in which such patients have grown up is typically very different from that of people without a DSD.

Some people are recognized as having a DSD through the observation of gender-atypical genitals at birth. (Increasingly this observation is made during the prenatal period by way of imaging procedures such as ultrasound.) These infants then undergo extensive medical diagnostic procedures. After consultation among the family and health professionals – during which the specific diagnosis, physical and hormonal findings, and feedback from long-term outcome studies (Cohen-Kettenis, 2005; Dessens, Slijper, & Drop, 2005; Jurgensen, Hiort, Holterhus, & Thyen, 2007; Mazur, 2005; Meyer-Bahlburg, 2005; Stikkelbroeck et al., 2003; Wisniewski, Migeon, Malouf, & Gearhart, 2004) are considered – the newborn is assigned a sex, either male or female.

Other individuals with a DSD come to the attention of health professionals around the age of puberty through the observation of atypical development of secondary sex characteristics. This observation also leads to a specific medical evaluation.

The type of DSD and severity of the condition has significant implications for decisions about a patient's initial sex assignment, subsequent genital surgery, and other medical and psychosocial care (Meyer-Bahlburg, 2009). For instance, the degree of prenatal androgen exposure in individuals with a DSD has been correlated with the degree of masculinization of gender-related *behavior* (that is, *gender role and expression*); however, the correlation is only moderate, and considerable behavioral variability remains unaccounted for by prenatal androgen exposure (Jurgensen et al., 2007; Meyer-Bahlburg, Dolezal, Baker, Ehrhardt, & New, 2006). Notably, a similar correlation of prenatal hormone exposure with gender *identity* has not been demonstrated (e.g., Meyer-Bahlburg et al., 2004). This is underlined by the fact that people with the same (core) gender identity can vary widely in the degree of masculinization of their gender-related behavior.

Assessment and Treatment of Gender Dysphoria in People with Disorders of Sex Development

Very rarely are individuals with a DSD identified as having gender dysphoria *before* a DSD diagnosis has been made. Even so, a DSD diagnosis is typically apparent with an appropriate history and basic physical exam – both of which are part of a medical evaluation for the appropriateness of hormone therapy or surgical interventions for gender dysphoria. Mental health professionals should ask their clients presenting with gender dysphoria to have a physical exam, particularly if they are not currently seeing a primary care (or other health care) provider.

Most people with a DSD who are born with genital ambiguity do not develop gender dysphoria (e.g., Meyer-Bahlburg et al., 2004; Wisniewski et al., 2004). However, some people with a DSD will develop chronic gender dysphoria and even undergo a change in their birth-assigned sex and/or their gender role (Meyer-Bahlburg, 2005; Wilson, 1999; Zucker, 1999). If there are persistent and strong indications that gender dysphoria is present, a comprehensive evaluation by clinicians skilled in the assessment and treatment of gender dysphoria is essential, irrespective of the patient's age. Detailed recommendations have been published for conducting such an assessment and for making treatment decisions to address gender dysphoria in the context of a DSD (Meyer-Bahlburg, in press). Only after thorough assessment should steps be taken in the direction of changing a patient's birth-assigned sex or gender role.

Clinicians assisting these patients with treatment options to alleviate gender dysphoria may profit from the insights gained from providing care to patients without a DSD (Cohen-Kettenis, 2010). However, certain criteria for treatment (e.g., age, duration of experience with living in the desired gender role) are usually not routinely applied to people with a DSD; rather, the criteria are interpreted in light of a patient's specific situation (Meyer-Bahlburg, in press). In the context of a DSD, changes in birth-assigned sex and gender role have been made at any age between early elementary-school age and middle adulthood. Even genital surgery may be performed much earlier in these patients than in gender dysphoric individuals without a DSD if the surgery is well justified by the diagnosis, by the evidence-based gender-identity prognosis for the given syndrome and syndrome severity, and by the patient's wishes.

One reason for these treatment differences is that genital surgery in individuals with a DSD is quite common in infancy and adolescence. Infertility may already be present due to either early gonadal failure or to gonadectomy because of a malignancy risk. Even so, it is advisable for patients with a DSD to undergo a full social transition to another gender role only if there is a long-standing history of gender-atypical behavior, and if gender dysphoria and/or the desire to change one's gender role has been strong and persistent for a considerable period of time. Six months is the time period of full symptom expression required for the application of the gender dysphoria diagnosis proposed for *DSM-5* (Meyer-Bahlburg, in press).

Additional Resources

The gender-relevant medical histories of people with a DSD are often complex. Their histories may include a great variety of inborn genetic, endocrine, and somatic atypicalities, as well as various hormonal, surgical, and other medical treatments. For this reason, many additional issues need to be considered in the psychosocial and medical care of such patients, regardless of the presence of gender dysphoria. Consideration of these issues is beyond what can be covered in the SOC. The interested reader is referred to existing publications (e.g., Cohen-Kettenis & Pfäfflin, 2003; Meyer-Bahlburg, 2002, 2008). Some families and patients also find it useful to consult or work with community support groups.

There is a very substantial medical literature on the medical management of patients with a DSD. Much of this literature has been produced by high-level specialists in pediatric endocrinology and urology, with input from specialized mental health professionals, especially in the area of gender. Recent international consensus conferences have addressed evidence-based care guidelines (including issues of gender and of genital surgery) for DSD in general (Hughes et al., 2006) and specifically for Congenital Adrenal Hyperplasia (Joint LWPES/ESPE CAH Working Group et al., 2002; Speiser et al., 2010). Others have addressed the research needs for DSD in general (Meyer-Bahlburg & Blizzard, 2004) and for selected syndromes such as 46,XXY (Simpson et al., 2003).



References

- Abramowitz, S. I. (1986). Psychosocial outcomes of sex reassignment surgery. *Journal of Consulting and Clinical Psychology, 54*(2), 183-189. doi:10.1037/0022-006X.54.2.183
- Adler, R. K., Hirsch, S., & Mordaunt, M. (2006). *Voice and communication therapy for the transgender/transsexual client: A comprehensive clinical guide*. San Diego, CA: Plural Pub.
- ACOG Committee of Gynecologic Practice. (2005). Committee opinion #322: Compounded bioidentical hormones. *Obstetrics & Gynecology, 106*(5), 139-140.
- American Academy of Family Physicians. (2005). *Definition of family medicine*. Retrieved August 10, 2009, from <http://www.aafp.org/online/en/home/policy/policies/f/fammeddef.html>

- American Medical Association. (2008). *Resolution 122 (A-08)*. Retrieved from <http://www.ama-assn.org/ama1/pub/upload/mm/471/122.doc>
- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders DSM-IV-TR* (4th ed., text rev.). Washington, DC: Author.
- American Speech-Language-Hearing Association. (2011). *Scope of practice*. Retrieved from www.asha.org
- Anton, B. S. (2009). Proceedings of the American Psychological Association for the legislative year 2008: Minutes of the annual meeting of the council of representatives, February 22-24, 2008, Washington, DC, and August 13 and 17, 2008, Boston, MA, and minutes of the February, June, August, and December 2008 meetings of the board of directors. *American Psychologist*, *64*, 372-453. doi:10.1037/a0015932
- Asscheman, H., Giltay, E. J., Megens, J. A. J., de Ronde, W., van Trotsenburg, M. A. A., & Gooren, L. J. G. (2011). A long-term follow-up study of mortality in transsexuals receiving treatment with cross-sex hormones. *European Journal of Endocrinology*, *164*(4), 635-642. doi:10.1530/EJE-10-1038
- Baba, T., Endo, T., Honnma, H., Kitajima, Y., Hayashi, T., Ikeda, H., . . . Saito, T. (2007). Association between polycystic ovary syndrome and female-to-male transsexuality. *Human Reproduction*, *22*(4), 1011-1016. doi:10.1093/humrep/del474
- Bakker, A., Van Kesteren, P. J., Gooren, L. J., & Bezemer, P. D. (1993). The prevalence of transsexualism in the Netherlands. *Acta Psychiatrica Scandinavica*, *87*(4), 237-238. doi:10.1111/j.1600-0447.1993.tb03364.x
- Balen, A. H., Schachter, M. E., Montgomery, D., Reid, R. W., & Jacobs, H. S. (1993). Polycystic ovaries are a common finding in untreated female to male transsexuals. *Clinical Endocrinology*, *38*(3), 325-329. doi:10.1111/j.1365-2265.1993.tb01013.x
- Basson, R. (2001). Towards optimal hormonal treatment of male to female gender identity disorder. *Journal of Sexual and Reproductive Medicine*, *1*(1), 45-51.
- Basson, R., & Prior, J. C. (1998). Hormonal therapy of gender dysphoria: The male-to-female transsexual. In D. Denny (Ed.), *Current concepts in transgender identity* (pp. 277-296). New York: Garland Publishing, Inc.
- Benjamin, H. (1966). *The transsexual phenomenon*. New York: Julian Press.
- Besnier, N. (1994). Polynesian gender liminality through time and space. In G. Herdt (Ed.), *Third sex, third gender: Beyond sexual dimorphism in culture and history* (pp. 285-328). New York: Zone Books.
- Bockting, W. O. (1999). From construction to context: Gender through the eyes of the transgendered. *Siecus Report*, *28*(1), 3-7.

The Standards of Care
7TH VERSION

- Bockting, W. O. (2008). Psychotherapy and the real-life experience: From gender dichotomy to gender diversity. *Sexologies*, 17(4), 211-224. doi:10.1016/j.sexol.2008.08.001
- Bockting, W. O., & Coleman, E. (2007). Developmental stages of the transgender coming out process: Toward an integrated identity. In R. Ettner, S. Monstrey & A. Eyler (Eds.), *Principles of transgender medicine and surgery* (pp. 185-208). New York: The Haworth Press.
- Bockting, W. O., & Goldberg, J. M. (2006). Guidelines for transgender care (special issue). *International Journal of Transgenderism*, 9(3/4).
- Bockting, W. O., Knudson, G., & Goldberg, J. M. (2006). Counseling and mental health care for transgender adults and loved ones. *International Journal of Transgenderism*, 9(3/4), 35-82. doi:10.1300/J485v09n03_03
- Bolin, A. (1988). *In search of Eve* (pp. 189-192). New York: Bergin & Garvey.
- Bolin, A. (1994). Transcending and transgenering: Male-to-female transsexuals, dichotomy and diversity. In G. Herdt (Ed.), *Third sex, third gender: Beyond sexual dimorphism in culture and history* (pp. 447-486). New York: Zone Books.
- Bornstein, K. (1994). *Gender outlaw: On men, women, and the rest of us*. New York: Routledge.
- Bosinski, H. A. G., Peter, M., Bonatz, G., Arndt, R., Heidenreich, M., Sippell, W. G., & Wille, R. (1997). A higher rate of hyperandrogenic disorders in female-to-male transsexuals. *Psychoneuroendocrinology*, 22(5), 361-380. doi:10.1016/S0306-4530(97)00033-4
- Brill, S. A., & Pepper, R. (2008). *The transgender child: A handbook for families and professionals*. Berkeley, CA: Cleis Press.
- Brown, G. R. (2009). Recommended revisions to The World Professional Association for Transgender Health's Standards of Care section on medical care for incarcerated persons with gender identity disorder. *International Journal of Transgenderism*, 11(2), 133-139. doi:10.1080/15532730903008073
- Brown, G. R. (2010). Autocastration and autopenectomy as surgical self-treatment in incarcerated persons with gender identity disorder. *International Journal of Transgenderism*, 12(1), 31-39. doi:10.1080/15532731003688970
- Bullough, V. L., & Bullough, B. (1993). *Cross dressing, sex, and gender*. Philadelphia, PA: University of Pennsylvania Press.
- Callen Lorde Community Health Center. (2000). *Transgender health program protocols*. Retrieved from http://www.callen-lorde.org/documents/TG_Protocol_Request_Form2.pdf

- Callen Lorde Community Health Center. (2011). *Transgender health program protocols*. Retrieved from http://www.callen-lorde.org/documents/TG_Protocol_Request_Form2.pdf
- Canadian Association of Speech-Language Pathologists and Audiologists. <http://www.caslpa.ca/>
- Carew, L., Dacakis, G., & Oates, J. (2007). The effectiveness of oral resonance therapy on the perception of femininity of voice in male-to-female transsexuals. *Journal of Voice, 21*(5), 591-603. doi:10.1016/j.jvoice.2006.05.005
- Carnegie, C. (2004). Diagnosis of hypogonadism: Clinical assessments and laboratory tests. *Reviews in Urology, 6*(Suppl 6), S3-8.
- Cattrall, F. R., & Healy, D. L. (2004). Long-term metabolic, cardiovascular and neoplastic risks with polycystic ovary syndrome. *Best Practice & Research Clinical Obstetrics & Gynaecology, 18*(5), 803-812. doi:10.1016/j.bpobgyn.2004.05.005
- Center of Excellence for Transgender Health, UCSF. (2011). *Primary care protocol for transgender health care*. Retrieved from <http://transhealth.ucsf.edu/trans?page=protocol-00-00>
- Chiñas, B. (1995). Isthmus Zapotec attitudes toward sex and gender anomalies. In S. O. Murray (Ed.), *Latin American male homosexualities* (pp. 293-302). Albuquerque, NM: University of New Mexico Press.
- Clements, K., Wilkinson, W., Kitano, K., & Marx, R. (1999). HIV prevention and health service needs of the transgender community in San Francisco. *International Journal of Transgenderism, 3*(1), 2-17.
- Cohen-Kettenis, P. T. (2001). Gender identity disorder in DSM? *Journal of the American Academy of Child & Adolescent Psychiatry, 40*(4), 391-391. doi:10.1097/00004583-200104000-00006
- Cohen-Kettenis, P. T. (2005). Gender change in 46,XY persons with 5 α -reductase-2 deficiency and 17 β -hydroxysteroid dehydrogenase-3 deficiency. *Archives of Sexual Behavior, 34*(4), 399-410. doi:10.1007/s10508-005-4339-4
- Cohen-Kettenis, P. T. (2006). Gender identity disorders. In C. Gillberg, R. Harrington & H. C. Steinhausen (Eds.), *A clinician's handbook of child and adolescent psychiatry* (pp. 695-725). New York: Cambridge University Press.
- Cohen-Kettenis, P. T. (2010). Psychosocial and psychosexual aspects of disorders of sex development. *Best Practice & Research Clinical Endocrinology & Metabolism, 24*(2), 325-334. doi:10.1016/j.beem.2009.11.005
- Cohen-Kettenis, P. T., & Kuiper, A. J. (1984). Transseksualiteit en psychotherapie. *Tijdschrift Voor Psychotherapie, 10*, 153-166.

The Standards of Care
7TH VERSION

- Cohen-Kettenis, P. T., Owen, A., Kaijser, V. G., Bradley, S. J., & Zucker, K. J. (2003). Demographic characteristics, social competence, and behavior problems in children with gender identity disorder: A cross-national, cross-clinic comparative analysis. *Journal of Abnormal Child Psychology*, *31*(1), 41-53. doi:10.1023/A:1021769215342
- Cohen-Kettenis, P. T., & Pfäfflin, F. (2003). *Transgenderism and intersexuality in childhood and adolescence: Making choices*. Thousand Oaks, CA: Sage Publications, Inc.
- Cohen-Kettenis, P. T., & Pfäfflin, F. (2010). The DSM diagnostic criteria for gender identity disorder in adolescents and adults. *Archives of Sexual Behavior*, *39*(2), 499-513. doi:10.1007/s10508-009-9562-y
- Cohen-Kettenis, P. T., Schagen, S. E. E., Steensma, T. D., de Vries, A. L. C., & Delemarre-van de Waal, H. A. (2011). Puberty suppression in a gender-dysphoric adolescent: A 22-year follow-up. *Archives of Sexual Behavior*, *40*(4), 843-847. doi:10.1007/s10508-011-9758-9
- Cohen-Kettenis, P. T., Wallien, M., Johnson, L. L., Owen-Anderson, A. F. H., Bradley, S. J., & Zucker, K. J. (2006). A parent-report gender identity questionnaire for children: A cross-national, cross-clinic comparative analysis. *Clinical Child Psychology and Psychiatry*, *11*(3), 397-405. doi:10.1177/1359104506059135
- Cole, C. M., O'Boyle, M., Emory, L. E., & Meyer III, W. J. (1997). Comorbidity of gender dysphoria and other major psychiatric diagnoses. *Archives of Sexual Behavior*, *26*(1), 13-26.
- Coleman, E., Colgan, P., & Gooren, L. (1992). Male cross-gender behavior in Myanmar (Burma): A description of the acault. *Archives of Sexual Behavior*, *21*(3), 313-321.
- Costa, L. M., & Matzner, A. (2007). *Male bodies, women's souls: Personal narratives of Thailand's transgendered youth*. Binghamton, NY: Haworth Press.
- Currah, P., Juang, R. M., & Minter, S. (2006). *Transgender rights*. Minneapolis, MN: University of Minnesota Press.
- Currah, P., & Minter, S. (2000). Unprincipled exclusions: The struggle to achieve judicial and legislative equality for transgender people. *William and Mary Journal of Women and Law*, *7*, 37-60.
- Dacakis, G. (2000). Long-term maintenance of fundamental frequency increases in male-to-female transsexuals. *Journal of Voice*, *14*(4), 549-556. doi:10.1016/S0892-1997(00)80010-7
- Dahl, M., Feldman, J. L., Goldberg, J. M., & Jaber, A. (2006). Physical aspects of transgender endocrine therapy. *International Journal of Transgenderism*, *9*(3), 111-134. doi:10.1300/J485v09n03_06

- Darney, P. D. (2008). Hormonal contraception. In H. M. Kronenberg, S. Melmer, K. S. Polonsky & P. R. Larsen (Eds.), *Williams textbook of endocrinology* (11th ed., pp. 615-644). Philadelphia: Saunders.
- Davies, S., & Goldberg, J. M. (2006). Clinical aspects of transgender speech feminization and masculinization. *International Journal of Transgenderism*, 9(3-4), 167-196. doi:10.1300/JJ485v09n03_08
- de Bruin, M. D., Coerts, M. J., & Greven, A. J. (2000). Speech therapy in the management of male-to-female transsexuals. *Folia Phoniatica Et Logopaedica*, 52(5), 220-227.
- De Cuyper, G., T'Sjoen, G., Beerten, R., Selvaggi, G., De Sutter, P., Hoebeke, P., . . . Rubens, R. (2005). Sexual and physical health after sex reassignment surgery. *Archives of Sexual Behavior*, 34(6), 679-690. doi:10.1007/s10508-005-7926-5
- De Cuyper, G., Van Hemelrijck, M., Michel, A., Crael, B., Heylens, G., Rubens, R., . . . Monstrey, S. (2007). Prevalence and demography of transsexualism in Belgium. *European Psychiatry*, 22(3), 137-141. doi:10.1016/j.eurpsy.2006.10.002
- De Cuyper, G., & Vercruyse, H. (2009). Eligibility and readiness criteria for sex reassignment surgery: Recommendations for revision of the WPATH standards of care. *International Journal of Transgenderism*, 11(3), 194-205. doi:10.1080/15532730903383781
- de Lignières, B. (1999). Oral micronized progesterone. *Clinical Therapeutics*, 21(1), 41-60. doi:10.1016/S0149-2918(00)88267-3
- De Sutter, P. (2009). Reproductive options for transpeople: Recommendations for revision of the WPATH's standards of care. *International Journal of Transgenderism*, 11(3), 183-185. doi:10.1080/15532730903383765
- De Sutter, P., Kira, K., Verschoor, A., & Hotimsky, A. (2002). The desire to have children and the preservation of fertility in transsexual women: A survey. *International Journal of Transgenderism*, 6(3), retrieved from http://www.wpath.org/journal/www.iav.nl/ezines/web/IJT/97-03/numbers/symposium/ijtvo06no03_02.htm
- de Vries, A. L. C., Cohen-Kettenis, P. T., & Delemarre-van de Waal, H. A. (2006). Clinical management of gender dysphoria in adolescents. *International Journal of Transgenderism*, 9(3-4), 83-94. doi:10.1300/J485v09n03_04
- de Vries, A. L. C., Doreleijers, T. A. H., Steensma, T. D., & Cohen-Kettenis, P. T. (2011). Psychiatric comorbidity in gender dysphoric adolescents. *Journal of Child Psychology and Psychiatry*. Advance online publication. doi:10.1111/j.1469-7610.2011.02426.x

The Standards of Care
7TH VERSION

- de Vries, A. L. C., Noens, I. L. J., Cohen-Kettenis, P. T., van Berckelaer-Onnes, I. A., & Doreleijers, T. A. (2010). Autism spectrum disorders in gender dysphoric children and adolescents. *Journal of Autism and Developmental Disorders, 40*(8), 930-936. doi:10.1007/s10803-010-0935-9
- de Vries, A. L. C., Steensma, T. D., Doreleijers, T. A. H., & Cohen-Kettenis, P. T. (2010). Puberty suppression in adolescents with gender identity disorder: A prospective follow-up study. *The Journal of Sexual Medicine*. Advance online publication. doi:10.1111/j.1743-6109.2010.01943.x
- Delemarre-van de Waal, H. A., & Cohen-Kettenis, P. T. (2006). Clinical management of gender identity disorder in adolescents: A protocol on psychological and paediatric endocrinology aspects. *European Journal of Endocrinology, 155*(suppl 1), S131-S137. doi:10.1530/eje.1.02231
- Delemarre-van de Waal, H. A., van Weissenbruch, M. M., & Cohen-Kettenis, P. T. (2004). Management of puberty in transsexual boys and girls. *Hormone Research in Paediatrics, 62*(suppl 2), 75-75. doi:10.1159/000081145
- Derrig-Palumbo, K., & Zeine, F. (2005). *Online therapy: A therapist's guide to expanding your practice*. New York: W.W. Norton & Co.
- Dessens, A. B., Slijper, F. M. E., & Drop, S. L. S. (2005). Gender dysphoria and gender change in chromosomal females with congenital adrenal hyperplasia. *Archives of Sexual Behavior, 34*(4), 389-397. doi:10.1007/s10508-005-4338-5
- Devor, A. H. (2004). Witnessing and mirroring: A fourteen stage model. *Journal of Gay and Lesbian Psychotherapy, 8*(1/2), 41-67.
- Di Ceglie, D., & Thümmel, E. C. (2006). An experience of group work with parents of children and adolescents with gender identity disorder. *Clinical Child Psychology and Psychiatry, 11*(3), 387-396. doi:10.1177/1359104506064983
- Diamond, M. (2009). Human intersexuality: Difference or disorder? *Archives of Sexual Behavior, 38*(2), 172-172. doi:10.1007/s10508-008-9438-6
- Dobs, A. S., Meikle, A. W., Arver, S., Sanders, S. W., Caramelli, K. E., & Mazer, N. A. (1999). Pharmacokinetics, efficacy, and safety of a permeation-enhanced testosterone transdermal system in comparison with bi-weekly injections of testosterone enanthate for the treatment of hypogonadal men. *Journal of Clinical Endocrinology & Metabolism, 84*(10), 3469-3478. doi:10.1210/jc.84.10.3469
- Docter, R. F. (1988). *Transvestites and transsexuals: Toward a theory of cross-gender behavior*. New York: Plenum Press.
- Drummond, K. D., Bradley, S. J., Peterson-Badali, M., & Zucker, K. J. (2008). A follow-up study of girls with gender identity disorder. *Developmental Psychology, 44*(1), 34-45. doi:10.1037/0012-1649.44.1.34

- Ehrbar, R. D., & Gorton, R. N. (2010). Exploring provider treatment models in interpreting the standards of care. *International Journal of Transgenderism*, 12(4), 198-2010. doi:10.1080/15532739.2010.544235
- Ekins, R., & King, D. (2006). *The transgender phenomenon*. Thousand Oaks, CA: SAGE Publications Ltd.
- Eklund, P. L., Gooren, L. J., & Bezemer, P. D. (1988). Prevalence of transsexualism in the Netherlands. *British Journal of Psychiatry*, 152(5), 638-640.
- Eldh, J., Berg, A., & Gustafsson, M. (1997). Long-term follow up after sex reassignment surgery. *Scandinavian Journal of Plastic and Reconstructive Surgery and Hand Surgery*, 31(1), 39-45.
- Emerson, S., & Rosenfeld, C. (1996). Stages of adjustment in family members of transgender individuals. *Journal of Family Psychotherapy*, 7(3), 1-12. doi:10.1300/J085V07N03_01
- Emory, L. E., Cole, C. M., Avery, E., Meyer, O., & Meyer III, W. J. (2003). Client's view of gender identity: Life, treatment status and outcome. *18th Biennial Harry Benjamin Symposium*, Gent, Belgium.
- Ettner, R., Monstrey, S., & Eyler, A. (Eds.) (2007). *Principles of transgender medicine and surgery*. Binghamton, NY: The Haworth Press.
- Eyler, A. E. (2007). Primary medical care of the gender-variant patient. In R. Ettner, S. Monstrey & E. Eyler (Eds.), *Principles of transgender medicine and surgery* (pp. 15-32). Binghamton, NY: The Haworth Press.
- Factor, R. J., & Rothblum, E. (2008). Exploring gender identity and community among three groups of transgender individuals in the United States: MTFs, FTMs, and genderqueers. *Health Sociology Review*, 17(3), 235-253.
- Feinberg, L. (1996). *Transgender warriors: Making history from Joan of Arc to Dennis Rodman*. Boston, MA: Beacon Press.
- Feldman, J. (2005, April). *Masculinizing hormone therapy with testosterone 1% topical gel*. Paper presented at the 19th Biennial Symposium of the Harry Benjamin International Gender Dysphoria Association, Bologna, Italy.
- Feldman, J. (2007). Preventive care of the transgendered patient. In R. Ettner, S. Monstrey & E. Eyler (Eds.), *Principles of transgender surgery and medicine* (pp. 33-72). Binghamton, NY: The Haworth Press.
- Feldman, J., & Goldberg, J. (2006). Transgender primary medical care. *International Journal of Transgenderism*, 9(3), 3-34. doi:10.1300/J485v09n03_02
- Feldman, J., & Safer, J. (2009). Hormone therapy in adults: Suggested revisions to the sixth version of the standards of care. *International Journal of Transgenderism*, 11(3), 146-182. doi:10.1080/15532730903383757

The Standards of Care
7TH VERSION

- Fenichel, M., Suler, J., Barak, A., Zelvin, E., Jones, G., Munro, K., . . . Walker-Schmucker, W. (2004). *Myths and realities of online clinical work, observations on the phenomena of online behavior, experience, and therapeutic relationships. A 3rd-year report from ISMHO's clinical case study group.* Retrieved May 24, 2011, from https://www.ismho.org/myths_n_realities.asp
- Fenway Community Health Transgender Health Program. (2007). *Protocol for hormone therapy.* Retrieved from http://www.fenwayhealth.org/site/DocServer/Fenway_Protocols.pdf?docID=2181
- Fisk, N. M. (1974). Editorial: Gender dysphoria syndrome--the conceptualization that liberalizes indications for total gender reorientation and implies a broadly based multi-dimensional rehabilitative regimen. *Western Journal of Medicine, 120*(5), 386-391.
- Fitzpatrick, L. A., Pace, C., & Wiita, B. (2000). Comparison of regimens containing oral micronized progesterone or medroxyprogesterone acetate on quality of life in postmenopausal women: A cross-sectional survey. *Journal of Women's Health & Gender-Based Medicine, 9*(4), 381-387.
- Frank, J. D., & Frank, J. B. (1993). *Persuasion and healing: A comparative study of psychotherapy* (Third ed.). Baltimore, MD: Johns Hopkins University Press.
- Fraser, L. (2009a). Depth psychotherapy with transgender people. *Sexual and Relationship Therapy, 24*(2), 126-142. doi:10.1080/14681990903003878
- Fraser, L. (2009b). Etherapy: Ethical and clinical considerations for version 7 of The World Professional Association for Transgender Health's standards of care. *International Journal of Transgenderism, 11*(4), 247-263. doi:10.1080/15532730903439492
- Fraser, L. (2009c). Psychotherapy in The World Professional Association for Transgender Health's standards of care: Background and recommendations. *International Journal of Transgenderism, 11*(2), 110-126. doi:10.1080/15532730903008057
- Garaffa, G., Christopher, N. A., & Ralph, D. J. (2010). Total phallic reconstruction in female-to-male transsexuals. *European Urology, 57*(4), 715-722. doi:10.1016/j.eururo.2009.05.018
- Gelder, M. G., & Marks, I. M. (1969). Aversion treatment in transvestism and transsexualism. In R. Green, & J. Money (Eds.), *Transsexualism and sex reassignment* (pp. 383-413). Baltimore, MD: Johns Hopkins Press.
- Gelfer, M. P. (1999). Voice treatment for the male-to-female transgendered client. *American Journal of Speech-Language Pathology, 8*(3), 201-208.
- Gharib, S., Bigby, J., Chapin, M., Ginsburg, E., Johnson, P., Manson, J., & Solomon, C. (2005). *Menopause: A guide to management.* Boston, MA: Brigham and Women's Hospital.

- Gijs, L., & Brewaeys, A. (2007). Surgical treatment of gender dysphoria in adults and adolescents: Recent developments, effectiveness, and challenges. *Annual Review of Sex Research, 18*, 178-224.
- Gold, M., & MacNish, M. (2011). *Adjustment and resiliency following disclosure of transgender identity in families of adolescents and young adults: Themes and clinical implications*. Washington, DC: American Family Therapy Academy.
- Gómez-Gil, E., Trilla, A., Salamero, M., Godás, T., & Valdés, M. (2009). Sociodemographic, clinical, and psychiatric characteristics of transsexuals from Spain. *Archives of Sexual Behavior, 38*(3), 378-392. doi:10.1007/s10508-007-9307-8
- Gooren, L. (2005). Hormone treatment of the adult transsexual patient. *Hormone Research in Paediatrics, 64*(Suppl 2), 31-36. doi:10.1159/000087751
- Gorton, R. N., Buth, J., & Spade, D. (2005). *Medical therapy and health maintenance for transgender men: A guide for health care providers*. San Francisco, CA: Lyon-Martin Women's Health Services.
- Green, R. (1987). *The "sissy boy syndrome" and the development of homosexuality*. New Haven, CT: Yale University Press.
- Green, R., & Fleming, D. (1990). Transsexual surgery follow-up: Status in the 1990s. *Annual Review of Sex Research, 1*(1), 163-174.
- Greenson, R. R. (1964). On homosexuality and gender identity. *International Journal of Psycho-Analysis, 45*, 217-219.
- Grossman, A. H., D'Augelli, A. R., Howell, T. J., & Hubbard, S. (2006). Parent's reactions to transgender youth's gender nonconforming expression and identity. *Journal of Gay & Lesbian Social Services, 18*(1), 3-16. doi:10.1300/J041v18n01_02
- Grossman, A. H., D'Augelli, A. R., & Salter, N. P. (2006). Male-to-female transgender youth: Gender expression milestones, gender atypicality, victimization, and parents' responses. *Journal of GLBT Family Studies, 2*(1), 71-92.
- Grumbach, M. M., Hughes, I. A., & Conte, F. A. (2003). Disorders of sex differentiation. In P. R. Larsen, H. M. Kronenberg, S. Melmed & K. S. Polonsky (Eds.), *Williams textbook of endocrinology* (10th ed., pp. 842-1002). Philadelphia, PA: Saunders.
- Hage, J. J., & De Graaf, F. H. (1993). Addressing the ideal requirements by free flap phalloplasty: Some reflections on refinements of technique. *Microsurgery, 14*(9), 592-598. doi:10.1002/micr.1920140910
- Hage, J. J., & Karim, R. B. (2000). Ought GIDNOS get nought? Treatment options for nontranssexual gender dysphoria. *Plastic and Reconstructive Surgery, 105*(3), 1222-1227.

The Standards of Care
7TH VERSION

- Hancock, A. B., Krissing, J., & Owen, K. (2010). Voice perceptions and quality of life of transgender people. *Journal of Voice*. Advance online publication. doi:10.1016/j.jvoice.2010.07.013
- Hastings, D. W. (1974). Postsurgical adjustment of male transsexual patients. *Clinics in Plastic Surgery*, 1(2), 335-344.
- Hembree, W. C., Cohen-Kettenis, P., Delemarre-van de Waal, H. A., Gooren, L. J., Meyer III, W. J., Spack, N. P., . . . Montori, V. M. (2009). Endocrine treatment of transsexual persons: An Endocrine Society clinical practice guideline. *Journal of Clinical Endocrinology & Metabolism*, 94(9), 3132-3154. doi:10.1210/jc.2009-0345
- Hill, D. B., Menvielle, E., Sica, K. M., & Johnson, A. (2010). An affirmative intervention for families with gender-variant children: Parental ratings of child mental health and gender. *Journal of Sex and Marital Therapy*, 36(1), 6-23. doi:10.1080/00926230903375560
- Hoebeke, P., Selvaggi, G., Ceulemans, P., De Cuypere, G. D., T'Sjoen, G., Weyers, S., . . . Monstrey, S. (2005). Impact of sex reassignment surgery on lower urinary tract function. *European Urology*, 47(3), 398-402. doi:10.1016/j.eururo.2004.10.008
- Hoenig, J., & Kenna, J. C. (1974). The prevalence of transsexualism in England and Wales. *British Journal of Psychiatry*, 124(579), 181-190. doi:10.1192/bjp.124.2.181
- Hughes, I. A., Houk, C. P., Ahmed, S. F., Lee, P. A., & LWPES1/ESPE2 Consensus Group. (2006). Consensus statement on management of intersex disorders. *Archives of Disease in Childhood*, 91(7), 554-563. doi:10.1136/adc.2006.098319
- Hunter, M. H., & Sterrett, J. J. (2000). Polycystic ovary syndrome: It's not just infertility. *American Family Physician*, 62(5), 1079-1095.
- Institute of Medicine. (2011). *The health of lesbian, gay, bisexual, and transgender people: Building a foundation for better understanding*. Washington, DC: The National Academies Press.
- Jackson, P. A., & Sullivan, G. (Eds.). (1999). *Lady boys, tom boys, rent boys: Male and female homosexualities in contemporary Thailand*. Binghamton, NY: The Haworth Press.
- Jockenhövel, F. (2004). Testosterone therapy-what, when and to whom? *The Aging Male*, 7(4), 319-324. doi:10.1080/13685530400016557
- Johansson, A., Sundbom, E., Höjerback, T., & Bodlund, O. (2010). A five-year follow-up study of Swedish adults with gender identity disorder. *Archives of Sexual Behavior*, 39(6), 1429-1437. doi:10.1007/s10508-009-9551-1

- Joint LWPES/ESPE CAH Working Group, Clayton, P. E., Miller, W. L., Oberfeld, S. E., Ritzen, E. M., Sippell, W. G., & Speiser, P. W. (2002). Consensus statement on 21-hydroxylase deficiency from the Lawson Wilkins Pediatric Endocrine Society and the European Society for Pediatric Endocrinology. *Journal of Clinical Endocrinology & Metabolism*, 87(9), 4048-4053. doi:10.1210/jc.2002-020611
- Jurgensen, M., Hiort, O., Holterhus, P. M., & Thyen, U. (2007). Gender role behavior in children with XY karyotype and disorders of sex development. *Hormones and Behavior*, 51(3), 443-453. doi:0.1016/j.yhbeh.2007.01.001
- Kanagalingam, J., Georgalas, C., Wood, G. R., Ahluwalia, S., Sandhu, G., & Cheesman, A. D. (2005). Cricothyroid approximation and subluxation in 21 male-to-female transsexuals. *The Laryngoscope*, 115(4), 611-618. doi:10.1097/01.mlg.0000161357.12826.33
- Kanhai, R. C. J., Hage, J. J., Karim, R. B., & Mulder, J. W. (1999). Exceptional presenting conditions and outcome of augmentation mammoplasty in male-to-female transsexuals. *Annals of Plastic Surgery*, 43(5), 476-483.
- Kimberly, S. (1997). I am transsexual - hear me roar. *Minnesota Law & Politics*, June, 21-49.
- Klein, C., & Gorzalka, B. B. (2009). Sexual functioning in transsexuals following hormone therapy and genital surgery: A review (CME). *The Journal of Sexual Medicine*, 6(11), 2922-2939. doi:10.1111/j.1743-6109.2009.01370.x
- Knudson, G., De Cuypere, G., & Bockting, W. (2010a). Process toward consensus on recommendations for revision of the DSM diagnoses of gender identity disorders by The World Professional Association for Transgender Health. *International Journal of Transgenderism*, 12(2), 54-59. doi:10.1080/15532739.2010.509213
- Knudson, G., De Cuypere, G., & Bockting, W. (2010b). Recommendations for revision of the DSM diagnoses of gender identity disorders: Consensus statement of The World Professional Association for Transgender Health. *International Journal of Transgenderism*, 12(2), 115-118. doi:10.1080/15532739.2010.509215
- Kosilek v. Massachusetts Department of Corrections/Maloney, C.A. No. 92-12820-MLW (U.S. Federal District Court, Boston, MA, 2002).
- Krege, S., Bex, A., Lümmen, G., & Rübber, H. (2001). Male-to-female transsexualism: A technique, results and long-term follow-up in 66 patients. *British Journal of Urology*, 88(4), 396-402. doi:10.1046/j.1464-410X.2001.02323.x

The Standards of Care
7TH VERSION

- Kuhn, A., Bodmer, C., Stadlmayr, W., Kuhn, P., Mueller, M. D., & Birkhäuser, M. (2009). Quality of life 15 years after sex reassignment surgery for transsexualism. *Fertility and Sterility*, 92(5), 1685-1689. doi:10.1016/j.fertnstert.2008.08.126
- Kuhn, A., Hildebrand, R., & Birkhauser, M. (2007). Do transsexuals have micturition disorders? *European Journal of Obstetrics & Gynecology and Reproductive Biology*, 131(2), 226-230. doi:10.1016/j.ejogrb.2006.03.019
- Landén, M., Wålinder, J., & Lundström, B. (1998). Clinical characteristics of a total cohort of female and male applicants for sex reassignment: A descriptive study. *Acta Psychiatrica Scandinavica*, 97(3), 189-194. doi:10.1111/j.1600-0447.1998.tb09986.x
- Lawrence, A. A. (2003). Factors associated with satisfaction or regret following male-to-female sex reassignment surgery. *Archives of Sexual Behavior*, 32(4), 299-315. doi:10.1023/A:1024086814364
- Lawrence, A. A. (2006). Patient-reported complications and functional outcomes of male-to-female sex reassignment surgery. *Archives of Sexual Behavior*, 35(6), 717-727. doi:10.1007/s10508-006-9104-9
- Lev, A. I. (2004). *Transgender emergence: Therapeutic guidelines for working with gender-variant people and their families*. Binghamton, NY: Haworth Clinical Practice Press.
- Lev, A. I. (2009). The ten tasks of the mental health provider: Recommendations for revision of The World Professional Association for Transgender Health's standards of care. *International Journal of Transgenderism*, 11(2), 74-99. doi:10.1080/15532730903008032
- Levy, A., Crown, A., & Reid, R. (2003). Endocrine intervention for transsexuals. *Clinical Endocrinology*, 59(4), 409-418. doi:10.1046/j.1365-2265.2003.01821.x
- MacLaughlin, D. T., & Donahoe, P. K. (2004). Sex determination and differentiation. *New England Journal of Medicine*, 350(4), 367-378.
- Maheu, M. M., Pulier, M. L., Wilhelm, F. H., McMenamin, J. P., & Brown-Connolly, N. E. (2005). *The mental health professional and the new technologies: A handbook for practice today*. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Malpas, J. (in press). Between pink and blue: A multi-dimensional family approach to gender nonconforming children and their families. *Family Process*.
- Mazur, T. (2005). Gender dysphoria and gender change in androgen insensitivity or micropenis. *Archives of Sexual Behavior*, 34(4), 411-421. doi:10.1007/s10508-005-4341-x
- McNeill, E. J. M. (2006). Management of the transgender voice. *The Journal of Laryngology & Otology*, 120(07), 521-523. doi:10.1017/S0022215106001174

- McNeill, E. J. M., Wilson, J. A., Clark, S., & Deakin, J. (2008). Perception of voice in the transgender client. *Journal of Voice*, 22(6), 727-733. doi:10.1016/j.jvoice.2006.12.010
- Menvielle, E. J., & Tuerk, C. (2002). A support group for parents of gender-nonconforming boys. *Journal of the American Academy of Child & Adolescent Psychiatry*, 41(8), 1010-1013. doi:10.1097/00004583-200208000-00021
- Meyer, I. H. (2003). Prejudice as stress: Conceptual and measurement problems. *American Journal of Public Health*, 93(2), 262-265.
- Meyer, J. K., & Reter, D. J. (1979). Sex reassignment: Follow-up. *Archives of General Psychiatry*, 36(9), 1010-1015.
- Meyer III, W. J. (2009). World Professional Association for Transgender Health's standards of care requirements of hormone therapy for adults with gender identity disorder. *International Journal of Transgenderism*, 11(2), 127-132. doi:10.1080/15532730903008065
- Meyer III, W. J., Webb, A., Stuart, C. A., Finkelstein, J. W., Lawrence, B., & Walker, P. A. (1986). Physical and hormonal evaluation of transsexual patients: A longitudinal study. *Archives of Sexual Behavior*, 15(2), 121-138. doi:10.1007/BF01542220
- Meyer-Bahlburg, H. F. L. (2002). Gender assignment and reassignment in intersexuality: Controversies, data, and guidelines for research. *Advances in Experimental Medicine and Biology*, 511, 199-223. doi:10.1007/978-1-4615-0621-8_12
- Meyer-Bahlburg, H. F. L. (2005). Gender identity outcome in female-raised 46,XY persons with penile agenesis, cloacal exstrophy of the bladder, or penile ablation. *Archives of Sexual Behavior*, 34(4), 423-438. doi:10.1007/s10508-005-4342-9
- Meyer-Bahlburg, H. F. L. (2008). Treatment guidelines for children with disorders of sex development. *Neuropsychiatrie De l'Enfance Et De l'Adolescence*, 56(6), 345-349. doi:10.1016/j.neurenf.2008.06.002
- Meyer-Bahlburg, H. F. L. (2009). Variants of gender differentiation in somatic disorders of sex development. *International Journal of Transgenderism*, 11(4), 226-237. doi:10.1080/15532730903439476
- Meyer-Bahlburg, H. F. L. (2010). From mental disorder to iatrogenic hypogonadism: Dilemmas in conceptualizing gender identity variants as psychiatric conditions. *Archives of Sexual Behavior*, 39(2), 461-476. doi:10.1007/s10508-009-9532-4
- Meyer-Bahlburg, H. F. L. (in press). Gender monitoring and gender reassignment of children and adolescents with a somatic disorder of sex development. *Child & Adolescent Psychiatric Clinics of North America*.

The Standards of Care
7TH VERSION

- Meyer-Bahlburg, H. F. L., & Blizzard, R. M. (2004). Conference proceedings: Research on intersex: Summary of a planning workshop. *The Endocrinologist*, *14*(2), 59-69. doi:10.1097/01.ten.0000123701.61007.4e
- Meyer-Bahlburg, H. F. L., Dolezal, C., Baker, S. W., Carlson, A. D., Obeid, J. S., & New, M. I. (2004). Prenatal androgenization affects gender-related behavior but not gender identity in 5–12-year-old girls with congenital adrenal hyperplasia. *Archives of Sexual Behavior*, *33*(2), 97-104. doi:10.1023/B:ASEB.0000014324.25718.51
- Meyer-Bahlburg, H. F. L., Dolezal, C., Baker, S. W., Ehrhardt, A. A., & New, M. I. (2006). Gender development in women with congenital adrenal hyperplasia as a function of disorder severity. *Archives of Sexual Behavior*, *35*(6), 667-684. doi:10.1007/s10508-006-9068-9
- Meyer-Bahlburg, H. F. L., Migeon, C. J., Berkovitz, G. D., Gearhart, J. P., Dolezal, C., & Wisniewski, A. B. (2004). Attitudes of adult 46,XY intersex persons to clinical management policies. *The Journal of Urology*, *171*(4), 1615-1619. doi:10.1097/01.ju.0000117761.94734.b7
- Money, J., & Ehrhardt, A. A. (1972). *Man and woman, boy and girl*. Baltimore, MD: The Johns Hopkins University Press.
- Money, J., & Russo, A. J. (1979). Homosexual outcome of discordant gender identity/role in childhood: Longitudinal follow-up. *Journal of Pediatric Psychology*, *4*(1), 29-41. doi:10.1093/jpepsy/4.1.29
- Monstrey, S., Hoebeke, P., Selvaggi, G., Ceulemans, P., Van Landuyt, K., Blondeel, P., . . . De Cuypere, G. (2009). Penile reconstruction: Is the radial forearm flap really the standard technique? *Plastic and Reconstructive Surgery*, *124*(2), 510-518.
- Monstrey, S., Selvaggi, G., Ceulemans, P., Van Landuyt, K., Bowman, C., Blondeel, P., . . . De Cuypere, G. (2008). Chest-wall contouring surgery in female-to-male transsexuals: A new algorithm. *Plastic and Reconstructive Surgery*, *121*(3), 849-859. doi:10.1097/01.prs.0000299921.15447.b2
- Moore, E., Wisniewski, A., & Dobs, A. (2003). Endocrine treatment of transsexual people: A review of treatment regimens, outcomes, and adverse effects. *Journal of Clinical Endocrinology & Metabolism*, *88*(8), 3467-3473. doi:10.1210/jc.2002-021967
- More, S. D. (1998). The pregnant man-an oxymoron? *Journal of Gender Studies*, *7*(3), 319-328. doi:10.1080/09589236.1998.9960725
- Mount, K. H., & Salmon, S. J. (1988). Changing the vocal characteristics of a postoperative transsexual patient: A longitudinal study. *Journal of Communication Disorders*, *21*(3), 229-238. doi:10.1016/0021-9924(88)90031-7

- Mueller, A., Kiesewetter, F., Binder, H., Beckmann, M. W., & Dittrich, R. (2007). Long-term administration of testosterone undecanoate every 3 months for testosterone supplementation in female-to-male transsexuals. *Journal of Clinical Endocrinology & Metabolism*, 92(9), 3470-3475. doi:10.1210/jc.2007-0746
- Murad, M. H., Elamin, M. B., Garcia, M. Z., Mullan, R. J., Murad, A., Erwin, P. J., & Montori, V. M. (2010). Hormonal therapy and sex reassignment: A systematic review and meta-analysis of quality of life and psychosocial outcomes. *Clinical Endocrinology*, 72(2), 214-231. doi:10.1111/j.1365-2265.2009.03625.x
- Nanda, S. (1998). *Neither man nor woman: The hijras of India*. Belmont, CA: Wadsworth Publishing.
- Nestle, J., Wilchins, R. A., & Howell, C. (2002). *Genderqueer: Voices from beyond the sexual binary*. Los Angeles, CA: Alyson Publications.
- Neumann, K., & Welzel, C. (2004). The importance of voice in male-to-female transsexualism. *Journal of Voice*, 18(1), 153-167.
- Newfield, E., Hart, S., Dibble, S., & Kohler, L. (2006). Female-to-male transgender quality of life. *Quality of Life Research*, 15(9), 1447-1457. doi:10.1007/s11136-006-0002-3
- Nieschlag, E., Behre, H. M., Bouchard, P., Corrales, J. J., Jones, T. H., Stalla, G. K., . . . Wu, F. C. W. (2004). Testosterone replacement therapy: Current trends and future directions. *Human Reproduction Update*, 10(5), 409-419. doi:10.1093/humupd/dmh035
- North American Menopause Society. (2010). Estrogen and progestogen use in postmenopausal women: 2010 position statement. *Menopause*, 17(2), 242-255. doi:10.1097/gme.0b013e3181d0f6b9
- Nuttbrock, L., Hwahng, S., Bockting, W., Rosenblum, A., Mason, M., Macri, M., & Becker, J. (2010). Psychiatric impact of gender-related abuse across the life course of male-to-female transgender persons. *Journal of Sex Research*, 47(1), 12-23. doi:10.1080/00224490903062258
- Oates, J. M., & Dacakis, G. (1983). Speech pathology considerations in the management of transsexualism—a review. *International Journal of Language & Communication Disorders*, 18(3), 139-151. doi:10.3109/13682828309012237
- Olyslager, F., & Conway, L. (2007). On the calculation of the prevalence of transsexualism. Paper presented at the *World Professional Association for Transgender Health 20th International Symposium*, Chicago, Illinois. Retrieved April 22, 2010 from http://www.changelingaspects.com/PDF/2007-09-06-Prevalence_of_Transsexualism.pdf

The Standards of Care
7TH VERSION

- Oriel, K. A. (2000). Clinical update: Medical care of transsexual patients. *Journal of the Gay and Lesbian Medical Association*, 4(4), 185-194. doi:1090-7173/00/1200-0185\$18.00/1
- Pauly, I. B. (1965). Male psychosexual inversion: Transsexualism: A review of 100 cases. *Archives of General Psychiatry*, 13(2), 172-181.
- Payer, A. F., Meyer III, W. J., & Walker, P. A. (1979). The ultrastructural response of human leydig cells to exogenous estrogens. *Andrologia*, 11(6), 423-436. doi:10.1111/j.1439-0272.1979.tb02232.x
- Peletz, M. G. (2006). Transgenderism and gender pluralism in southeast asia since early modern times. *Current Anthropology*, 47(2), 309-340. doi:10.1086/498947
- Pfäfflin, F. (1993). Regrets after sex reassignment surgery. *Journal of Psychology & Human Sexuality*, 5(4), 69-85.
- Pfäfflin, F., & Junge, A. (1998). Sex reassignment. Thirty years of international follow-up studies after sex reassignment surgery: A comprehensive review, 1961-1991. *International Journal of Transgenderism*. Retrieved from <http://web.archive.org/web/20070503090247/http://www.symposium.com/ijt/pfaefflin/1000.htm>
- Physicians' desk reference*. (61st ed.). (2007). Montvale, NJ: PDR.
- Physicians' desk reference*. (65th ed.). (2010). Montvale, NJ: PDR.
- Pleak, R. R. (1999). Ethical issues in diagnosing and treating gender-dysphoric children and adolescents. In M. Rottnek (Ed.), *Sissies and tomboys: Gender nonconformity and homosexual childhood* (pp. 34-51). New York: New York University Press.
- Pope, K. S., & Vasquez, M. J. (2011). *Ethics in psychotherapy and counseling: A practical guide* (Fourth ed.). Hoboken, NJ: John Wiley & Sons, Inc.
- Prior, J. C., Vigna, Y. M., & Watson, D. (1989). Spironolactone with physiological female steroids for presurgical therapy of male-to-female transsexualism. *Archives of Sexual Behavior*, 18(1), 49-57. doi:10.1007/BF01579291
- Prior, J. C., Vigna, Y. M., Watson, D., Diewold, P., & Robinow, O. (1986). Spironolactone in the presurgical therapy of male to female transsexuals: Philosophy and experience of the Vancouver Gender Dysphoria Clinic. *Journal of Sex Information & Education Council of Canada*, 1, 1-7.
- Rachlin, K. (1999). Factors which influence individual's decisions when considering female-to-male genital reconstructive surgery. *International Journal of Transgenderism*, 3(3). Retrieved from <http://www.WPATH.org>

- Rachlin, K. (2002). Transgendered individuals' experiences of psychotherapy. *International Journal of Transgenderism*, 6(1). Retrieved from http://www.wpath.org/journal/www.iiaav.nl/eazines/web/IJT/97-03/numbers/symposion/ijtvo06no01_03.htm.
- Rachlin, K., Green, J., & Lombardi, E. (2008). Utilization of health care among female-to-male transgender individuals in the United States. *Journal of Homosexuality*, 54(3), 243-258. doi:10.1080/00918360801982124
- Rachlin, K., Hansbury, G., & Pardo, S. T. (2010). Hysterectomy and oophorectomy experiences of female-to-male transgender individuals. *International Journal of Transgenderism*, 12(3), 155-166. doi:10.1080/115532739.2010.514220
- Reed, B., Rhodes, S., Schofield, P. & Wylie, K. (2009). *Gender variance in the UK: Prevalence, incidence, growth and geographic distribution*. Retrieved June 8, 2011, from <http://www.gires.org.uk/assets/Medpro-Assets/GenderVarianceUK-report.pdf>
- Rehman, J., Lazer, S., Benet, A. E., Schaefer, L. C., & Melman, A. (1999). The reported sex and surgery satisfactions of 28 postoperative male-to-female transsexual patients. *Archives of Sexual Behavior*, 28(1), 71-89. doi:10.1023/A:1018745706354
- Robinow, O. (2009). Paraphilia and transgenderism: A connection with Asperger's disorder? *Sexual and Relationship Therapy*, 24(2), 143-151. doi:10.1080/14681990902951358
- Rosenberg, M. (2002). Children with gender identity issues and their parents in individual and group treatment. *Journal of the American Academy of Child and Adolescent Psychiatry*, 41(5), 619-621. doi:10.1097/00004583-200205000-00020
- Rossouw, J. E., Anderson, G. L., Prentice, R. L., LaCroix, A. Z., Kooperberg, C., Stefanick, M. L., . . . Johnson, K. C. (2002). Risks and benefits of estrogen plus progestin in healthy postmenopausal women: Principal results from the women's health initiative randomized controlled trial. *JAMA: The Journal of the American Medical Association*, 288(3), 321-333.
- Royal College of Speech Therapists, United Kingdom. <http://www.rcslt.org/>
- Ruble, D. N., Martin, C. L., & Berenbaum, S. A. (2006). Gender development. In N. Eisenberg, W. Damon & R. M. Lerner (Eds.), *Handbook of child psychology* (6th ed., pp. 858-932). Hoboken, NJ: John Wiley & Sons, Inc.
- Sausa, L. A. (2005). Translating research into practice: Trans youth recommendations for improving school systems. *Journal of Gay & Lesbian Issues in Education*, 3(1), 15-28. doi:10.1300/J367v03n01_04
- Simpson, J. L., de la Cruz, F., Swerdloff, R. S., Samango-Sprouse, C., Skakkebaek, N. E., Graham, J. M. J., . . . Willard, H. F. (2003). Klinefelter syndrome: Expanding the phenotype and identifying new research directions. *Genetics in Medicine*, 5(6), 460-468. doi:10.1097/01.GIM.0000095626.54201.DO

The Standards of Care
7TH VERSION

- Smith, Y. L. S., Van Goozen, S. H. M., Kuiper, A. J., & Cohen-Kettenis, P. T. (2005). Sex reassignment: Outcomes and predictors of treatment for adolescent and adult transsexuals. *Psychological Medicine*, 35(1), 89-99. doi:10.1017/S0033291704002776
- Sood, R., Shuster, L., Smith, R., Vincent, A., & Jatoi, A. (2011). Counseling postmenopausal women about bioidentical hormones: Ten discussion points for practicing physicians. *Journal of the American Board of Family Practice*, 24(2), 202-210. doi:10.3122/jabfm.2011.02.100194
- Speech Pathology Australia. <http://www.speechpathologyaustralia.org.au/>
- Speiser, P. W., Azziz, R., Baskin, L. S., Ghizzoni, L., Hensle, T. W., Merke, D. P., . . . Oberfield, S. E. (2010). Congenital adrenal hyperplasia due to steroid 21-hydroxylase deficiency: An endocrine society clinical practice guideline. *Journal of Clinical Endocrinology & Metabolism*, 95(9), 4133-4160. doi:10.1210/jc.2009-2631
- Steensma, T. D., Biemond, R., de Boer, F., & Cohen-Kettenis, P. T. (2011). Desisting and persisting gender dysphoria after childhood: A qualitative follow-up study. *Clinical Child Psychology and Psychiatry*. Advance online publication. doi:10.1177/1359104510378303
- Steensma, T. D., & Cohen-Kettenis, P. T. (2011). Gender transitioning before puberty? *Archives of Sexual Behavior*, 40(4), 649-650. doi:10.1007/s10508-011-9752-2
- Stikkelbroeck, N. M. M. L., Beerendonk, C., Willemsen, W. N. P., Schreuders-Bais, C. A., Feitz, W. F. J., Rieu, P. N. M. A., . . . Otten, B. J. (2003). The long term outcome of feminizing genital surgery for congenital adrenal hyperplasia: Anatomical, functional and cosmetic outcomes, psychosexual development, and satisfaction in adult female patients. *Journal of Pediatric and Adolescent Gynecology*, 16(5), 289-296. doi:10.1016/S1083-3188(03)00155-4
- Stoller, R. J. (1964). A contribution to the study of gender identity. *International Journal of Psychoanalysis*, 45, 220-226.
- Stone, S. (1991). The empire strikes back: A posttranssexual manifesto. In J. Epstein, & K. Straub (Eds.), *Body guards: The cultural politics of gender ambiguity* (pp. 280-304). London: Routledge.
- Tangpricha, V., Ducharme, S. H., Barber, T. W., & Chipkin, S. R. (2003). Endocrinologic treatment of gender identity disorders. *Endocrine Practice*, 9(1), 12-21.
- Tangpricha, V., Turner, A., Malabanan, A., & Holick, M. (2001). Effects of testosterone therapy on bone mineral density in the FTM patient. *International Journal of Transgenderism*, 5(4).
- Taywaditep, K. J., Coleman, E., & Dumronggittigule, P. (1997). Thailand (muang thai). In R. Francouer (Ed.), *International encyclopedia of sexuality*. New York: Continuum.

- The World Professional Association for Transgender Health, Inc. (2008). *WPATH clarification on medical necessity of treatment, sex reassignment, and insurance coverage in the U.S.A.* Retrieved from <http://www.wpath.org/documents/Med%20Nec%20on%202008%20Letterhead.pdf>
- Thole, Z., Manso, G., Salgueiro, E., Revuelta, P., & Hidalgo, A. (2004). Hepatotoxicity induced by antiandrogens: A review of the literature. *Urologia Internationalis*, 73(4), 289-295. doi:10.1159/000081585
- Tom Waddell Health Center. (2006). *Protocols for hormonal reassignment of gender.* Retrieved from <http://www.sfdph.org/dph/comupg/oservices/medSvs/hlthCtrs/TransGendprotocols122006.pdf>
- Tsoi, W. F. (1988). The prevalence of transsexualism in Singapore. *Acta Psychiatrica Scandinavica*, 78(4), 501-504. doi:10.1111/j.1600-0447.1988.tb06373.x
- Van den Broecke, R., Van der Elst, J., Liu, J., Hovatta, O., & Dhont, M. (2001). The female-to-male transsexual patient: A source of human ovarian cortical tissue for experimental use. *Human Reproduction*, 16(1), 145-147. doi:10.1093/humrep/16.1.145
- van Kesteren, P. J. M., Asscheman, H., Megens, J. A. J., & Gooren, L. J. G. (1997). Mortality and morbidity in transsexual subjects treated with cross-sex hormones. *Clinical Endocrinology*, 47(3), 337-343. doi:10.1046/j.1365-2265.1997.2601068.x
- van Kesteren, P. J. M., Gooren, L. J., & Megens, J. A. (1996). An epidemiological and demographic study of transsexuals in the Netherlands. *Archives of Sexual Behavior*, 25(6), 589-600. doi:10.1007/BF02437841
- van Trotsenburg, M. A. A. (2009). Gynecological aspects of transgender healthcare. *International Journal of Transgenderism*, 11(4), 238-246. doi:10.1080/15532730903439484
- Vancouver Coastal Health, Vancouver, British Columbia, Canada. <http://www.vch.ca/>
- Vanderburgh, R. (2009). Appropriate therapeutic care for families with pre-pubescent transgender/gender-dissonant children. *Child and Adolescent Social Work Journal*, 26(2), 135-154. doi:10.1007/s10560-008-0158-5
- Vilain, E. (2000). Genetics of sexual development. *Annual Review of Sex Research*, 11, 1-25.
- Wälinder, J. (1968). Transsexualism: Definition, prevalence and sex distribution. *Acta Psychiatrica Scandinavica*, 43(S203), 255-257.
- Wälinder, J. (1971). Incidence and sex ratio of transsexualism in Sweden. *The British Journal of Psychiatry*, 119(549), 195-196.
- Wallien, M. S. C., & Cohen-Kettenis, P. T. (2008). Psychosexual outcome of gender-dysphoric children. *Journal of the American Academy of Child & Adolescent Psychiatry*, 47(12), 1413-1423. doi:10.1097/CHI.0b013e31818956b9

The Standards of Care
7TH VERSION

- Wallien, M. S. C., Swaab, H., & Cohen-Kettenis, P. T. (2007). Psychiatric comorbidity among children with gender identity disorder. *Journal of the American Academy of Child & Adolescent Psychiatry*, 46(10), 1307-1314. doi:10.1097/chi.0b013e3181373848
- Warren, B. E. (1993). Transsexuality, identity and empowerment. A view from the frontlines. *SIECUS Report, February/March*, 14-16.
- Weitze, C., & Osburg, S. (1996). Transsexualism in Germany: Empirical data on epidemiology and application of the German Transsexuals' Act during its first ten years. *Archives of Sexual Behavior*, 25(4), 409-425.
- Wilson, J. D. (1999). The role of androgens in male gender role behavior. *Endocrine Reviews*, 20(5), 726-737. doi:10.1210/er.20.5.726
- Winter, S. (2009). Cultural considerations for The World Professional Association for Transgender Health's standards of care: The Asian perspective. *International Journal of Transgenderism*, 11(1), 19-41. doi:10.1080/15532730902799938
- Winter, S., Chalungsooth, P., Teh, Y. K., Rojanalert, N., Maneerat, K., Wong, Y. W., . . . Macapagal, R. A. (2009). Transpeople, transprejudice and pathologization: A seven-country factor analytic study. *International Journal of Sexual Health*, 21(2), 96-118. doi:10.1080/19317610902922537
- Wisniewski, A. B., Migeon, C. J., Malouf, M. A., & Gearhart, J. P. (2004). Psychosexual outcome in women affected by congenital adrenal hyperplasia due to 21-hydroxylase deficiency. *The Journal of Urology*, 171(6, Part 1), 2497-2501. doi:10.1097/01.ju.0000125269.91938.f7
- World Health Organization. (2007). *International classification of diseases and related health problems-10th revision*. Geneva, Switzerland: World Health Organization.
- World Health Organization. (2008). *The world health report 2008: Primary health care - now more than ever*. Geneva, Switzerland: World Health Organization.
- WPATH Board of Directors. (2010). *De-psychopathologisation statement released May 26, 2010*. Retrieved from http://wpath.org/announcements_detail.cfm?pk_announcement=17
- Xavier, J. M. (2000). *The Washington, D.C. transgender needs assessment survey: Final report for phase two*. Washington, DC: Administration for HIV/AIDS of District of Columbia Government.
- Zhang, G., Gu, Y., Wang, X., Cui, Y., & Bremner, W. J. (1999). A clinical trial of injectable testosterone undecanoate as a potential male contraceptive in normal Chinese men. *Journal of Clinical Endocrinology & Metabolism*, 84(10), 3642-3647. doi:10.1210/jc.84.10.3642

- Zitzmann, M., Saad, F., & Nieschlag, E. (2006, April). *Long term experience of more than 8 years with a novel formulation of testosterone undecanoate (nebido) in substitution therapy of hypogonadal men*. Paper presented at European Congress of Endocrinology, Glasgow, UK, April 2006.
- Zucker, K. J. (1999). Intersexuality and gender identity differentiation. *Annual Review of Sex Research, 10*(1), 1-69.
- Zucker, K. J. (2004). Gender identity development and issues. *Child and Adolescent Psychiatric Clinics of North America, 13*(3), 551-568. doi:10.1016/j.chc.2004.02.006
- Zucker, K. J. (2006). 'I'm half-boy, half-girl': Play psychotherapy and parent counseling for gender identity disorder. In R. L. Spitzer, M. B. First, J. B. W. Williams & M. Gibbons (Eds.), *DSM-IV-TR casebook, volume 2* (pp. 321-334). Arlington, VA: American Psychiatric Publishing, Inc.
- Zucker, K. J. (2010). The DSM diagnostic criteria for gender identity disorder in children. *Archives of Sexual Behavior, 39*(2), 477-498. doi:10.1007/s10508-009-9540-4
- Zucker, K. J., & Bradley, S. J. (1995). *Gender identity disorder and psychosexual problems in children and adolescents*. New York: Guilford Press.
- Zucker, K. J., Bradley, S. J., Owen-Anderson, A., Kibblewhite, S. J., & Cantor, J. M. (2008). Is gender identity disorder in adolescents coming out of the closet? *Journal of Sex & Marital Therapy, 34*(4), 287-290. doi:10.1080/00926230802096192
- Zucker, K. J., Bradley, S. J., Owen-Anderson, A., Kibblewhite, S. J., Wood, H., Singh, D., & Choi, K. (in press). Demographics, behavior problems, and psychosexual characteristics of adolescents with gender identity disorder or transvestic fetishism. *Journal of Sex & Marital Therapy*.
- Zucker, K. J., & Lawrence, A. A. (2009). Epidemiology of gender identity disorder: Recommendations for the standards of care of The World Professional Association for Transgender Health. *International Journal of Transgenderism, 11*(1), 8-18. doi:10.1080/15532730902799946
- Zucker, K. J., Owen, A., Bradley, S. J., & Ameeriar, L. (2002). Gender-dysphoric children and adolescents: A comparative analysis of demographic characteristics and behavioral problems. *Clinical Child Psychology and Psychiatry, 7*(3), 398-411.
- Zuger, B. (1984). Early effeminate behavior in boys: Outcome and significance for homosexuality. *Journal of Nervous and Mental Disease, 172*(2), 90-97.

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APPENDIX A

GLOSSARY

Terminology in the area of health care for transsexual, transgender, and gender nonconforming people is rapidly evolving; new terms are being introduced, and the definitions of existing terms are changing. Thus, there is often misunderstanding, debate, or disagreement about language in this field. Terms that may be unfamiliar or that have specific meanings in the SOC are defined below for the purpose of this document only. Others may adopt these definitions, but WPATH acknowledges that these terms may be defined differently in different cultures, communities, and contexts.

WPATH also acknowledges that many terms used in relation to this population are not ideal. For example, the terms *transsexual* and *transvestite* – and, some would argue, the more recent term *transgender* – have been applied to people in an objectifying fashion. Yet such terms have been more or less adopted by many people who are making their best effort to make themselves understood. By continuing to use these terms, WPATH intends only to ensure that concepts and processes are comprehensible, in order to facilitate the delivery of quality health care to transsexual, transgender, and gender nonconforming people. WPATH remains open to new terminology that will further illuminate the experience of members of this diverse population and lead to improvements in health care access and delivery.

Bioidentical hormones: Hormones that are *structurally* identical to those found in the human body (ACOG Committee of Gynecologic Practice, 2005). The hormones used in bioidentical hormone therapy (BHT) are generally derived from plant sources and are structurally similar to endogenous human hormones, but they need to be commercially processed to become bioidentical.

Bioidentical compounded hormone therapy (BCHT): Use of hormones that are prepared, mixed, assembled, packaged, or labeled as a drug by a pharmacist and custom-made for a patient according to a physician's specifications. Government drug agency approval is not possible for each compounded product made for an individual consumer.

Crossdressing (transvestism): Wearing clothing and adopting a gender role presentation that, in a given culture, is more typical of the other sex.

Disorders of sex development (DSD): Congenital conditions in which the development of chromosomal, gonadal, or anatomic sex is atypical. Some people strongly object to the “disorder” label and instead view these conditions as a matter of diversity (Diamond, 2009), preferring the terms *intersex* and *intersexuality*.

Female-to-Male (FtM): Adjective to describe individuals assigned female at birth who are changing or who have changed their body and/or gender role from birth-assigned female to a more masculine body or role.

Gender dysphoria: Distress that is caused by a discrepancy between a person's gender identity and that person's sex assigned at birth (and the associated gender role and/or primary and secondary sex characteristics) (Fisk, 1974; Knudson, De Cuypere, & Bockting, 2010b).

Gender identity: A person's intrinsic sense of being male (a boy or a man), female (a girl or woman), or an alternative gender (e.g., boygirl, girlboy, transgender, genderqueer, eunuch) (Bockting, 1999; Stoller, 1964).

Gender identity disorder: Formal diagnosis set forth by the *Diagnostic Statistical Manual of Mental Disorders, 4th Edition, Text Rev (DSM IV-TR)* (American Psychiatric Association, 2000). Gender identity disorder is characterized by a strong and persistent cross-gender identification and a persistent discomfort with one's sex or sense of inappropriateness in the gender role of that sex, causing clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Gender nonconforming: Adjective to describe individuals whose gender identity, role, or expression differs from what is normative for their assigned sex in a given culture and historical period.

Gender role or expression: Characteristics in personality, appearance, and behavior that in a given culture and historical period are designated as masculine or feminine (that is, more typical of the male or female social role) (Ruble, Martin, & Berenbaum, 2006). While most individuals present socially in clearly male or female gender roles, some people present in an alternative gender role such as genderqueer or specifically transgender. All people tend to incorporate both masculine and feminine characteristics in their gender expression in varying ways and to varying degrees (Bockting, 2008).

Genderqueer: Identity label that may be used by individuals whose gender identity and/or role does not conform to a binary understanding of gender as limited to the categories of man or woman, male or female (Bockting, 2008).

Male-to-Female (MtF): Adjective to describe individuals assigned male at birth who are changing or who have changed their body and/or gender role from birth-assigned male to a more feminine body or role.

Natural hormones: Hormones that are derived from natural *sources* such as plants or animals. Natural hormones may or may not be bioidentical.

Sex: Sex is assigned at birth as male or female, usually based on the appearance of the external genitalia. When the external genitalia are ambiguous, other components of sex (internal genitalia, chromosomal and hormonal sex) are considered in order to assign sex (Grumbach, Hughes, & Conte,

2003; MacLaughlin & Donahoe, 2004; Money & Ehrhardt, 1972; Vilain, 2000). For most people, gender identity and expression are consistent with their sex assigned at birth; for transsexual, transgender, and gender nonconforming individuals, gender identity or expression differ from their sex assigned at birth.

Sex reassignment surgery (gender affirmation surgery): Surgery to change primary and/or secondary sex characteristics to affirm a person's gender identity. Sex reassignment surgery can be an important part of medically necessary treatment to alleviate gender dysphoria.

Transgender: Adjective to describe a diverse group of individuals who cross or transcend culturally-defined categories of gender. The gender identity of transgender people differs to varying degrees from the sex they were assigned at birth (Bockting, 1999).

Transition: Period of time when individuals change from the gender role associated with their sex assigned at birth to a different gender role. For many people, this involves learning how to live socially in “the other” gender role; for others this means finding a gender role and expression that is most comfortable for them. Transition may or may not include feminization or masculinization of the body through hormones or other medical procedures. The nature and duration of transition is variable and individualized.

Transphobia, internalized: Discomfort with one's own transgender feelings or identity as a result of internalizing society's normative gender expectations.

Transsexual: Adjective (often applied by the medical profession) to describe individuals who seek to change or who have changed their primary and/or secondary sex characteristics through feminizing or masculinizing medical interventions (hormones and/or surgery), typically accompanied by a permanent change in gender role.

APPENDIX B

OVERVIEW OF MEDICAL RISKS OF HORMONE THERAPY

The risks outlined below are based on two comprehensive, evidence-based literature reviews of masculinizing/feminizing hormone therapy (Feldman & Safer, 2009; Hembree et al., 2009), along with a large cohort study (Asscheman et al., 2011). These reviews can serve as detailed references for providers, along with other widely recognized, published clinical materials (e.g., Dahl et al., 2006; Ettner et al., 2007).

Risks of Feminizing Hormone Therapy (MtF)

Likely increased risk:

Venous thromboembolic disease

- Estrogen use increases the risk of venous thromboembolic events (VTE), particularly in patients who are over age 40, smokers, highly sedentary, obese, and who have underlying thrombophilic disorders.
- This risk is increased with the additional use of third generation progestins.
- This risk is decreased with use of the transdermal route of estradiol administration, which is recommended for patients at higher risk of VTE.

Cardiovascular, cerebrovascular disease

- Estrogen use increases the risk of cardiovascular events in patients over age 50 with underlying cardiovascular risk factors. Additional progestin use may increase this risk.

Lipids

- Oral estrogen use may markedly increase triglycerides in patients, increasing the risk of pancreatitis and cardiovascular events.
- Different routes of administration will have different metabolic effects on levels of HDL cholesterol, LDL cholesterol and lipoprotein(a).
- In general, clinical evidence suggests that MtF patients with pre-existing lipid disorders may benefit from the use of transdermal rather than oral estrogen.

Liver/gallbladder

- Estrogen and cyproterone acetate use may be associated with transient liver enzyme elevations and, rarely, clinical hepatotoxicity.
- Estrogen use increases the risk of cholelithiasis (gall stones) and subsequent cholecystectomy.

Possible increased risk:

Type 2 diabetes mellitus

- Feminizing hormone therapy, particularly estrogen, may increase the risk of type 2 diabetes, particularly among patients with a family history of diabetes or other risk factors for this disease.

Hypertension

- Estrogen use may increase blood pressure, but the effect on incidence of overt hypertension is unknown.
- Spironolactone reduces blood pressure and is recommended for at-risk or hypertensive patients desiring feminization.

Prolactinoma

- Estrogen use increases the risk of hyperprolactinemia among MtF patients in the first year of treatment, but this risk unlikely thereafter.
- High-dose estrogen use may promote the clinical appearance of preexisting but clinically unapparent prolactinoma.

Inconclusive or no increased risk: Items in this category include those that may present risk, but for which the evidence is so minimal that no clear conclusion can be reached.

Breast cancer

- MtF persons who have taken feminizing hormones do experience breast cancer, but it is unknown how their degree of risk compares to that of persons born with female genitalia.
- Longer duration of feminizing hormone exposure (i.e., number of years taking estrogen preparations), family history of breast cancer, obesity (BMI >35), and the use of progestins likely influence the level of risk.

Other side effects of feminizing therapy:

The following effects may be considered minor or even desired, depending on the patient, but are clearly associated with feminizing hormone therapy.

Fertility and sexual function

- Feminizing hormone therapy may impair fertility.
- Feminizing hormone therapy may decrease libido.
- Feminizing hormone therapy reduces nocturnal erections, with variable impact on sexually stimulated erections.

Risks of anti-androgen medications:

Feminizing hormone regimens often include a variety of agents that affect testosterone production or action. These include GnRH agonists, progestins (including cyproterone acetate), spironolactone, and 5-alpha reductase inhibitors. An extensive discussion of the specific risks of these agents is beyond the scope of the SOC. However, both spironolactone and cyproterone acetate are widely used and deserve some comment.

Cyproterone acetate is a progestational compound with anti-androgenic properties (Gooren, 2005; Levy et al., 2003). Although widely used in Europe, it is not approved for use in the United States because of concerns about hepatotoxicity (Thole, Manso, Salgueiro, Revuelta, & Hidalgo, 2004). Spironolactone is commonly used as an anti-androgen in feminizing hormone therapy, particularly in regions where cyproterone is not approved for use (Dahl et al., 2006; Moore et al., 2003; Tangpricha et al., 2003). Spironolactone has a long history of use in treating hypertension and congestive heart failure. Its common side effects include hyperkalemia, dizziness, and gastrointestinal symptoms (*Physicians' Desk Reference*, 2007).

Risks of Masculinizing Hormone Therapy (FtM)

Likely increased risk:

Polycythemia

- Masculinizing hormone therapy involving testosterone or other androgenic steroids increases the risk of polycythemia (hematocrit > 50%), particularly in patients with other risk factors.
- Transdermal administration and adaptation of dosage may reduce this risk

Weight gain/visceral fat

- Masculinizing hormone therapy can result in modest weight gain, with an increase in visceral fat.

Possible increased risk:

Lipids

- Testosterone therapy decreases HDL, but variably affects LDL and triglycerides.
- Supraphysiologic (beyond normal male range) serum levels of testosterone, often found with extended intramuscular dosing, may worsen lipid profiles, whereas transdermal administration appears to be more lipid neutral.
- Patients with underlying polycystic ovarian syndrome or dyslipidemia may be at increased risk of worsening dyslipidemia with testosterone therapy.

Liver

- Transient elevations in liver enzymes may occur with testosterone therapy.
- Hepatic dysfunction and malignancies have been noted with oral methyltestosterone. However, methyltestosterone is no longer available in most countries and should no longer be used.

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Psychiatric

Masculinizing therapy involving testosterone or other androgenic steroids may increase the risk of hypomanic, manic, or psychotic symptoms in patients with underlying psychiatric disorders that include such symptoms. This adverse event appears to be associated with higher doses or supraphysiologic blood levels of testosterone

Inconclusive or no increased risk: Items in this category include those that may present risk, but for which the evidence is so minimal that no clear conclusion can be reached.

Osteoporosis

- Testosterone therapy maintains or increases bone mineral density among FtM patients prior to oophorectomy, at least in the first three years of treatment.
- There is an increased risk of bone density loss after oophorectomy, particularly if testosterone therapy is interrupted or insufficient. This includes patients utilizing solely oral testosterone.

Cardiovascular

- Masculinizing hormone therapy at normal physiologic doses does not appear to increase the risk of cardiovascular events among healthy patients.
- Masculinizing hormone therapy may increase the risk of cardiovascular disease in patients with underlying risks factors.

Hypertension

- Masculinizing hormone therapy at normal physiologic doses may increase blood pressure but does not appear to increase the risk of hypertension.
- Patients with risk factors for hypertension, such as weight gain, family history, or polycystic ovarian syndrome, may be at increased risk.

Type 2 diabetes mellitus

- Testosterone therapy does not appear to increase the risk of type 2 diabetes among FtM patients overall.

- Testosterone therapy may further increase the risk of type 2 diabetes in patients with other risk factors, such as significant weight gain, family history, and polycystic ovarian syndrome. There are no data that suggest or show an increase in risk in those with risk factors for dyslipidemia.

Breast cancer

- Testosterone therapy in FtM patients does not increase the risk of breast cancer.

Cervical cancer

- Testosterone therapy in FtM patients does not increase the risk of cervical cancer, although it may increase the risk of minimally abnormal Pap smears due to atrophic changes.

Ovarian cancer

- Analogous to persons born with female genitalia with elevated androgen levels, testosterone therapy in FtM patients may increase the risk of ovarian cancer, although evidence is limited.

Endometrial (uterine) cancer

- Testosterone therapy in FtM patients may increase the risk of endometrial cancer, although evidence is limited.

Other side effects of masculinizing therapy:

The following effects may be considered minor or even desired, depending on the patient, but are clearly associated with masculinization.

Fertility and sexual function

- Testosterone therapy in FtM patients reduces fertility, although the degree and reversibility are unknown.
- Testosterone therapy can induce permanent anatomic changes in the developing embryo or fetus.
- Testosterone therapy induces clitoral enlargement and increases libido.

Acne, androgenic alopecia

Acne and varying degrees of male pattern hair loss (androgenic alopecia) are common side effects of masculinizing hormone therapy.

APPENDIX C

SUMMARY OF CRITERIA FOR HORMONE THERAPY AND SURGERIES

As for all previous versions of the SOC, the criteria put forth in the SOC for hormone therapy and surgical treatments for gender dysphoria are clinical guidelines; individual health professionals and programs may modify them. Clinical departures from the SOC may come about because of a patient's unique anatomic, social, or psychological situation; an experienced health professional's evolving method of handling a common situation; a research protocol; lack of resources in various parts of the world; or the need for specific harm reduction strategies. These departures should be recognized as such, explained to the patient, and documented through informed consent for quality patient care and legal protection. This documentation is also valuable to accumulate new data, which can be retrospectively examined to allow for health care – and the SOC – to evolve.

Criteria for Feminizing/Masculinizing Hormone Therapy (one referral or chart documentation of psychosocial assessment)

1. Persistent, well-documented gender dysphoria;
2. Capacity to make a fully informed decision and to consent for treatment;
3. Age of majority in a given country (if younger, follow the SOC for children and adolescents);
4. If significant medical or mental concerns are present, they must be reasonably well-controlled.

Criteria for Breast/Chest Surgery (one referral)

Mastectomy and creation of a male chest in FtM patients:

1. Persistent, well-documented gender dysphoria;
2. Capacity to make a fully informed decision and to consent for treatment;
3. Age of majority in a given country (if younger, follow the SOC for children and adolescents);
4. If significant medical or mental health concerns are present, they must be reasonably well controlled.

Hormone therapy is not a pre-requisite.

Breast augmentation (implants/lipofilling) in MtF patients:

1. Persistent, well-documented gender dysphoria;
2. Capacity to make a fully informed decision and to consent for treatment;
3. Age of majority in a given country (if younger, follow the SOC for children and adolescents);
4. If significant medical or mental health concerns are present, they must be reasonably well controlled.

Although not an explicit criterion, it is recommended that MtF patients undergo feminizing hormone therapy (minimum 12 months) prior to breast augmentation surgery. The purpose is to maximize breast growth in order to obtain better surgical (aesthetic) results.

Criteria for genital surgery (two referrals)

Hysterectomy and ovariectomy in FtM patients and orchiectomy in MtF patients:

1. Persistent, well documented gender dysphoria;

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2. Capacity to make a fully informed decision and to consent for treatment;
3. Age of majority in a given country;
4. If significant medical or mental health concerns are present, they must be well controlled;
5. 12 continuous months of hormone therapy as appropriate to the patient's gender goals (unless the patient has a medical contraindication or is otherwise unable or unwilling to take hormones).

The aim of hormone therapy prior to gonadectomy is primarily to introduce a period of reversible estrogen or testosterone suppression, before a patient undergoes irreversible surgical intervention.

These criteria do not apply to patients who are having these surgical procedures for medical indications other than gender dysphoria.

Metoidioplasty or phalloplasty in FtM patients and vaginoplasty in MtF patients:

1. Persistent, well documented gender dysphoria;
2. Capacity to make a fully informed decision and to consent for treatment;
3. Age of majority in a given country;
4. If significant medical or mental health concerns are present, they must be well controlled;
5. 12 continuous months of hormone therapy as appropriate to the patient's gender goals (unless the patient has a medical contraindication or is otherwise unable or unwilling to take hormones);
6. 12 continuous months of living in a gender role that is congruent with their gender identity.

Although not an explicit criterion, it is recommended that these patients also have regular visits with a mental health or other medical professional.

The criterion noted above for some types of genital surgeries – i.e., that patients engage in 12 continuous months of living in a gender role that is congruent with their gender identity – is based on expert clinical consensus that this experience provides ample opportunity for patients to experience and socially adjust in their desired gender role, before undergoing irreversible surgery.

APPENDIX D

EVIDENCE FOR CLINICAL OUTCOMES OF THERAPEUTIC APPROACHES

One of the real supports for any new therapy is an outcome analysis. Because of the controversial nature of sex reassignment surgery, this type of analysis has been very important. Almost all of the outcome studies in this area have been retrospective.

One of the first studies to examine the post-treatment psychosocial outcomes of transsexual patients was done in 1979 at Johns Hopkins University School of Medicine and Hospital (USA) (J. K. Meyer & Reter, 1979). This study focused on patients' occupational, educational, marital, and domiciliary stability. The results revealed several significant changes with treatment. These changes were not seen as positive; rather, they showed that many individuals who had entered the treatment program were no better off or were worse off in many measures after participation in the program. These findings resulted in closure of the treatment program at that hospital/medical school (Abramowitz, 1986).

Subsequently, a significant number of health professionals called for a standard for eligibility for sex reassignment surgery. This led to the formulation of the original *Standards of Care* of the Harry Benjamin International Gender Dysphoria Association (now WPATH) in 1979.

In 1981, Pauly published results from a large retrospective study of people who underwent sex reassignment surgery. Participants in that study had much better outcomes: Among 83 FtM patients, 80.7% had a satisfactory outcome (i.e., patient self report of "improved social and emotional adjustment"), 6.0% unsatisfactory. Among 283 MtF patients, 71.4% had a satisfactory outcome, 8.1% unsatisfactory. This study included patients who were treated before the publication and use of the *Standards of Care*.

Since the *Standards of Care* have been in place, there has been a steady increase in patient satisfaction and decrease in dissatisfaction with the outcome of sex reassignment surgery. Studies conducted after 1996 focused on patients who were treated according to the *Standards of Care*. The findings of Rehman and colleagues (1999) and Krege and colleagues (2001) are typical of this body of work; none of the patients in these studies regretted having had surgery, and most reported being satisfied with the cosmetic and functional results of the surgery. Even patients who develop severe surgical complications seldom regret having undergone surgery. Quality of surgical results is one of the best predictors of the overall outcome of sex reassignment (Lawrence, 2003). The vast majority of follow-up studies have shown an undeniable beneficial effect of sex reassignment surgery on postoperative outcomes such as subjective well being, cosmesis, and sexual function (De Cuypere et al., 2005; Garaffa, Christopher, & Ralph, 2010; Klein & Gorzalka, 2009), although the specific magnitude of benefit is uncertain from

the currently available evidence. One study (Emory, Cole, Avery, Meyer, & Meyer III, 2003) even showed improvement in patient income.

One troubling report (Newfield et al., 2006) documented lower scores on quality of life (measured with the SF-36) for FtM patients than for the general population. A weakness of that study is that it recruited its 384 participants by a general email rather than a systematic approach, and the degree and type of treatment was not recorded. Study participants who were taking testosterone had typically been doing so for less than 5 years. Reported quality of life was higher for patients who had undergone breast/chest surgery than for those who had not ($p < .001$). (A similar analysis was not done for genital surgery). In other work, Kuhn and colleagues (2009) used the King's Health Questionnaire to assess the quality of life of 55 transsexual patients at 15 years after surgery. Scores were compared to those of 20 healthy female control patients who had undergone abdominal/pelvic surgery in the past. Quality of life scores for transsexual patients were the same or better than those of control patients for some subscales (emotions, sleep, incontinence, symptom severity, and role limitation), but worse in other domains (general health, physical limitation, and personal limitation).

It is difficult to determine the effectiveness of hormones alone in the relief of gender dysphoria. Most studies evaluating the effectiveness of masculinizing/feminizing hormone therapy on gender dysphoria have been conducted with patients who have also undergone sex reassignment surgery. Favorable effects of therapies that included both hormones and surgery were reported in a comprehensive review of over 2000 patients in 79 studies (mostly observational) conducted between 1961 and 1991 (Eldh, Berg, & Gustafsson, 1997; Gijs & Brewaeys, 2007; Murad et al., 2010; Pfäfflin & Junge, 1998). Patients operated on after 1986 did better than those before 1986; this reflects significant improvement in surgical complications (Eldh et al., 1997). Most patients have reported improved psychosocial outcomes, ranging between 87% for MtF patients and 97% for FtM patients (Green & Fleming, 1990). Similar improvements were found in a Swedish study in which “almost all patients were satisfied with sex reassignment at 5 years, and 86% were assessed by clinicians at follow-up as stable or improved in global functioning” (Johansson, Sundbom, Höjerback, & Bodlund, 2010). Weaknesses of these earlier studies are their retrospective design and use of different criteria to evaluate outcomes.

A prospective study conducted in the Netherlands evaluated 325 consecutive adult and adolescent subjects seeking sex reassignment (Smith, Van Goozen, Kuiper, & Cohen-Kettenis, 2005). Patients who underwent sex reassignment therapy (both hormonal and surgical intervention) showed improvements in their mean gender dysphoria scores, measured by the Utrecht Gender Dysphoria Scale. Scores for body dissatisfaction and psychological function also improved in most categories. Fewer than 2% of patients expressed regret after therapy. This is the largest prospective study to affirm the results from retrospective studies that a combination of hormone therapy and surgery improves gender dysphoria and other areas of psychosocial functioning. There is a need for further research on the effects of hormone therapy without surgery, and without the goal of maximum physical feminization or masculinization.

Overall, studies have been reporting a steady improvement in outcomes as the field becomes more advanced. Outcome research has mainly focused on the outcome of sex reassignment surgery. In current practice there is a range of identity, role, and physical adaptations that could use additional follow-up or outcome research (Institute of Medicine, 2011).

APPENDIX E

DEVELOPMENT PROCESS FOR THE STANDARDS OF CARE, VERSION 7

The process of developing *Standards of Care, Version 7* began when an initial SOC “work group” was established in 2006. Members were invited to examine specific sections of SOC, *Version 6*. For each section, they were asked to review the relevant literature, identify where research was lacking and needed, and recommend potential revisions to the SOC as warranted by new evidence. Invited papers were submitted by the following authors: Aaron Devor, Walter Bockting, George Brown, Michael Brownstein, Peggy Cohen-Kettenis, Griet DeCuypere, Petra DeSutter, Jamie Feldman, Lin Fraser, Arlene Istar Lev, Stephen Levine, Walter Meyer, Heino Meyer-Bahlburg, Stan Monstrey, Loren Schechter, Mick van Trotsenburg, Sam Winter, and Ken Zucker. Some of these authors chose to add co-authors to assist them in their task.

Initial drafts of these papers were due June 1, 2007. Most were completed by September 2007, with the rest completed by the end of 2007. These manuscripts were then submitted to the *International Journal of Transgenderism (IJT)*. Each underwent the regular *IJT* peer review process. The final papers were published in Volume 11 (1-4) in 2009, making them available for discussion and debate.

After these articles were published, a *Standards of Care* Revision Committee was established by the WPATH Board of Directors in 2010. The Revision Committee was first charged with debating and discussing the *IJT* background papers through a Google website. A subgroup of the Revision Committee was appointed by the Board of Directors to serve as the Writing Group. This group was charged with preparing the first draft of SOC, *Version 7* and continuing to work on revisions for consideration by the broader Revision Committee. The Board also appointed an International Advisory Group of transsexual, transgender, and gender nonconforming individuals to give input on the revision.

A technical writer was hired to (1) review all of the recommendations for revision – both the original recommendations as outlined in the *IJT* articles and additional recommendations that emanated from the online discussion – and (2) create a survey to solicit further input on these potential revisions. From the survey results, the Writing Group was able to discern where these experts stood in terms of areas of agreement and areas in need of more discussion and debate. The technical writer then (3) created a very rough first draft of SOC, *Version 7* for the Writing Group to consider and build on.

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The Writing Group met on March 4 and 5, 2011 in a face-to-face expert consultation meeting. They reviewed all recommended changes and debated and came to consensus on various controversial areas. Decisions were made based on the best available science and expert consensus. These decisions were incorporated into the draft, and additional sections were written by the Writing Group with the assistance of the technical writer.

The draft that emerged from the consultation meeting was then circulated among the Writing Group and finalized with the help of the technical writer. Once this initial draft was finalized it was circulated among the broader SOC Revision Committee and the International Advisory Group. Discussion was opened up on the Google website and a conference call was held to resolve issues. Feedback from these groups was considered by the Writing Group, who then made further revision. Two additional drafts were created and posted on the Google website for consideration by the broader SOC Revision Committee and the International Advisory Group. Upon completion of these three iterations of review and revision, the final document was presented to the WPATH Board of Directors for approval. The Board of Directors approved this version on September 14, 2011.

The plans are to disseminate this version of the SOC and invite feedback for further revisions. The WPATH Board of Directors decides the timing of any revision of the SOC.

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1. Costs of a professional technical writer;
2. Process of soliciting international input on proposed changes from gender identity professionals and the transgender community;
3. Working meeting of the Writing Group;
4. Process of gathering additional feedback and arriving at final expert consensus from the professional and transgender communities, the *Standards of Care, Version 7* Revision Committee, and WPATH Board of Directors;
5. Costs of printing and distributing *Standards of Care, Version 7* and posting a free downloadable copy on the WPATH website;

6. Plenary session to launch the *Standards of Care, Version 7* at the 2011 WPATH Biennial Symposium in Atlanta, Georgia, USA.

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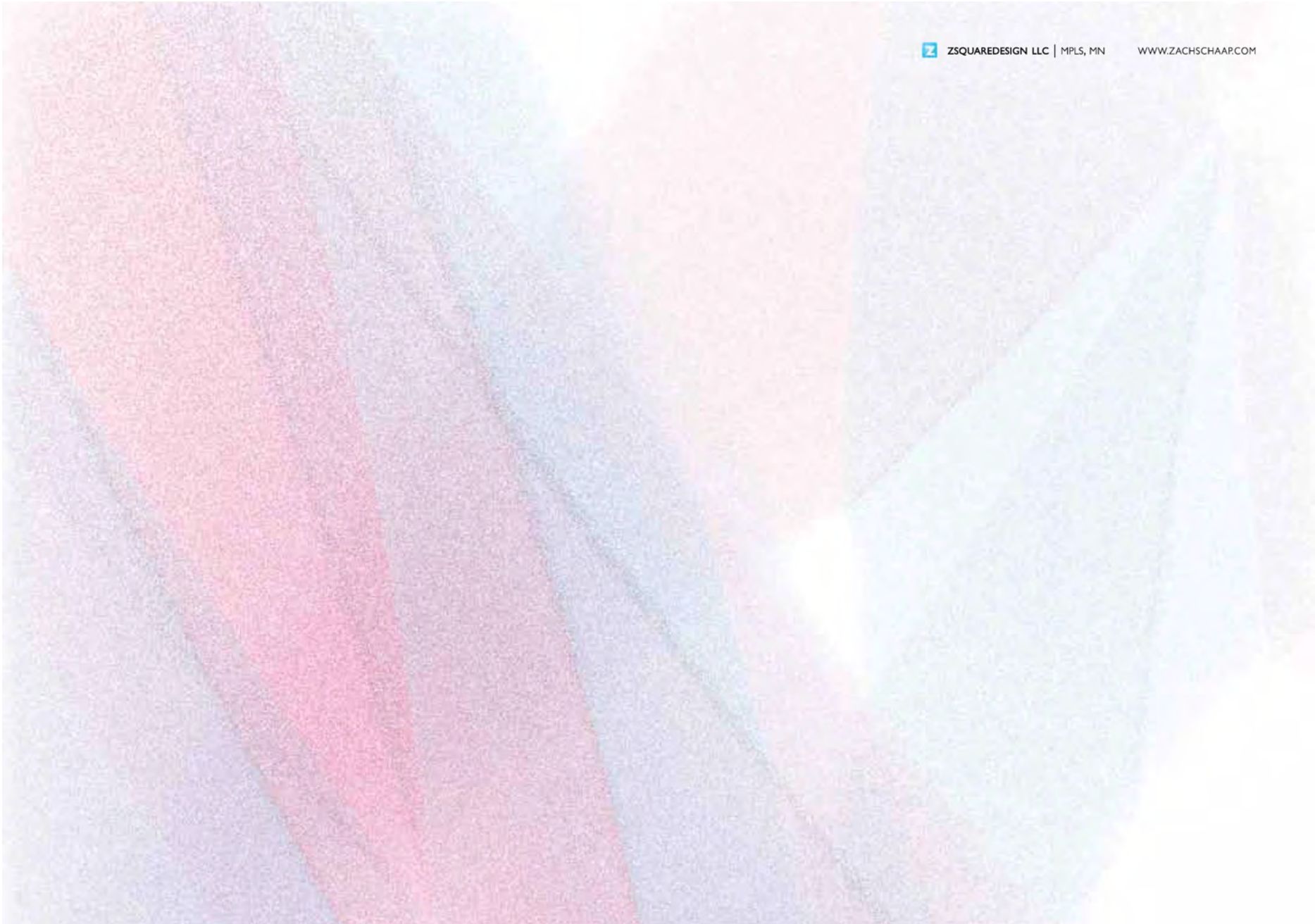
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CERTIFICATE OF SERVICE

I hereby certify that I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the Ninth Circuit by using the appellate CM/ECF system on May 14, 2018. I certify that all participants in the case are registered CM/ECF users and that service will be accomplished by the appellate CM/ECF system.

s/ Daniel Siegfried
Daniel Siegfried