

EXHIBIT

5 - Schechter, MD

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WPATH

WORLD PROFESSIONAL ASSOCIATION FOR TRANSGENDER HEALTH

December 2, 2021

Dear All:

On behalf of the Standards of Care Version 8 Committee, we are pleased to present the DRAFT Version on the Standards of Care Version 8, now **available through Thursday, December 16, 2021, at 11:59pm eastern time**, for public comment.

Please note that this document is WPATH property and is being disseminated for public comment only, it is not to be copied or distributed. The final document will include an introduction, methodology section, several appendices, and supplementary information. More information is available on the SOC8 revision process on the WPATH website at <https://www.wpath.org/soc8>.

Your comments will be reviewed to shape the SOC8. Please note that all statements have been developed based on the available literature and clinical expertise. Once developed they have been approved by every member (120+) of the SOC8 (approval required 75% acceptance rate). While statements likely cannot be changed, there is more opportunity to make edits to the explications of the statements. Please include any comments to the draft of the SOC8 in general or to the statements and these will be carefully considered.

Please note that the titles of each chapter have not been finalised.

By clicking the links below, you will be taken to the survey for each chapter, within the preamble of each survey is the link to the draft version of that chapter. Return to this document to review other chapters and follow the same process.

Chapter Name	Survey Monkey Link
Adolescent	https://www.surveymonkey.com/r/85PD33R
Assessment	https://www.surveymonkey.com/r/LQL3528
Child	https://www.surveymonkey.com/r/RPSP59G
Education	https://www.surveymonkey.com/r/KWYYQSR
Epidemiology	https://www.surveymonkey.com/r/WH9Q2GR
Ethics	https://www.surveymonkey.com/r/5FV262F
Eunuch	https://www.surveymonkey.com/r/LK7T2MZ
Global	https://www.surveymonkey.com/r/KQZZHXL
Hormone Therapy	https://www.surveymonkey.com/r/LKSSGJZ
Institutions	https://www.surveymonkey.com/r/LLCTGHK
Intersex	https://www.surveymonkey.com/r/WYJB9L6
Mental Health	https://www.surveymonkey.com/r/6ZTH5VK
Nonbinary	https://www.surveymonkey.com/r/KFTQ9YM

Primary Care	https://www.surveymonkey.com/r/3LS8GJ9
Reproductive Health	https://www.surveymonkey.com/r/85NBN57
Sexual Health	https://www.surveymonkey.com/r/KF7PK9N
Surgery	https://www.surveymonkey.com/r/LSMPJRR
Terminology	https://www.surveymonkey.com/r/RBKLRWL
Voice	https://www.surveymonkey.com/r/5FWYJLF

It is very important to understand how your comments relate to specific statements, please be sure your comments relate to the statement. Of course, there is no need to make comments for every single chapter and statement.

Finally, it is important to know that reference style, grammatical and spelling issues will be corrected/reviewed as the last stage before publication by an independent editor, hence there is no need to add comments regarding grammar, spelling or related to reference style.

We look forward to receiving your comments and finishing the Standards of Care Version 8.

Please note that we may not be able to respond individually to each comment but will try our best to consider each comment carefully.

We look forward to reviewing your comments received by **Thursday, December 16, 2021, at 11:59pm eastern time.**

Kind regards,

Eli Coleman (Chair)
Asa Radix (Co-Chair)
Jon Arcelus (Co-Chair)





SOC8 CHAPTERS

CHAPTERS

The Guideline Steering Committee, in discussion with chapter members, determined the chapters for inclusion in the Standards of Care, based on the previous editions of the SOC. Four new chapters were added. The chapters in the Standards of Care 8th Version are:

1. Global Applicability of the Standards of Care
2. Terminology – Diagnostic Criteria
3. Epidemiologic Considerations
4. ~~Overview of Therapeutic Approaches for Gender Health~~
5. Assessment, Support and Therapeutic Approaches for Children
6. Assessment, Support and Therapeutic Approaches for Adolescents with Gender Variance/Dysphoria **NEW**
7. Assessment for Adults with Gender Variance/Dysphoria
8. Assessment, Support and Therapeutic Approaches for Non-Binary Individuals **NEW**
9. Managing Mental and Behavioral Health Conditions in Adults
10. The Role of Primary Care in Gender Health
11. Hormone Therapy for Adolescents and Adults
12. Sexual Health Across the Lifespan **NEW**
13. Reproductive Health for Adolescents and Adults
14. Voice and Communication Therapy
15. Surgery for Adolescents and Adults and Postoperative Care and Follow-Up
16. Applicability of the Standards of Care to People Living in Institutional Environments
17. Applicability of the Standards of Care to People with Intersex Conditions
18. Applicability of the Standards of Care to Eunuchs **NEW**
19. Competency, Training, Education **NEW**
20. Ethics **NEW**

<https://www.wpath.org/soc8/chapters>

Global

Introduction

Transgender and gender diverse people are a highly diverse population (both in terms of their identities and healthcare needs) and many experience stigma and consequent marginalisation throughout their lives. Seen from a global perspective, violence against transgender and gender diverse people is widespread, diverse in nature (emotional, sexual and physical), and involves a range of perpetrators (including State actors). Worldwide, statistics on murder are alarming, with over 4000 documented killings between January 2008 and September 2021; a number widely regarded as under-reported (TGEU, 2020). Experiences such as these (and the anticipation or fear of encountering such experiences) lead to what Meyer has described as minority stress (Meyer, 2003), and are associated with poor health outcomes; both physical (e.g., Rich et al, 2020) and psychological (e.g., Scandurra et al, 2017; Shepherd et al, 2019, Tan et al, 2021).

Since the publication of the Standards of Care, Version 7 (SOC-7) there have been dramatic changes in perspectives on transgender and gender diverse people and their healthcare. Mainstream global medicine no longer classifies transgender and gender diverse identities as a mental disorder. In the Diagnostic and Statistical Manual, Version 5 (DSM-5) from the American Psychiatric Association (APA, 2013), the diagnosis of *Gender Dysphoria* focuses on any distress and discomfort that accompanies being transgender and gender diverse, rather than on the gender identity itself. In the International Classification of Diseases, Version 11 (ICD-11), the diagnostic manual of the World Health Organisation (WHO, 2019b), the *Gender Incongruence* diagnosis is placed in a chapter on sexual health, and focuses on the person's experienced identity, and any desire for gender affirming treatment that might stem from that identity. Such developments, involving a depathologisation (or more precisely a de-psychopathologisation) of transgender identities, are fundamentally important on a number of grounds. In the field of healthcare, they may have helped support a care model emphasising patients' active participation in decision-making about their own healthcare, supported by primary healthcare professionals (Baleige et al, 2021). It is reasonable to suppose that these developments may also promote more socially inclusive policies, including legislative reform in gender recognition facilitating a rights-based approach without imposing requirements for diagnosis, hormone therapy and/or surgery. Such developments may contribute greatly to the overall health and wellbeing of transgender and gender diverse people (Aristegui et al, 2017).

Previous editions of the SOC have revealed that much of the recorded clinical experience and knowledge in this area is derived from North American and Western European sources. They have focused on gender-affirming healthcare in high income countries enjoying relatively well-resourced healthcare systems (including with trained mental health providers, endocrinologists, surgeons and other specialists), where services are often funded publicly or (at least for some patients) by way of private insurance. For many countries such healthcare provision is aspirational. Few if any health professionals (primary or specialist) may exist, and even fewer may be competent to work with transgender and gender diverse people. Psychological, hormonal, and surgical healthcare may not be available and training options limited (e.g. Martins et al, 2020). Funding for gender-affirming healthcare may be absent and patients often bear the full costs of whatever healthcare they access.

Accessing gender-affirming healthcare options for this population can also be challenging. Across much of the world resourcing in this area is non-existent or limited. Healthcare is often unavailable, inappropriate, difficult to access and/or unaffordable. Healthcare providers

often lack clinical and/or cultural competence, or opportunities for training. As already noted, mainstream 'Western' medicine historically viewed transgender and gender diverse people as mentally disordered; a perspective that has only recently changed. For all these reasons, transgender and gender diverse people have commonly found themselves disempowered as consumers of whatever healthcare is available. Healthcare providers have found that the relevant literature is largely North American and European, presenting particular challenges for persons working in healthcare systems that are even less well resourced. Recent initiatives, often involving transgender and gender diverse stakeholders as partners, are changing this situation somewhat, providing a body of knowledge about how to provide effective transgender and gender diverse healthcare in low- and middle-income countries outside the Global North.

Within the field a wide range of valuable healthcare resources have been developed in recent years. Dahlen et al (2021) review clinical guidelines intended to be international in scope; over half those reviewed originate from professional bodies based in North America (e.g., Hembree et al, 2017) or Europe (e.g., T'Sjoen et al, 2020). These have informed numerous healthcare resources including those developed for global use (WHO 2014; UNDP et al, 2016), and for use in specific countries or regions outside North America and Europe. Regional examples can be found in Asia and the Pacific (Health Policy Project et al, 2015, APTN, 2021), the Caribbean (PAHO, 2014), Thailand (Center for Excellence in Transgender Health, 2021a,b), Australia (Telfer et al, 2020) and Aotearoa New Zealand (Oliphant et al, 2018), and are commonly created through the initiatives of, or in partnership with, transgender and gender diverse communities locally or internationally. These resources may be of particular value to those planning, organising and delivering services, including in low-income, low-resource countries of the Global South. There are likely to be other resources published in languages other than English of which we are unaware.

Globally, transgender and gender diverse identities may be associated with differing conceptual frameworks of sex, gender and sexuality, and exist in widely diverse cultural contexts and histories. Considering the complex relationships between social and cultural factors, the law, and the demand for and provisions of gender-affirming healthcare, the SOC-8 should be interpreted through a lens that is appropriate for and within the context of each health professional's individual practice while maintaining alignment to the core principles that underscore it (APTN and UNDP, 2012; PAHO, 2014; Health Policy Project et al, 2015).

It is in this context, and by drawing broadly on the experiences of transgender and gender diverse people and healthcare providers internationally, that we consider the global applicability of SOC-8 within this chapter. We set out key considerations for health professionals and conclude by recommending core principles and practices fundamental to contemporary healthcare for transgender and gender diverse people, regardless of where they live or the resources available to those who seek to provide such healthcare.

Summary of Recommendations

Statement 1: We recommend that health professionals and other users of the Standards of Care, Version 8 (SOC-8) should apply the recommendations in ways that meet the needs of local transgender and gender diverse communities, by being sensitive to the cultures they work with and the realities of the countries they are practising in.

Statement 2: We recommend that healthcare providers understand the impact of social attitudes, laws, economic circumstances and health systems on the lived experiences of transgender and gender diverse people worldwide.

Statement 3: We recommend that translations of the SOC focus on cross-cultural, conceptual and literal equivalence to ensure alignment with the core principles that underpin the SOC-8.

Statement 4: We recommend that health professionals and policymakers always apply the SOC-8 core principles to their work with transgender and gender diverse people to ensure respect for human rights and access to appropriate and competent healthcare, including:

General principles

- Be empowering and inclusive. Work to reduce stigma and facilitate access to appropriate healthcare, for all who seek it;
- Respect diversity. Respect all clients, and all gender identities. Do not pathologize differences in gender identity or expression;
- Respect universal human rights including the right to bodily and mental integrity, autonomy and self-determination; freedom from discrimination and the right to the highest attainable standard of health.

Principles around developing and implementing appropriate services and accessible healthcare

- Involve transgender and gender diverse people in the development and implementation of services;
- Become aware of social, cultural, economic and legal factors that might impact the health (and healthcare needs) of your client, as well as the willingness and capacity of the person to access your services;
- Provide healthcare (or refer to knowledgeable colleagues) that affirms clients' gender identities and expressions, including healthcare that reduces the distress of gender dysphoria or incongruence (if this is present);
- Reject approaches that have the goal or effect of conversion, and avoid providing any direct or indirect support for such approaches or services

Principles around delivering competent services

- Become knowledgeable (get training, where possible) about the healthcare needs of transgender and gender diverse people, including the benefits and risks of gender-affirming care;
- Match the treatment approach to the specific needs of clients, particularly their goals for gender identity and expression;
- Focus on promoting health and wellbeing rather than solely the reduction of gender dysphoria or incongruence, which may or may not be present;
- Commit to harm reduction approaches where appropriate;
- Enable the full and ongoing informed participation of transgender and gender diverse people in decisions about their health and wellbeing;
- Improve experiences of health services including administrative systems and via continuity of care.

Principles around working towards improved health through wider community approaches

- Put people in touch with communities and peer support networks;
- Support and advocate for clients within their families and communities (schools, workplaces, and other settings) where appropriate.

Statement 1:

We recommend that health professionals and other users of the Standards of Care, Version 8 (SOC-8) should apply the recommendations in ways that meet the needs of local transgender and gender diverse communities, by being sensitive to the cultures they work with and the realities of the countries they are practising in.

Transgender and gender diverse people identify in many different ways worldwide, and those identities exist within a cultural context. In English speaking countries, transgender and gender diverse people variously identify, as *transsexual*, *trans*, *gender non-conforming*, *gender queer or diverse*, *non-binary*, or indeed *transgender and/or gender diverse*, as well as by other identities; including (for many identifying inside the gender binary) *male* or *female*. (e.g., James et al, 2016; Strauss et al, 2017; Veale et al, 2019).

Elsewhere identities include (but are not limited to) *travesti* (across much of Latin America), *hijra* (across much of South Asia), *khwaja sira* (in Pakistan), *achout* (in Myanmar), *maknyah*, *paknyah* (in Malaysia), *waria* (Indonesia) *kathoey*, *phuying kham phet*, *sao praphet song* (Thailand), *bakla*, *transpinay*, *transpinoy* (Philippines), *fa'afafine* (Samoa), *mahu* (Hawai'i), *leiti* (Tonga), *fakafifine* (Niue), *pinapinaaine* (Tuvalu and Kiribati), *vakasalewalewa* (Fiji), *palopa* (Papua Niugini), *brotherboys* and *sistergirls* (Aboriginal and Torres Strait Islander people in Australia) and *akava'ine* (Cook Islands) (e.g. APTN and UNDP, 2012; Kerry, 2014; Health Policy Project et al, 2015). The identities to which these terms refer are often culturally complex. Some exist in a spiritual or religious context. Depending on the cultures and the identities concerned, some may be regarded as so-called 'third genders' lying beyond the gender binary (e.g., Peletz, 2009; Graham, 2010; Nanda, 2014). Some identities are less firmly established than others. In many places worldwide the visibility of trans men and non-binary trans masculine identities is relatively recent, with few or no applicable traditional terms in local languages (Health Policy Project et al, 2015). Regardless of where or with whom health professionals work (including those working with ethnic minority persons, migrants and refugees) they need to be aware of the cultural context in which people have grown up and live, and consequences for healthcare.

Worldwide the availability, accessibility, acceptability and quality of healthcare vary greatly, with resulting inequities within and across countries (OECD, 2019). In some countries formal healthcare systems exist alongside established traditional and folk healthcare systems, with indigenous models of health underpinning the importance of holistic healthcare (WHO, 2019a). Health professionals should be aware of the traditions and realities within which healthcare is available and provide support that is sensitive to local needs, identities and cultures.

Statement 2:

We recommend that healthcare providers understand the impact of social attitudes, laws, economic circumstances and health systems on the lived experiences of transgender and gender diverse people worldwide.

Transgender and gender diverse people's lived experiences vary greatly, depending on a range of factors, including social, cultural, legal, economic and geographic. When transgender and gender diverse people live in environments which affirm their gender and/or cultural identities then these experiences can be very positive. Families are particularly important in this regard (e.g., Pariseau et al, 2019, Yadegarfar et al, 2014, Zhou et al, 2021). However, seen from a global perspective, the circumstances in which they live are often challenging. Widely accepted rights in international human rights law are commonly denied to transgender and gender diverse people. These include rights to *education*, *health* and *protection from medical abuses*, *work* and *an adequate standard of living*, *housing*,

freedom of movement and expression, privacy, security, life, family, freedom from arbitrary deprivation of liberty, fair trial, treatment with humanity while in detention, and freedom from torture, inhuman or degrading treatment or punishment (International Commission of Jurists, 2007; 2017). For many transgender and gender diverse people worldwide, stigma prompts prejudice, discrimination, harassment, abuse and violence, resulting in social, economic and legal marginalisation, and poor mental and physical health, and even death – a process that has been characterised as a stigma-sickness slope (Winter et al, 2016).

Across the world, a large number of studies detail the challenges transgender and gender diverse people face (e.g. McNeill et al, 2012, 2013; Heylens et al, 2014; Human Rights Watch, 2014; Aurat Foundation, 2016; James et al, 2016; Wu et al, 2017; Motmans et al, 2017; Suen et al, 2017; Scandurra et al, 2017; Coleman et al, 2018; Strauss et al, 2019; Muller et al, 2019; Veale et al, 2019; Valashany and Janghorbani, 2019; Lee et al, 2020; Bhattacharya and Ghosh, 2020; Chumakov et al, 2021). The research shows that transgender and gender diverse people often experience stigma and prejudice, as well as discrimination and harassment, abuse and violence, or they live in anticipation and fear of such actions. Social values and attitudes hostile to transgender and gender diverse people, often communicated to young people in school curricula (e.g., Olivier and Thurasukam, 2018), are expressed and perpetuated in laws, policies and practices that limit freedom to express one's gender identity and sexuality, and hinder access to housing, public spaces, education, employment and services (including healthcare). The end result is that transgender and gender diverse people are commonly deprived of a wide range of opportunities available to their cisgender counterparts, and are pushed to the margins of society. To make matters worse, legal environments are often unfavourable, and at worst hostile. Across much of the world transgender and gender diverse people's access to legal gender recognition is restricted or non-existent (e.g., UNDP and APTN, 2017; ILGA World, 2020a; TGEU, 2021).

Gender identity change efforts (gender reparative or gender conversion programmes aimed at making the person cisgender) are widespread, cause harm to transgender and gender diverse people (e.g. Bishop, 2019; Turban et al, 2020; GIRES et al, 2020; Asia Pacific Transgender Network, 2020a, 2020b, 2020c, 2021), and (like efforts targeting sexual orientation) are considered unethical (e.g. Various, 2019, Various 2021, APS, 2021, Trispiotis and Purshouse, 2021). They may be viewed as a form of violence. The UN independent expert on protection against violence and discrimination based on sexual orientation and gender identity has called for a global ban on such practices (Madrigal-Borloz, 2020). An increasing number of jurisdictions is outlawing such work (ILGA World, 2020b).

Inequities arise from a range of factors including economic considerations and values underpinning the provision of healthcare systems, particularly in regard to emphasis placed on public-, private- and self-funding of healthcare. Lack of access to appropriate and affordable healthcare can lead to a greater reliance on informal knowledge systems. This includes information about self-administered hormones, in many cases without necessary medical monitoring or supervision (e.g., Winter and Doussantousse, 2009; Do et al, 2018; Liu et al, 2020; Reisner et al, 2021; Rashid et al, 2021). WHO notes that transgender and gender-diverse individuals who self-administer gender-affirming hormones require access to evidence-based information, quality products and sterile injection equipment (WHO, 2021).

In some parts of the world large numbers of trans women employ silicone as a means of modifying their bodies, drawing on the services of silicone 'pumpers' and/or attending pumping 'parties', often within their communities. The immediate results of silicone pumping contrast with significant downstream health risks (e.g., Aguayo-Romero et al, 2015; Regmi et al, 2019; Bertin et al, 2019), particularly where industrial silicone has been used and where surgical removal may be necessary. Sexual health outcomes for transgender and gender diverse people are also poor; HIV prevalence rates for trans women are around 19%

worldwide; an estimated 49 times higher than the background prevalence rate (Baral et al, 2013).

Statement 3:

We recommend that translations of the SOC focus on cross-cultural, conceptual and literal equivalence to ensure alignment with the core principles that underpin the SOC-8.

Much of the research literature on transgender and gender diverse people is produced in high-income and English-speaking countries. Global Northern perspectives on transgender and gender diverse people (including on healthcare needs and provision) dominate this literature. A May 2021 Scopus database search undertaken by the current authors shows that 99% of the literature on transgender healthcare comes out of Europe, North America, Australia or New Zealand. Overall, 96% of the literature is in the English language. Transgender and gender diverse people of the Global South have received relatively little attention in the English language literature, and the work of those health professionals who work with them has often gone unrecognised and unpublished, or has not been translated into English. A consequence of this is that when applying resources produced in the Global North healthcare professionals may overlook the relevance and nuance of local knowledges, cultures and practices.

When translating the principles set out in the SOC we recommend following best practice guidelines for language translation to ensure high quality written resources are produced that are culturally and linguistically appropriate to the local situation. It is important that translators have knowledge about transgender and gender diverse identities and cultures to check for literal translations that may lack relevance to the cultural context and adapt these (where appropriate) with reference to linguistic structure and links between language and culture (Centers for Medicare & Medicaid Services, 2010; Sprager & Martinez, 2015)

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- **Put people in touch with communities and peer support networks;**
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The healthcare available to transgender and gender diverse people is diverse but is often inadequate. Numerous reports from diverse regions worldwide show that, while transgender and gender diverse people may report positive experiences of healthcare, many others do not. (e.g., PAHO, 2014; Health Policy Project et al, 2015; TGEU, 2017; Motmans et al, 2017; Strauss et al, 2017; Costa et al, 2018; Do et al, 2018; Callander et al, 2019; Muller et al, 2019; Gourab et al, 2019, Liu et al, 2020; Reisner et al, 2021). Mainstream healthcare options often do not meet their needs for general, sexual, or gender-affirming healthcare. Standard patient management procedures at clinics and hospitals often fail to recognise the gender identities of their transgender and gender diverse patients (including where the patients concerned identify outside the binary). Patients may be housed in wards that are gender inappropriate for them and put them at risk of sexual harassment. Transgender and gender diverse patients often encounter unsupportive or hostile attitudes from health professionals and ancillary staff and may even be refused service. Of great concern, healthcare professionals in some parts of the world are involved in gender identity change efforts of the sort described earlier in this chapter.

Throughout the world there are many other barriers to gender-affirming healthcare. Health professionals may often be unwilling to provide the services transgender and gender diverse people seek. In some countries there may be laws or regulations that inhibit or prevent them doing so. Where clinical guidelines are unclear or absent, general practitioners and other primary care providers may be deterred from providing services. Where healthcare is available patients may find that it is difficult to access due to distance, gatekeeping practices, supply and demand issues resulting in long wait lists, or cost.

The communities in which transgender and gender diverse people live commonly act as important resources for their members. They provide social and emotional support, often in a hostile environment. In addition, they often act as reservoirs of shared information on options for healthcare, including parallel and informal healthcare options outside (and more accessible and affordable than) mainstream medicine. This includes information about self-administered hormones, in many cases without necessary medical monitoring or supervision (e.g. Winter and Doussantousse, 2009; Aguayo-Romero et al, 2015; Do et al, 2018; Liu et al, 2020; Reisner et al, 2021; Rashid et al, 2021). WHO notes that transgender and gender diverse individuals who self-administer gender-affirming hormones require access to evidence-based information, quality products and sterile injection equipment (WHO, 2021).

Putting the important core principles outlined above into practice can improve experiences of healthcare and promote respect for transgender and gender diverse people in all local contexts. This is regardless of the realities of a healthcare system (including the cultural, social, legal, economic context in which healthcare is provided), the level of provision available, or the transgender and gender diverse people seeking such services.

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Terminology

Introduction/ Background

This chapter will lay the framework for language used in the SOC8. We offer recommendations for use of terminology. We provide (1) terms and definitions, and (2) best practices for utilizing them. This document is accompanied by a glossary of common terms and language to provide a framework for use and interpretation of the SOC8.

Terminology

In this document, we use the phrase **transgender and gender diverse** to be as broad and comprehensive as possible in describing members of the many varied communities globally of people with gender identities and expressions that differ from the gender socially attributed to the sex assigned to them at birth. This includes people who have culturally specific and/or language-specific experiences, identities or expressions, and/or that are not based on or encompassed by Western conceptualizations of gender, or the language used to describe it. We use **TGD** for convenience as a shorthand for transgender and gender diverse.

The decision to use transgender and gender diverse resulted from an active process and was not without controversy. Discussions centered on avoiding over-emphasis on the term transgender, integrating nonbinary gender identities and experiences, avoiding the term gender nonconforming, and recognizing the changing nature of language because as what is current now may not be so in 5 years. Thus, the term transgender and gender diverse was chosen with the intent to be most inclusive and to highlight the many diverse gender identities, expressions, experiences, and healthcare needs of TGD people. A Delphi process was used wherein SOC8 chapter authors were anonymously and iteratively surveyed over several rounds to obtain consensus on terms. The SOC8 presents standards of care that strive to be applicable to TGD people globally, no matter how a person self-identifies or expresses their gender.

Context

We know the language we have selected is not (nor could ever be) comprehensive of every culture and geographic region/locale. Differences and debates over appropriate terms and specific terminologies are common, and no single term can be used without controversy. Our goal is to be as inclusive as possible and offer a shared vocabulary that is respectful and reflective of varied experiences of TGD people while remaining accessible to health practitioners and providers, and the public for the purposes of this document. Ultimately, access to transition-related healthcare should be based on the informed consent of the individual, and not on the nuances of the language used to describe transgender and gender diverse people in general. Using language and terminology that is respectful and culturally responsive is a basic foundation in the provision of affirming care, as is reducing stigma and harm experienced by many TGD people seeking healthcare. It is vital for service providers to discuss with service users what language is most comfortable for them, and to use that language whenever possible.

We explain why current terms are being used in preference to others. Rather than use specific terms for medical, legal, and advocacy groups, we aim to foster a shared language and

understanding in the field of TGD health and the many related fields (e.g., epidemiology, law) in order to optimize the health of transgender and gender diverse people.

Sex, gender, gender identity, and gender expression are used in the English language as descriptors that can apply to all people— those who are transgender and gender diverse (TGD), and those who are not. There are complex reasons why very specific language may be the *most* respectful, *most* inclusive, or *most* accepted by global trans communities, including the presence or absence of words to describe these concepts in languages other than English, the structural relationship between sex and gender, legal landscapes at the local, national, and international levels, and the consequences of historical and present-day stigma that TGD people face.

Because at present, the field of TGD health is heavily dominated by the English language, there are two specific problems that constantly arise in setting the context for terminology. The first problem is that words exist in English that do not exist in other languages (e.g., “sex” and “gender” are only represented by one word in Urdu and many other languages). The second problem is that there are words that exist outside of English that do not have a direct translation in English (e.g., *travesti*, *fa’afafine*). Practically, this means that the heavy influence of English in this field impacts both what terms are widely used, and which people or identities are most represented or validated by those terms. The words used also shape the narratives that contribute to beliefs and perceptions. While in past versions of the Standards of Care, WPATH has used only transgender as a broadly defined umbrella term, version 8 broadens this language to use TGD as the umbrella term throughout the document (see Global chapter).

Furthermore, the ever-evolving nature of language is impacted by external factors and the social, structural, and personal pressures and violence enacted on TGD people and their bodies. Many of the terms and phrases used historically have been marred by how, when, and why they were used in discussing TGD people and have thus fallen out of use or are hotly contested among TGD people, with some individuals preferring terms that others find offensive. Some wish that these Standards of Care could provide a coherent set of universally accepted terms to describe TGD people, identities, and related health services. Such a list, however, does not and cannot exist without active exclusion of some people and without reinforcing structural oppressions, with regards to race, national origin, Indigenous status, socioeconomic status, religion, language(s) spoken, and ethnicity, among other intersectionalities. It is very likely that at least some of the terminology used in SOC8 will be outdated by the time version 9 is developed. Some people will be frustrated by this reality, but we hope it will be seen instead as an opportunity for individuals and communities to develop and refine their own lexicons, and for people to develop a still more nuanced understanding of the lives and needs of TGD people, including TGD people’s resilience and resistance to oppression.

Finally, law and the work of legal professionals are within the remit of these Standards of Care. As such, language used most widely in international law is included here to help with the development of the functional definitions of these terms and encourage their usage in legal contexts in lieu of more antiquated and/or offensive terms. The most thorough document in international human rights law uses the term “gender diverse”.¹

¹ A/73/152, Report of the Independent Expert on protection against violence and discrimination based on sexual orientation and gender identity

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respect in health care settings is paramount to ensure the health, wellbeing, and rights of TGD people globally.

Statement 3:

We recommend that health professionals discuss with transgender and gender diverse patients/clients what language or terminology they prefer.

In providing health care to TGD people, we recommend HCPs discuss with their patients/clients what language or terminology they prefer be used when referring to them. This discussion includes asking TGD patients/clients about how they would like to be addressed in terms of name and pronouns, their gender and how they self-identify, and language to describe their body parts. Utilizing affirming language or terminology is a key component of TGD-affirming care (Lightfoot et al., 2018; Vermeir et al., 2018). Furthermore, these patient-centered discussions and communications can serve to build rapport and reduce the mistrust many TGD people feel toward HCPs and experienced within healthcare systems. Discussions of language or terminology can also facilitate patient/client engagement and retention in care that is not specifically TGD-related, such as uptake of routine preventive screenings and any necessary medical follow-up of findings.

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Epidemiology

In the previous (seventh) edition of its Standards of Care, WPATH identified only a small number of articles attempting to estimate the size of the transgender and gender diverse (TGD) population and characterized the state-of-the-science as “a starting point” requiring further systematic study (Coleman et al. 2012). Since then, the literature on this topic has expanded considerably as evidenced by a number of recent reviews that have sought to synthesize the available evidence (Arcelus et al. 2015; Collin et al. 2016; Goodman et al. 2019; Meier and Labuski 2013; Zhang et al. 2020).

In reviewing epidemiologic data pertaining to the TGD population, it may be best to avoid the terms “incidence” and “prevalence”. Avoiding these and similar terms may preclude inappropriate pathologizing of TGD people (Adams et al. 2017; Bouman et al. 2017). Moreover, the term “incidence” may not be applicable in this situation because it assumes that TGD status has an easily identifiable time of onset, a prerequisite for calculating incidence estimates (Celentano and Szklo 2019). For all the above reasons, we recommend using the terms “number” and “proportion” to signify the absolute and the relative size of the TGD population.

Perhaps the most important consideration in reviewing this literature is the variable definition applied to the TGD population (Collin et al. 2016; Meier and Labuski 2013). In clinic-based studies, the data on TGD people are typically limited to individuals who received transgender-related diagnoses or counseling or those who requested or underwent gender affirming therapy, whereas survey-based research typically relies on a broader, more inclusive definition based on self-reported gender identities.

Another methodological consideration in assessing the size and distribution of the TGD population is the need to understand what constitutes the sampling frame. As noted in recent reviews (Goodman et al. 2019; Zhang et al. 2020), many of the published studies, especially those conducted more than a decade ago, first assessed the number of patients seen at a particular clinical center and then divided that number by an approximated population size. This was unlikely to produce an accurate estimate because the numerator in the calculations is not necessarily included in the denominator, and the true size of the denominator often remains unknown. With these considerations in mind, it is advisable to focus specifically on recent (published within the last decade) peer-reviewed studies that utilized sound methodology in identifying TGD people within a well-defined sampling frame. These types of studies can provide more accurate contemporary estimates.

The available studies can be assigned into three groups: 1) those that reported proportions of TGD people among individuals enrolled in large health care systems; 2) those that presented results from population surveys of predominantly adult participants; and 3) those that were based on surveys of youth conducted in schools. Of these three categories, the most informative and methodologically sound studies are summarized below. Additional details about these and other similar studies can be found in recent literature reviews (Goodman et al. 2019; Zhang et al. 2020).

Among studies that estimated the size of the TGD population enrolled in large health care systems, all were conducted in the United States, and all relied on information obtained from electronic health records. Four of those health system-based studies relied exclusively on diagnostic codes to ascertain the TGD population; two studies (Blosnich et al. 2013; Kauth et al.

2014) used data from the Veterans Health Affairs system, which provides care to over 9 million people, and two studies (Dragon et al. 2017; Ewald et al. 2019) used claims data from Medicare, the federal health insurance program that primarily covers people 65 years of age or older. The proportions of TGD people reported in these diagnostic code-based studies ranged from approximately 0.02% to 0.03%. The fifth health systems-based study (Quinn et al. 2017) was conducted at Kaiser Permanente plans in the states of Georgia and California; these plans provide care to approximately 8 million members enrolled through employers, government programs, or individually. The TGD population in the Kaiser Permanente study was ascertained across all age groups using both diagnostic codes and free-text clinical notes. The proportions of TGD people identified at Kaiser Permanente were higher than the corresponding proportions reported in the Veterans Health Affairs and Medicare studies with the most recent estimates ranging from 0.04 to 08%.

In contrast to results from the health system-based studies, findings from surveys that relied on self-reported TGD status produced much higher estimates. Two US studies took advantage of the Behavioral Risk Factor Surveillance Study (BRFSS), which is an annual telephone survey conducted in all 50 states and US territories (Conron et al. 2012; Crissman et al. 2017). The first study used data from the 2007-2009 BRFSS cycles in the state of Massachusetts, and the second study used the 2014 BRFSS data from 19 states and the territory of Guam. Both studies reported that approximately 0.5% of adult participants (at least 18 years of age) responded "Yes" to the question "*Do you consider yourself to be transgender?*"

An internet-based survey administered to a sample of the Dutch population 15-70 years of age (Kuyper and Wijsen 2014) asked participants to score the following two questions using a 5-point Likert scale: "*Could you indicate to which degree you psychologically experience yourself as a man?*" and "*Could you indicate to which degree you psychologically experience yourself as a woman?*" The respondents were considered "gender ambivalent" if they gave the same score to both statements and "gender incongruent" when they reported a lower score for their sex assigned at birth than for their gender identity. The proportions of participants reporting incongruent and ambivalent gender identity were 1.1% and 4.6%, respectively, for persons who were assigned male at birth (AMAB), and 0.8% and 3.2%, respectively, for assigned female at birth (AFAB) persons.

A similarly designed study estimated the proportion of TGD residents in the Flanders region of Belgium using a sample drawn from the country's National Register (Van Caenegem et al. 2015). Participants were asked to score the following statements: "*I feel like a woman*" and "*I feel like a man*" on a 5-point Likert scale. Using the same definitions applied in the Dutch study (Kuyper and Wijsen, 2014), the proportion of gender incongruent individuals was 0.7% for AMAB people and 0.6% for AFAB people. The corresponding estimates for gender ambivalence among AMAB and AFAB people were 2.2% and 1.9%, respectively.

A more recent population-based study evaluated the proportion of TGD people among approximately 50,000 adult residents of Stockholm County, Sweden (Ahs et al. 2018). The numerator was determined by asking participants the following question: "*I would like hormones or surgery to be more like someone of a different sex.*" Two additional items were designed to identify individuals experiencing gender incongruence: "*I feel like someone of a different sex*" and "*I would like to live as or be treated as someone of a different sex.*" The desire for either hormone therapy or gender affirming surgery was reported by 0.5% of participants. Individuals who expressed feeling like someone of a different sex and those who wanted to live as or be treated as a person of another sex constituted 2.3% and 2.8% of the total sample, respectively.

Population-based data outside of North America and Western Europe are less common. One recent study offers valuable data from a large representative survey of 6,000 adults in Brazil (Spizzirri et al. 2021). Gender identity of participants was assessed based on the following three questions: 1) “Which of the following options best describes how you currently feel?” (Options: I feel I am a man, I feel I am a woman, and I feel I am neither a man nor a woman); 2) “What is the sex on your birth certificate?” (Options: male, female, and undetermined); and 3) “Which of these situations do you most closely relate to?” (Options: I was born male but I have felt female since childhood; I was born female but I have felt male since childhood; I was born male, and I feel comfortable with my body; I was born female, and I feel comfortable with my body). Based on the responses to these three questions, the authors determined that 1.9% of the survey respondents were TGD (0.7% defined as transgender, and 1.2% defined as non-binary).

The literature on the population proportions of TGD youth (persons under 19 years of age) includes several survey studies conducted in schools. A 2012 national cross-sectional survey in New Zealand collected information on TGD identity among high school students (Clark et al. 2014). Among over 8,000 survey participants, 1.2% self-identified as TGD and 2.5% reported they were not sure. Another study of schoolchildren was based on a 2016 survey of 9th and 11th grade students (ages 14-18 years) in Minnesota, United States (Eisenberg et al. 2017). Of the nearly 81,000 survey respondents, 2.7% reported being TGD. A more recent study (Johns et al. 2019) presented results of the Youth Risk Behavior Survey (YRBS), which is conducted biennially among local, state, and nationally representative samples of US high school students in grades 9-12 (approximate age range 13-19 years). The 2017 YRBS cycle was carried out in 10 states and 9 large urban areas and included the following sequence: “Some people describe themselves as transgender when their sex at birth does not match the way they think or feel about their gender. Are you transgender?” Among nearly 120,000 participants across the 19 sites, 1.8% responded “Yes, I am transgender,” and 1.6% responded “I am not sure if I am transgender.”

Another recently published school-based study in the United States presented results of a 2015 survey conducted in Florida and California with the aim of identifying gender diverse children and adolescents in a sample of just over 6,000 students in grades 9-12 (Lowry et al., 2018). “High gender-nonconforming” was used to define AMAB children who reported being very/mostly/somewhat feminine or AFAB children who reported being very/mostly/somewhat masculine. Based on these definitions, the proportions of TGD participants were reported to be 13% among AMAB students, 4% among AFAB students, and 8.4% overall.

Only one study examined the proportion of self-identified TGD children in a younger age group. Shields et al. analyzed the data from a 2011 survey of 2,700 students in grades 6-8 (age range 11-13 years) across 22 San Francisco public middle schools (Shields et al. 2013). Thirty-three children self-identified as TGD based on the question “What is your gender?” where the possible responses were “female, male, or transgender.” The resulting proportion of transgender survey respondents was 1.3%. However, this definition would exclude TGD persons self-identifying as non-binary and those who do not explicitly identify as transgender.

Taken together these data indicate that among health system-based studies that relied on diagnostic codes or other evidence documented in the medical records (Blosnich et al. 2013; Dragon et al. 2017; Ewald et al. 2019; Kauth et al. 2014; Quinn et al. 2017), the proportions of TGD people reported in recent years (2011-2016) ranged from 0.02% to 0.08%. By contrast, when the TGD status was ascertained based on self-report, the corresponding proportions were orders of magnitude higher and reasonably consistent, if the studies used similar definitions. When the surveys specifically inquired about “transgender” identity, the estimates ranged from

0.3% to 0.5% among adults and from 1.2% to 2.7% in children and adolescents. When the definition was expanded to include broader manifestations of gender diversity, such as gender incongruence or gender ambivalence, the corresponding proportions were higher: 0.5% to 4.5% among adults and 2.5% to 8.4% among children and adolescents.

As reviewed elsewhere (Goodman et al. 2019), another noteworthy observation is the continuous increase in both the size and the composition of the TGD population with upward trends in the proportion of TGD people observed in health care systems, through population-based surveys, as well as in the data on legal gender recognition. The temporal trends in AMAB to AFAB ratio have also been reported in studies analyzing referrals to clinics as well as data from integrated health systems; this ratio has changed from predominantly AMAB in previous decades to predominantly AFAB in recent years, especially among TGD youth (Aitken et al. 2015; de Graaf et al. 2018a; de Graaf et al. 2018b; Steensma et al. 2018; Zhang et al. 2021). The trend towards a greater proportion of TGD people in younger age groups and the age-related differences in the AMAB to AFAB ratio likely represents the “cohort effect,” which reflects sociopolitical advances, increased access to health care and to medical information, less pronounced cultural stigma, and other changes that have a differential impact across generations (Zhang et al. 2020).

In summary, the available data clearly indicate that TGD people represent a sizable and growing proportion of the general population. Based on the credible evidence available to date, this proportion may range from a fraction of a percent to several percentage points depending on the inclusion criteria, age group, and geographic location. Accurate estimates of the proportion, distribution, and composition of the TGD population as well as a projection of resources required to adequately support the health needs of TGD people should rely on systematically collected high-quality data, which are now increasingly available. The variability in the definitions of what constitutes the TGD population and the differences in data collection methods can be reduced by improving international collaborations.

Summary of reported proportions of TGD people in the general population

Health systems-based studies: 0.02-0.1%

Survey-based studies of adults: 0.3-0.5% (transgender), 0.5-4.5% (all TGD)

Survey-based studies of children and adolescents: 1.2-2.7% (transgender), 2.5-8.4% (all TGD)

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Child

Background/Introduction

These standards of care pertain to prepubescent gender diverse children. They are based on research, ethical principles, and accumulated expert knowledge. The principles underlying these standards include the following: 1) childhood gender diversity is an expected aspect of general human development (Endocrine Society and Pediatric Endocrine Society, 2020; Telfer et al., 2018); 2) childhood gender diversity is not a pathology or mental health disorder (Endocrine Society and Pediatric Endocrine Society, 2020; Oliphant et al., 2018; Telfer et al., 2018); 3) diverse gender expressions in children cannot always be assumed to reflect a transgender identity or gender incongruence (Ehrensaft, 2016; Ehrensaft, 2018; Rae et al., 2019); 4) guidance from mental health professionals with expertise in gender care for children can be helpful in supporting positive adaptation as well as discernment of gender-related needs over time (APA, 2015; Ehrensaft, 2018; Maplas et al., 2018; Telfer et al., 2018); 5) conversion therapies for gender diversity in children (i.e., any “therapeutic” attempts to compel a gender diverse child through words and/or actions to identify with, or behave in accordance with, the gender associated with the sex assigned at birth) are harmful and we repudiate their use (APA, 2021; Ashley, 2019a, Paré, 2020; SAMHSA, 2015; Telfer et al., 2018; UN Human Rights Council, 2020).

Health Professionals: Throughout the text, we employ the term “health professionals” broadly to refer to professionals working with gender diverse children. Unlike pubescent youth and adults, prepubescent gender diverse children are not eligible to access medical intervention (Endocrine Society and Pediatric Endocrine Society, 2020); therefore, when professional input is sought it is most likely to be from a clinician specialized in psychosocial supports and gender development. Thus, this chapter is uniquely focused on developmentally appropriate psychosocial practices, although other health professionals such as pediatricians and family practice health professionals may also find these standards useful as they engage in professional work with gender diverse children and their families.

Gender Diverse: This chapter employs the term “gender diverse” given that gender trajectories in prepubescent children cannot be predicted and may evolve over time (Steensma et al., 2013a). The term, “gender diverse” includes transgender binary and non-binary children, as well as gender diverse children who will ultimately not be transgender. We also recognize that terminology is inherently culturally bound and evolves over time. Thus, it is possible that terms used here may become outdated and/or offensive with time.

Within this chapter, we describe aspects of care intended to promote the well-being and gender-related needs of children. We advocate that everyone employ these standards, to the extent possible. We also understand that there may be situations or locations in which the recommended resources are not fully available. We urge health professionals/teams lacking resources to continually work toward meeting these standards. However, if unavoidable limitations preclude components of these recommendations, this should not hinder providing the best services currently available. In those locations where some, but not all, recommended services exist, choosing not to implement potentially beneficial care services risks harm to a child (Murchison et al., 2016; Telfer et al., 2018; Riggs et al., 2020). Overall, it is imperative to prioritize a child’s best interests.

A vast empirical psychological literature indicates that early childhood experiences frequently set the stage for lifelong patterns of risk and/or resilience, and contribute to a trajectory of development more or less conducive to well-being and positive quality of life (Anda, et al., 2010; Masten & Cicchetti, 2010; Shonkoff & Garner, 2012). The available research indicates that, in general, gender diverse youth are at greater risk for experiencing psychological difficulties (Ristori & Steensma, 2016; Steensma et al., 2014) than age matched cisgender peers as a result of encountering destructive experiences, including trauma and maltreatment stemming from gender diversity-related rejection and other harsh, non-accepting interactions (Barrow & Apostle, 2018; Giovanardi et al., 2018; Gower et al., 2018; Gossman & D'Augelli, 2007; Hendricks & Testa, 2012; Reisner et al., 2015; Roberts et al., 2012; Tishelman & Mascis, 2018). Further, literature indicates that prepubescent children who are well accepted in their gender diverse identities are generally well-adjusted (Malpas et al., 2018; Olson et al., 2016). Assessment and treatment of children typically emphasizes an *ecological* approach, recognizing that a child needs to be safe and nurtured in each setting they frequent (Belsky, 1993; Bronfenbrenner, 1979; Kaufman & Tishelman, 2018; Lynch & Cicchetti, 1998; Tishelman, et al., 2010; Zielinski & Bradshaw, 2006). Thus, our perspective, drawing on basic psychological literature and knowledge of the unique risks to gender diverse youth, emphasizes the integration of an ecological approach to understanding the needs of gender diverse children and to facilitating positive mental health in all gender care. This perspective prioritizes fostering well-being and quality of life for a child throughout their development. Additionally, we also embrace the viewpoint, supported by the substantial psychological research cited above, that psychosocial gender affirming care (Hidalgo et al., 2013) for prepubescent children offers a window of opportunity to promote a trajectory of well-being that will sustain over time and during the transition to adolescence. This approach potentially can mitigate some of the common mental health risks faced by transgender teens, as frequently described in literature (Chen et al., 2020; Edwards-Leeper et al., 2017; Haas et al., 2011; Leibowitz & De Vries, 2016; Reisner et al., 2015a; Reisner et al., 2015b).

Developmental research has focused on understanding various aspects of gender development in the earliest years of childhood, based on a general population of prepubescent children. This research has typically relied on the assumption that child research participants are cisgender (Olezeski, et al., 2020) and has reported that gender identity stability is established in the preschool years for the general population of children, most of whom are likely not gender diverse (Kohlberg, 1966; Steensma, et al., 2013a). Recently, developmental research has demonstrated that gender diversity can be observed and identified in young prepubescent children (Fast & Olson, 2018; Olson & Gülgöz, 2018; Robles, et al., 2016). Still, empirical study in this area is limited, and at this time there are no psychometrically sound assessment measures capable of reliably and/or fully ascertaining a prepubescent child's self-understanding of their own gender and/or gender related needs and preferences (Bloom et al, 2021). Therefore, this chapter emphasizes the importance of a nuanced and individualized clinical approach to gender assessment, as also recommended in various guidelines and literature (Berg & Edwards-Leeper, 2018; De Vries & Cohen-Kettenis, 2012; Ehrensaft, 2018; Steensma & Wensing-Kurger, 2019). Research and clinical experience have indicated that gender diversity in prepubescent children may, for some, be fluid; we have no reliable means of predicting an individual child's gender evolution (Edwards-Leeper et al., 2016; Ehrensaft, 2018; Steensma, et al., 2013a), and the gender related needs for a particular child may vary over the course of their childhood.

It is important to understand the meaning of the term "assessment" (sometimes used synonymously with the term "evaluation"). There are multiple contexts for assessment (Krishnamurthy, et al., 2004) including rapid assessments that take place during an immediate

crisis (e.g., safety assessment when a child may be suicidal) and delimited assessments when a family may have a circumscribed question, often in the context of a relatively brief consultation (Berg & Edwards-Leeper, 2018). In this chapter, we focus on comprehensive assessments, useful for understanding a child and family's needs and goals (APA, 2015; De Vries & Cohen-Kettenis, 2012; Srinath et al., 2019; Steensma & Wensing-Kruger, 2019). This type of psychosocial assessment is appropriate when solicited by a family requesting a full comprehension of the child's gender and mental health needs in the context of gender diversity, needs that often go hand in hand. In these circumstances, family member mental health issues, family dynamics, and social and cultural contexts, all of which impact a gender diverse child, should be taken into consideration (Barrow & Apostle, 2018; Brown & Mar, 2018; Hendricks & Testa, 2012; Kaufman & Tishelman, 2018; Tishelman & Mascis, 2018, Ristori & Steensma, 2016; Cohen-Kettenis et al., 2003; Steensma; et al., 2014). We elaborate upon this further in the text below.

We encourage health professionals working with gender diverse children to strive to understand the child and family's various aspects of identity and experience: racial, ethnic, immigrant/refugee status, religious, geographic, and socio-economic, for example, and be respectful and sensitive to cultural context in clinical interactions (Telfer et al., 2018). Many factors may be relevant to culture and gender, including religious beliefs, gender-related expectations, and the degree to which gender diversity is accepted (Oliphant et al., 2018). Intersections between gender diversity, sociocultural diversity, and minority statuses can be sources of strength and/or social stress (Brown & Mar, 2018; Oliphant et al., 2018; Riggs & Treharne, 2016).

Each child, family member, and family dynamic is unique, and potentially encompasses multiple cultures and belief patterns. Thus, we urge health professionals of all disciplines to avoid stereotyping based on pre-conceived ideas which may be incorrect or biased (e.g., that a family who belongs to a religious organization that rejects gender diversity will be rejecting of their child) (Brown & Mar, 2018). Instead, it is essential to approach each family openly and understand each family member and family pattern as distinct.

Summary of Recommendations

Statement 1: We recommend that health professionals working with gender diverse children should receive training and have expertise in gender development and gender diversity in children, and general knowledge of gender diversity across the life span.

Statement 2: We recommend that health professionals working with gender diverse children should receive theoretical and evidenced-based training and develop expertise in general child and family mental health across the developmental spectrum.

Statement 3: We recommend that health professionals working with gender diverse children should receive training and develop expertise in autism spectrum disorders and other neurodiversity conditions or collaborate with an expert with relevant expertise when working with autistic/neuro-diverse, gender diverse children.

Statement 4: We recommend that health professionals working with gender diverse children should engage in continuing education related to gender diverse children and families.

Statement 5: We recommend that health professionals conducting an assessment with gender diverse children access and integrate information from multiple sources as part of the assessment.

Statement 6: We recommend that health professionals conducting an assessment with gender diverse children should consider relevant developmental factors, neurocognitive functioning and language skills.

Statement 7: We recommend that health professionals conducting an assessment with gender diverse children consider factors that may constrain accurate reporting of gender identity/gender expression by the child and/or family/caregiver(s).

Statement 8: We recommend that health professionals should consider consultation and/or psychotherapy for a gender diverse child and family/caregivers when families and health professionals believe this would benefit the well-being and development of a child and/or family.

Statement 9: We recommend that health professionals offering consultation and/or psychotherapy to gender diverse children and families/caregivers work with other settings and individuals important to the child in order to promote the child's resilience and emotional well-being.

Statement 10: We recommend that health professionals offering consultation and/or psychotherapy to gender diverse children and families/caregivers provide both with age appropriate psycho-education about gender development.

Statement 11: We recommend that health professionals provide information to gender diverse children and their families/caregivers as the child approaches puberty about potential gender affirming medical interventions, the effects of these treatments on future fertility, and options for fertility preservation.

Statement 12: We recommend that parents/caregivers and health professionals respond supportively to children who desire to be acknowledged as the gender that matches their internal sense of gender identity.

Statement 13: We recommend health professionals and parents/caregivers to support children to continue to explore their gender throughout the pre-pubescent years, regardless of social transition.

Statement 14: We recommend health professionals discuss the potential benefits and risks of a social transition with families who are considering it.

Statement 15: We recommend health professionals to consider working collaboratively with other professionals and organizations to promote well-being of gender diverse children and minimize adversities they may face.

All of these recommendations are based on the integration of background literature and the extensive expertise of a carefully selected group of experts. The field of child gender diversity is relatively new and burgeoning; in some cases empirical research evidence is limited, yet strong

recommendations can be made based on synthesizing general literature on child development, research and scholarship related to gender diverse children, and expert knowledge.

Statement 1:

We recommend that health professionals working with gender diverse children should receive training and have expertise in gender development and gender diversity in children, and general knowledge of gender diversity across the life span.

Health professionals working with gender diverse children should acquire and maintain the necessary training and credentials relevant to the scope of their role as professionals. This includes licensure and/or certification by appropriate national and/or regional accrediting bodies. We recognize that specifics of credentialing and regulation of professionals vary globally. Importantly, basic licensure and/or certification may be insufficient in and of itself for work with gender diverse children, as health professionals specifically require in-depth training and supervised experience in childhood gender development and gender diversity in order to provide appropriate care.

Statement 2:

We recommend that health professionals working with gender diverse children should receive theoretical and evidenced-based training and develop expertise in general child and family mental health across the developmental spectrum.

Health professionals should receive training and supervised expertise in general child and family mental health across the developmental spectrum from toddlerhood through adolescence, including evidence-based assessment and intervention approaches. Gender diversity is not a mental health disorder; however, as cited above, we know that mental health can be adversely impacted for gender diverse children (e.g., through gender minority stress) (Hendricks & Testa, 2012) which may benefit from exploration and support; therefore, mental health expertise is highly recommended. Working with children is a complex endeavor, involving an understanding of a child's developmental needs at various ages, the ability to comprehend the forces impacting a child's well-being both inside and outside the family (e.g., Kaufman & Tishelman, 2018) and an ability to fully assess when a child is unhappy or experiencing significant mental health difficulties, related or unrelated to gender. Research has indicated high levels of adverse experiences and trauma in the gender diverse community of youth, including susceptibility to rejection or even maltreatment (APA, 2015; Barrow & Apostle, 2018; Giovanardi et al, 2018; Reisner et al., 2015; Roberts et al., 2012; Tishelman & Mascis, 2018). Health professionals need to be cognizant of the potential for adverse experiences and be able to initiate ameliorating interventions in order to prevent harm and promote positive well-being.

Statement 3:

We recommend that health professionals working with gender diverse children should receive training and develop expertise in autism spectrum disorders and other neurodiversity conditions or collaborate with an expert with relevant expertise when working with autistic/neuro-diverse, gender diverse children.

The experience of gender diversity in autistic children¹ as well as in children with other forms of neurodiversity may present extra clinical complexities (de Vries et al., 2010; Strang et al., 2018a). For example, autistic children may have difficulty self-advocating for their gender-related needs and may communicate in highly individualistic ways (Kusalanka, et al., 2018; Strang et al., 2018b). They may have varied interpretations of gender-related experiences, given common differences in communication and thinking style. Because of the unique needs of gender diverse neurodiverse children, health professionals providing support to this population should receive training and develop expertise in autism and related conditions, or at the very least, collaborate with autism specialists or other professionals with the appropriate expertise (Strang et al., 2018a). Such training is especially relevant as research has documented higher rates of gender diversity in autistic youth than in the general population (de Vries et al., 2010; Hisle-Gorman et al., 2019; Shumer et al., 2015).

Statement 4:

We recommend that health professionals working with gender diverse children should engage in continuing education related to gender diverse children and families.

Continuing professional development on gender diverse children and families may be acquired through various means, including through readings (journal articles, books, websites associated with gender knowledgeable organizations), attending on-line and in person trainings, and joining peer supervision/consultation groups (Bartholomaeus et al., 2021).

Continuing education includes: 1) maintaining up-to-date knowledge of available and relevant research on gender development and gender diversity in prepubescent children and gender diversity across the life span; 2) maintaining current knowledge regarding best practices for assessment, support, and treatment approaches with gender diverse children and families. This is a relatively new area of practice and health professionals need to adapt as new information emerges through research and other avenues (Bartholomaeus et al., 2021).

Statement 5:

We recommend that health professionals conducting an assessment with gender diverse children should access and integrate information from multiple sources as part of the assessment.

A comprehensive assessment, when requested by a family, can be useful for developing intervention recommendations, as needed, to benefit the well-being of the child and/or other family members. This form of assessment is common when first forming an individualized plan to assist a gender diverse prepubescent child and family members (De Vries & Cohen-Kettenis, 2012; Malpas, et al., 2018; Telfer et al., 2018; Tishelman & Kaufman, 2018; Steensma & Wensing-Kruger, 2019). In such an assessment, integrating information from multiple sources is important in order to: 1) best understand the child's gender needs and make recommendations; 2) identify areas of child, family/caregiver, and community strengths and supports specific to the child's gender status and development, as well as risks and concerns for the child, their

¹ There is not consensus regarding language to describe the experience of autism in individuals. Some have expressed a preference for identity-first language (e.g., "autistic child"), while others have advocated for person-first language (e.g., "child on the autism spectrum"). Therefore, we employ a mix of both identity-first and person-first language for autism in this chapter.

family/caregivers and environment. Multiple informants, for both evaluation and support/intervention planning purposes, may include: child, parents/caregivers, extended family members, siblings, school personnel, health professionals, community, broader cultural and legal contexts, and/or other sources as indicated (Berg & Edwards-Leeper, 2018; Srinath, 2019)

A health professional conducting an assessment of gender diverse children needs to explore gender-related issues, but also take a broad view of the child and environment, consistent with the ecological model described above (e.g., Bronfenbrenner, 1979) in order to fully understand the factors impacting a child's well-being and areas of gender support and risk (Hendricks & Testa, 2012; Kaufman & Tishelman, 2018; Berg & Edwards-Leeper, 2018; Tishelman & Mascis, 2018; Whyatt-Sames, 2017). This includes understanding strengths and challenges for the child, family and in the environment. We advise that health professionals conducting an assessment with gender diverse children consider incorporating multiple assessment domains, depending on the child and family's needs and circumstances. Although some of the latter listed domains below do not directly address the child's gender (items 7-12), they need to be accounted for in a gender assessment, as indicated by clinical judgment, in order to understand the complex web of factors that may be impinging on the child's well-being in an integrated fashion, including gender health, consistent with evaluation best practices a (e.g., APA, 2015; Berg & Edwards-Leeper, 2018; Malpas et al., 2018) and develop a multi-pronged intervention when needed.

Summarizing from relevant research and clinical expertise, assessment domains often include: 1) a child's asserted gender identity and gender expression, currently and historically; 2) evidence of dysphoria and/or gender incongruence; 3) strengths and challenges related to the child, family, peer and other's beliefs and attitudes about gender diversity, acceptance and support for child; 4) child and family experiences of gender minority stress and rejection and/or hostility due to the child's gender diversity; 5) level of support related to gender diversity in social contexts (school, faith community, extended family, etc.); 6) conflict regarding child's gender and/or parental/caregiver/sibling concerning behavior related to the child's gender diversity; 7) child mental health, communication and/or cognitive strengths and challenges, neurodiversity, and/or behavioral challenges causing significant functional difficulty; 8) relevant medical and developmental history; 9) areas that may pose risk (e.g., exposure to domestic and/or community violence, any form of child maltreatment; history of trauma; safety and/or victimization with peers or in any other setting; suicidality); 10) co-occurring significant family stressors, such as chronic or terminal illness, homelessness or poverty ; 11) parent/caregiver and/or sibling mental health and/or behavioral challenges causing significant functional difficulty; 12) child and family's strengths, and challenges.

A thorough assessment incorporates multiple forms of information gathering as necessary for understanding the needs, strengths, protective factors, and risks for a specific child and family, across environments (e.g. home/school). Methods of information gathering often include: 1) interviews with child, family members and others (e.g., teachers), structured and unstructured; 2) caregiver and child completed standardized measures related to: gender; general child well-being; child cognitive and communication skills and developmental disorders/disabilities; support and acceptance by parent/caregiver, sibling, extended family and peers; parental stress; history of childhood adversities; and/or other issues as appropriate (APA, 2020; Berg & Edwards-Leeper, 2018; Kaufman & Tishelman, 2018; Srinath, 2019).

Depending on the family characteristics and/or the developmental profile of the child, methods of information gathering also may also benefit from including the following: 1) child and/or family observation, structured and unstructured; 2) structured and visually supported assessment

techniques (worksheets; self-portraits; family drawings, etc.); and 3) child play assessment (Berg & Edwards-Leeper, 2018).

Statement 6:

We recommend that health professionals conducting an assessment with gender diverse children should consider relevant developmental factors, neurocognitive functioning and language skills.

Given the complexities of assessing young children who, unlike adults, are in the process of development across a range of domains (cognitive, social, emotional, physiological), it is important to consider the developmental status of a child and gear assessment modalities and interactions to the individualized abilities of the child. This includes tailoring the assessment to a child's developmental stage and abilities (preschoolers, school age, early puberty prior to adolescence), including using language and assessment approaches that prioritize a child's comfort, language skills, and means of self-expression (Berg & Edwards-Leeper, 2018; Srinath, 2019). For example, relevant developmental factors, such as neurocognitive differences (e.g., autism spectrum conditions), and receptive and expressive language skills should be taken into account in conducting the assessment. Health professionals may need to consult with specialists for guidance, in cases in which they do not have the specialized skills themselves (Strang et al., 2020).

Statement 7:

We recommend that health professionals conducting an assessment with gender diverse children consider factors that may constrain accurate reporting of gender identity/gender expression by the child and/or family/caregiver(s).

Health professionals conducting an assessment with gender diverse children and families need to account for developmental, emotional, and environmental factors that may constrain a child's, caregiver's, sibling or other's report or influence their belief systems related to gender (Riggs and Bartholomaeus, 2018). As with all child psychological assessments, environmental and family/caregiver reactions (e.g., punishment), and/or cognitive and social factors may influence a child's comfort and/or ability to directly discuss certain factors, including gender identity and related issues (Srinath, 2019). Similarly, family members may feel constrained in freely expressing their concerns and ideas, depending on family conflicts or dynamics and/or other influences (e.g., cultural/religious; extended family pressure, etc.) (Riggs & Bartholomaeus, 2018).

Statement 8:

We recommend that health professionals should consider consultation and/or psychotherapy for a gender diverse child and family/caregivers when families and health professionals believe this would benefit the well-being and development of a child and/or family.

The goal of psychotherapy should never be aimed at modifying a child's gender identity (APA, 2021; Ashley, 2019a; Paré, 2020; SAMHSA, 2015; Turban et al., 2019a; UN Human Rights Council, 2020). In addition, not all prepubescent children who are gender diverse, or their families, need input from mental health professionals, as gender diversity is not a mental health disorder (Endocrine Society and Pediatric Endocrine Society, 2020; Telfer et al., 2018).

It is appropriate to consider seeking psychotherapy under many circumstances to improve psychosocial health and prevent further distress (APA 2015). Some of the common reasons for considering psychotherapy for a prepubescent child and family include the following. A child: 1) is demonstrating significant conflicts, confusion, stress or distress about their gender identity, or needs a protected space to explore their gender (Ehrensaft, 2018; Spivey and Edwards-Leeper, 2019); 2) is experiencing external pressure to express their gender in a way that conflicts with their self-knowledge, desires and beliefs (APA, 2015; Turban et al., 2019b); 3) is struggling with mental health concerns, related to or independent of their gender (Barrow & Apostle, 2018); 4) would benefit from strengthening their resilience in the face of negative environmental responses to their gender identity or presentation (Craig & Auston, 2018; Malpas et al., 2018); 5) may be experiencing mental health and/or environmental concerns, including family system problems, which can be misinterpreted as gender incongruence (Berg & Edwards-Leeper, 2018); 6) expresses a desire to meet with a mental health professional to get gender related support. In these situations, the psychotherapy will focus on supporting the child with the understanding that the child's parent(s)/caregiver(s) and potentially other family members will be included as necessary (APA, 2015; Ehrensaft, 2018; McLaughlin & Sharp, 2018).

Health professionals should employ interventions tailor-made to the individual needs of the child that are designed to: 1) foster protective social and emotional coping skills to promote resilience in the face of potential negative reactions to the child's gender identity and/or expressions (Spencer, Berg et al., 2021; Craig & Auston, 2016; Malpas et al., 2018); 2) collaboratively problem-solve social challenges to reduce gender minority stress (Barrow & Apostle, 2018; Tishelman and Mascis, 2018); 3) strengthen environmental supports for the child and/or members of immediate and extended family (Kaufman & Tishelman, 2018); and 4) provide the child an opportunity to explore their internal gender experiences (APA, 2015; Barrow & Apostle, 2018; Ehrensaft, 2018; Malpas et al., 2018; McLaughlin & Sharp, 2018). It is helpful for health professionals to develop a relationship that can endure over time as needed. This enables the child/family to establish a long-term trusting relationship throughout childhood where the health professional can offer support and guidance as a child matures, and as potentially different challenges or needs emerge for the child/family (Spencer, Berg, et al., 2021; Murchison et al., 2016). In addition to the above and within the limits of available resources, when a child is neurodiverse, a health professional who has the appropriate skill set to address both the neurodiversity and gender is most appropriate (Strang et al., 2020).

As outlined in the literature, there are numerous reasons that parents/caregivers and/or extended family members of a prepubescent child may find it useful to seek psychotherapy for themselves (Ehrensaft, 2018; Malpas et al., 2018; McLaughlin & Sharp, 2018). Some of these common catalysts for seeking such treatment, as summarized below, occur when one or more *family members*: 1) desire education around gender development (Spivey & Edwards-Leeper, 2019); 2) are experiencing significant confusion or stress about the child's gender identity and/or expression (Ashley, 2019c; Ehrensaft, 2018); 3) need guidance related to emotional and behavioral concerns regarding the gender diverse child (Barrow & Apostle, 2018); 4) need support to promote affirming environments outside of the home (e.g., school, sports, camps, etc.) (Kaufman & Tishelman, 2018); 5) are seeking assistance to make informed decisions about social transition, including how to do so in a way that is optimal for a child's gender development and health (Lev & Wolf-Gould, 2018); 6) are seeking guidance for dealing with condemnation from others regarding their support for their gender diverse child (negative reactions directed toward parents/caregivers can sometimes include rejection and/or harassment/abuse from the social environment arising from affirming decisions) (Hidalgo and Chen, 2019); 7) are seeking to process their own emotional reactions and needs about their

Johns MM, Lowry R, Andrzejewski J, Barrios LC, Demissie Z, McManus T, et al. (2019). Transgender Identity and Experiences of Violence Victimization, Substance Use, Suicide Risk, and Sexual Risk Behaviors Among High School Students - 19 States and Large Urban School Districts, 2017. *MMWR Morb Mortal Wkly Rep* 68:67-71.

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Zhang Q, Goodman M, Adams N, Corneil T, Hashemi L, Kreukels B, et al. (2020). Epidemiological Considerations in Transgender Health: A Systematic Review with Focus on Higher Quality Data. *Int J Transgender Health* 21:125-137.

Zhang Q, Rechler W, Bradlyn A, Flanders WD, Getahun D, Lash TL, et al. (2021). Changes in Size and Demographic Composition of Transgender and Gender Non-Binary Population Receiving Care at Integrated Health Systems. *Endocr Pract* 27:390-395.

promoting resilience and self-esteem, and diminishing risk of shame in the face of negative messages from the environment. Gaining gender literacy through psycho-education may also be important for siblings and/or extended family members who are important to the child (Rider et al., 2019; Spencer, Berg, et al., 2021).

Statement 11:

We recommend that health professionals provide information to gender diverse children and their families/caregivers as the child approaches puberty about potential gender affirming medical interventions, the effects of these treatments on future fertility, and options for fertility preservation.

As a child matures and approaches puberty, health professionals should prioritize working with children and their parents/caregivers to integrate psycho-education about puberty, engage in shared decision-making about potential gender-affirming medical interventions, and discuss fertility-related implications of medical treatments (Nahata, Quinn & Tishelman, 2018; Spencer, Berg et al., 2021). Although only limited empirical research exists to evaluate such interventions, expert consensus and developmental psychological literature generally support the notion that open communication with children about their bodies, and preparation for physiological changes of puberty, combined with gender affirming acceptance, will promote resilience and help to foster positive sexuality as a child matures into adolescence (Spencer, Berg, et al., 2019). All of these discussions may be extended (e.g., starting earlier) for neurodiverse children, to ensure enough time for reflection and understanding, especially as choices regarding future gender affirming medical care potentially arise (Strang et al., 2018). These discussions could include the following topics:

- Review of body parts and their different functions
- The ways in which a child's body may change over time with and without medical intervention
- The impact of medical interventions on later sexual functioning and fertility
- The impact of puberty suppression on potential later medical interventions
- Acknowledgment of the current lack of clinical data in certain areas related to the impacts of puberty blockers
- The importance of appropriate sex education prior to puberty

These discussions should employ developmentally appropriate language and teaching styles, and be geared to the specific needs of each individual child (Spencer, Berg, et al., 2021).

Statement 12:

We recommend that parents/caregivers and health professionals respond supportively to children who desire to be acknowledged as the gender that matches their internal sense of gender identity.

Gender social transition refers to a process by which a child is acknowledged by others and has the opportunity to live publicly, either in all situations or in certain situations, in the gender identity they affirm and has no singular set of parameters (Ehrensaft, et al., 2018).

Gender social transition has often been conceived in the past as binary—a girl transitions to a boy, a boy to a girl. The concept has expanded to include children who shift to a non-binary or individually shaped iteration of gender identity (Clark et al., 2018; Chew, et al., 2020). Newer

research indicates that social transition may serve a protective function for some prepubescent youth, and serve to foster positive mental health and well-being (e.g., Durwood et al., 2017; Olson et al., 2016; Gibson et al., 2021). Thus, recognition that a child's gender may be fluid and develop over time (Edwards-Leeper et al., 2016; Ehrensaft, 2018; Steensma et al., 2013) is not sufficient justification to negate or deter a social transition in a prepubescent child when it would be beneficial. Gender identity exploration may continue even after a social transition (Ashley, 2019b; Edwards-Leeper, et al., 2018; Ehrensaft, 2020; Ehrensaft et al., 2018; Spivey & Edwards-Leeper, 2019). Although empirical data remains limited, existing research has indicated that youth who are most assertive about their gender diversity are most likely to persist in a diverse gender identity across time (Rae et al., 2019; Steensma et al., 2013b). Thus, when considering a social transition, we suggest that parents/caregivers and health professionals pay particular attention to children who consistently articulate a gender identity that does not match the sex designated at birth. This includes those children who may explicitly request or desire a social acknowledgement of the gender that better matches the child's articulated gender identity, and/or children who exhibit distress when their gender as they know it is experienced as incongruent with the sex designated at birth (Rae et al., 2019; Steensma et al., 2013).

Although there is a dearth of empirical literature regarding best practices related to the social transition process, clinical literature and expertise provides the following guidance, prioritizing a child's best interests (Ashley, et al., 2019b; Ehrensaft, 2018; Ehrensaft et al., 2018; Murchison et al., 2016; Telfer et al., 2018): 1) social transition should originate from the child and reflect the child's wishes in the process of making the decision to initiate a social transition; 2) a health professional may assist exploring the advantages/benefits, plus potential challenges of social transition; 3) social transition may best occur in all or in specific contexts/settings only (e.g., school, home); 4) a child may or may not choose to disclose to others that they have socially transitioned, or may designate, typically with the help of their parents/caregivers, a select group of people with whom they share the information.

In summary, social transition, when it takes place, is likely to best serve a child's well-being when it takes place thoughtfully and individually for each child. A child's social transition (and gender as well) may evolve over time, and is not necessarily static (Ehrensaft et al., 2018). Social transition can include one or more of a number of different actions consistent with a child's affirmed gender (Ehrensaft et al., 2018), including:

- Name change
- Pronoun change
- Change in sex/gender markers (e.g., birth certificate; identification cards; passport; school and medical documentation; etc.)
- Participation in gender-segregated programs (e.g., sports teams; recreational clubs and camps; schools; etc.)
- Bathroom and locker room use
- Personal expression (e.g., hair style; clothing choice; etc.)
- Communication of affirmed gender to others (e.g., social media; classroom or school announcements; letters to extended families or social contacts; etc.)

Statement 13:

We recommend health professionals and parents/caregivers to support children to continue to explore their gender throughout the pre-pubescent years, regardless of social transition.

It is important that children who have engaged in a social transition be afforded opportunities to continue exploring meanings and expressions of gender throughout their childhood years (Ashley 2019b; Spencer, Berg, et al., 2021). However, not all children wish to explore their gender (Telfer et al., 2018). Cisgender children are not expected to undertake this exploration and therefore attempts to force this with a gender diverse child, if not indicated or welcomed, can be experienced as pathologizing and cisnormative (Ansara & Hegarty, 2012; Bartholomaeus et al., 2021; Oliphant et al., 2018).

Statement 14:

We recommend health professionals to discuss the potential benefits and risks of a social transition with families who are considering it.

Social transition in prepubescent children consists of a variety of choices, can occur as a process over time, is individualized based on both a child's wishes and other psychosocial considerations (Ehrensaft, 2018), and is a decision where possible benefits and risks should be weighted and discussed.

To promote gender health, the health professional should discuss the potential benefits and risks of a social transition. One risk often expressed relates to fear that a child will be locked into a gender expression that does not match their gender identity as they mature and continue gender exploration (Edwards-Leeper et al., 2016; Ristori & Steensma, 2016). Recent research, although limited, has found that some parents/caregivers of children who have socially transitioned discuss the option of de-transitioning (reverting to an earlier gender expression) with their children and are comfortable about this possibility (Olson, et al., 2019). Another often identified social transition concern is that a child may suffer negative sequelae if they detransition (Chen et al., 2018; Edwards-Leeper et al., 2019; Steensma & Cohen-Kettenis, 2011). From this point of view, parents/caregivers should be aware of the potential developmental effect of a social transition in a child.

On the other hand, a social transition may have potential benefits, as outlined in clinical literature (e.g., Ehrensaft et al., 2018) and supported by research (Fast & Olson, 2018; Rae et al., 2019). These include facilitating gender congruence while reducing gender dysphoria, and enhancing psychosocial adjustment and well-being (e.g., Ehrensaft et al., 2018). Studies have indicated that socially transitioned gender diverse children largely mirror the mental health characteristics of age matched cisgender siblings and/or peers (Durwood et al., 2017). These findings differ markedly from the mental health challenges consistently noted in prior research with gender diverse children and adolescents (Barrow & Apostle, 2018) and suggest that the impact of social transition may be positive. Additionally, social transition for children typically can only take place with the support and acceptance of parents/caregivers, which has also been demonstrated to facilitate well-being in prepubescent youth (Durwood et al., 2021; Malpas et al., 2018; Pariseau et al., 2019), although other forms of support have also been identified as important (Durwood et al., 2021; Turban et al., 2021). Health professionals can discuss the potential benefits of a social transition with children and families in situations in which:

- 1) there is a consistent, stable articulation of a gender that is incongruent from the sex designated at birth (Fast & Olson, 2018). This should be differentiated from gender diverse expressions/behaviors/interests (e.g. playing with toys, expressing oneself through clothing or appearance choices, and/or engaging in activities socially defined and typically associated with the other gender in a binary model of gender) (Ehrensaft, 2018; Ehrensaft et al., 2018).

2) the child is expressing a strong desire or need to transition to the gender they have articulated as being their authentic gender (Ehrensaft et al., 2018; Fast & Olson, 2018; Rae et al., 2019).

3) the child will be emotionally and physically safe during and following transition (Brown & Mar, 2018). Prejudice and discrimination should be considerations taken into account, especially in localities where acceptance of gender diversity is limited or prohibited (Brown & Mar, 2018; Hendricks & Testa, 2012; Turban et al., 2021).

Health professionals can provide guidance to parents/caregivers and supports to a child when a social gender transition is being considered or taking place, by: 1) providing consultation, assessment, and gender supports when needed and sought by the parents/caregivers; 2) aiding family members, as needed, to understand the child's desires for a social transition and the family members' own feelings about the child's expressed desires; 3) exploring with, and learning from, the parents/caregivers whether and how they believe a social transition would benefit their child both now and in their ongoing development; 4) providing guidance when parents/caregivers are not in agreement about a social transition and offering the opportunity to work together toward a consistent understanding of their child's gender status and needs; 5) providing guidance about safe and supportive ways to disclose their child's social transition to others and to facilitate their child transitioning in their various social environments (e.g., schools, extended family); 6) facilitating communication, when desired by the child, with peers about gender and social transition, as well as fortifying positive peer relationships; 7) providing guidance when social transition may not be socially accepted or safe, either everywhere or in specific situations, or when a child has reservations about initiating a transition despite their wish to do so; there may be multiple reasons for reservations, including fears and anxieties; 8) working collaboratively with family members and mental health professionals to facilitate a social transition in a way that is optimal for the child's unfolding gender development, overall well-being, and physical and emotional safety; 9) providing psychoeducation about the many different trajectories the child's gender may take over time, leaving pathways open to future iterations of gender for the child, and emphasizing that there is no need to predict an individual child's gender identity in the future (Malpas et al., 2018;)

All of these tasks incorporate enhancing the quality of communication between the child and family members, and providing an opportunity for the child to be heard and listened to by all family members involved. These relational processes in turn facilitate the parents/caregivers' success in making informed decisions about the advisability and/or parameters of a social transition for their child (Malpas, et al., 2018).

One role of health professionals is to provide guidance and support in situations in which children and parents/caregivers wish to proceed with a social transition, but conclude that the social environment would not be accepting of those choices, by: 1) helping parents/caregivers define and extend safe spaces in which the child can express their authentic gender freely; 2) discussing with parents/caregivers ways to advocate that increase the likelihood of the social environment being supportive in the future, if this is a realistic goal; 3) intervening as needed to help the child/family with any associated distress and/or shame brought about by the continued suppression of authentic gender identity and need for secrecy; 4) building both the child's and the family's resilience, instilling the understanding that if the social environment is having difficulty accepting a child's social transition and affirmed gender identity, it is not because of some shortcoming in the child but because of insufficient gender literacy in the social environment (Ehrensaft et al., 2018).

Statement 15:

We recommend health professionals to consider working collaboratively with other professionals and organizations to promote well-being of gender diverse children and minimize adversities they may face.

All children have the right to be supported and respected in their gender identities (Human Rights Campaign, 2018; Paré, 2020; SAMHSA, 2015). As noted above, gender diverse children are a particularly vulnerable group (Barrow & Apostle, 2018; Giovanardi et al., 2018; Gower et al., 2018; Gossman & D'Augelli, 2007; Hendricks & Testa, 2012; Reisner et al., 2015; Roberts et al., 2012; Tishelman & Mascis, 2018, Cohen-Kettenis et al., 2003, Ristori & Steensma, 2016). The responsibilities of health professional as advocate encompass acknowledging that social determinants of health are critical for marginalized minorities (Hendricks & Testa, 2012; Barrow & Mar, 2018). Advocacy is taken up by all health professionals in the form of child and family support (APA, 2015; Malpas et al 2018). Some health professionals may be called on to move beyond their individual offices or programs to advocate for gender diverse children in the larger community, often in partnership with stakeholders, including parents/caregivers, allies and youth (Kaufman & Tishelman, 2018; Lopez et al., 2017; Vanderburgh, 2009). These efforts may be instrumental in enhancing children's gender health and promoting their civil rights (Lopez et al., 2017).

Health professional voices may be essential in schools, in parliamentary bodies, in courts of law, and in the media (Kuvlanka et al., 2019; Lopez et al., 2017; Whyatt-Sames, 2017; Vanderburgh, 2009). In addition, health professionals may have a more generalized advocacy role in acknowledging and addressing the frequent intentional and/or unintentional negating of the experience of gender diverse children that may be transmitted or communicated by adults, peers, and/or in media (Rafferty et al., 2018). Professionals who possess the skill sets and/or find themselves in appropriate situations can provide clear de-pathologizing statements on the needs and rights of gender diverse children, and on the damage caused by discriminatory and transphobic rules, laws and norms (Rafferty et al., 2018).

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Adolescent

Introduction

Historical Context and Changes Since Previous Standards of Care

Compared to the longer-established care models for transgender adults, specialized healthcare for transgender adolescents is a relatively new field of practice. Until recently, there were few specialized gender clinics for youth, and the handful of clinics served relatively small numbers of children and adolescents. In more recent years there has been a sharp increase in the number of adolescents requesting gender care (Arnoldussen et al., 2019, Kaltiala et al., 2019). New clinics have been founded, but clinical services in many places have not kept pace with the increasing number of youth seeking care. Hence, there are often long waitlists for services and barriers to care exist for many transgender youth around the world (Tollit et al., 2018).

Until recently, there was limited information regarding the prevalence of gender diversity among adolescents. Studies from high school samples indicate much higher rates than earlier thought, with reports of up to 1.2% identifying as transgender (Clark et al., 2014) and up to 2.7% or more (e.g., 7-9%) experiencing some level of self-reported gender diversity (Eisenberg et al., 2017, Wang et al., 2020, Kidds et al., 2021). These studies suggest that gender diversity in youth should no longer be viewed as rare. Additionally, a pattern of uneven ratios by assigned sex has been reported in gender clinics, with adolescents assigned female at birth initiating care 2.5-7.1 times more frequently as compared to adolescents who are assigned males at birth (Arnoldussen et al., 2019, Kaltiala et al., 2015, Kaltiala et al., 2019, Aitken et al., 2015, de Graaf et al., 2018).

A specific WPATH standards of care section dedicated to the needs of children and adolescents was first included in the WPATH Standards of Care in its 5th version from 1998 (Levine et al., 1998). Youth age 16 or older were deemed potentially eligible for gender affirming medical care, but only in select cases. The subsequent 6th (Meyer et al., 2005) and 7th (Coleman et al., 2012) versions divided medical affirming treatment for adolescents into three categories and presented eligibility criteria regarding age/puberty stage: fully reversible puberty delaying blockers as soon as puberty had started; partially reversible hormone therapy (testosterone, oestrogen) for adolescents of age of majority, which was age 16 in certain European countries; and fully irreversible surgeries at age 18 or older, except for chest “masculinizing” mastectomy, which had an age minimum of 16 years of age. Additional eligibility criteria for gender-related medical care were: persistent long (childhood) history of gender “non-conformity”/dysphoria, emerging or intensifying at the onset of puberty; absence or management of psychological, medical, or social problems that interfere with treatment; provision of support for commencing the intervention by the parents/caregivers; and provision of informed consent. A chapter dedicated to transgender and gender diverse adolescents, distinct from the child chapter, has been created for this 8th edition of the Standards of Care given: (1) the exponential growth in adolescent referral rates, (2) increased studies available specific to adolescent gender diversity-related care, and (3) the unique developmental and gender affirming care issues of this age group.

Methodology

For the current 8th revision of the SOC, our multidisciplinary workgroup started by reviewing the recommendations in the former SOC editions. As there are now separate chapters for childhood and adolescence, to ensure consistency between both chapters, some authors were part of both chapters. For a similar reason, when applicable, the workgroup collaborated with other chapter workgroups on topics shared between the chapters (i.e., Assessment of Children, Assessment of Adults, Hormone Therapy, Surgery and Reproductive Health).

Draft statements began as refinements of earlier versions of the SOC and were also drawn from the more recent Endocrine Society Clinical Practice Guideline (Hembree et al., 2017). Statements were rephrased or adapted and several new statements added, based on more recent research literature. The resulting twelve statements were subjected to the Delphi consensus process. In two rounds, all 12 statements reached consensus endorsement from the larger SOC revision committee.

Adolescence Overview

Adolescence is a developmental period characterized by relatively rapid physical and psychological maturation, bridging between childhood and adulthood (Sanders, 2013). Multiple developmental processes occur simultaneously, including pubertal-signalled changes. Cognitive, emotional, and social systems mature, and physical changes associated with puberty progress. These processes do not all begin and end at the same time for a given individual, nor do they occur at the same age for all persons. Therefore, the lower and upper borders of adolescence are imprecise and cannot be defined exclusively by age. For example, physical pubertal changes may begin in late childhood and executive control neural systems continue to develop well into the mid-20's (Ferguson, Brunson, & Bradford, 2021). There is a lack of uniformity in how countries and governments define the age of majority (i.e., legal decision-making status; Dick et al., 2014). While many specify the age of majority as 18 years of age, in some countries it is as young as 15 years (e.g., Indonesia and Myanmar), and others as high as 21 years (e.g., the U.S. State of Mississippi and Singapore).

Cognitive development in adolescence is often characterized by gains in abstract thinking, complex reasoning, and metacognition (i.e., a young person's ability to think about their own feelings in relation to how others perceive them; Sanders, 2013). The ability to reason hypothetical situations enables a young person to conceptualize implications regarding a particular decision. However, adolescence is also often associated with increased risk-taking behaviors. Along with these notable changes, adolescence is often characterized by individuation from parents and the development of increased personal autonomy. There is often a heightened focus on peer relationships, which can be both positive and detrimental (Gardner & Steinberg, 2005). Adolescents often experience a sense of urgency that stems from hypersensitivity to reward, and their sense of timing has been shown to be different from that of older individuals (Van Leijenhorst et al., 2010). Social-emotional development typically advances during adolescence, though there is a great variability among young people in terms of level of maturity for inter- and intra-personal communication and insight (Grootens-Wiegers et al., 2017). For transgender and gender diverse adolescents making decisions about gender affirming treatments—decisions that may have lifelong consequences—it is critical to understand how all of these aspects of development may impact the decision-making for a given young person within their specific cultural context.

Gender Identity Development in Adolescence

Understanding of gender identity development in adolescence is evolving. It is important to know what is and is not known about gender identity development during development when providing clinical care to gender diverse and/or exploring young people and their families (Berenbaum, 2018). When considering treatments, families may have questions regarding the development of their adolescent's gender identity and whether their adolescent's declared gender will remain the same over time. For some adolescents, a declared gender identity that differs from the assigned sex at birth comes as no surprise to their parents/caregivers, as their history of gender diverse expression dates back to childhood (Leibowitz & de Vries, 2016). For others, the declaration does not happen until the emergence of pubertal changes, or even well into adolescence (McCallion et al., 2021, Sorbara et al., 2020).

Historically, social learning and cognitive developmental research on *gender development* was conducted primarily with youth who were not gender diverse in identity or expression, under the assumption that sex correlated with a specific gender; therefore little attention was given to *gender identity development*. In addition to biological factors influencing gender development, such research demonstrated that there is a role for psychological and social factors as well (Perry & Pauletti, 2011). While there has been less focus on *gender identity development* in transgender and gender diverse youth, there is ample reason to suppose that apart from biological factors, psychosocial factors are also involved (Steensma et al., 2013). For some youth, gender identity development appears fixed, often expressed from a young age, while for others there may be a developmental process that contributes to gender identity development over time. Neuroimaging studies, genetic studies, and other hormone studies on individuals with differences of sex development (DSD) demonstrate a biological contribution to the development of gender identity for some individuals whose gender identity does not match their assigned sex at birth (Steensma et al., 2013). Families often have questions about this very issue and so it is important to note that it is not possible to distinguish between those where gender identity may seem fixed from birth from those where gender identity development appears to be a developmental process. However, probing the contribution of the environment on gender identity development is difficult and clinically irrelevant. Future research would shed more light on gender identity development if conducted over long periods of time with diverse cohort groups. Conceptualization of gender identity, shifting from dichotomous (e.g. binary) categorization of male and female to a dimensional gender spectrum along a continuum (APA, 2013), would also be necessary.

Adolescence may be a critical period for the development of gender identity development for gender diverse young people (Steensma, Kreukels, de Vries, & Cohen-Kettenis, 2013). Dutch longitudinal clinical follow-up studies on adolescents with childhood gender dysphoria who received puberty suppression and/or gender affirming hormones after *comprehensive* assessment, demonstrated that no youth refrained from pursuing gender affirming surgery years later; these findings suggest that many adolescents who were assessed and determined emotionally mature enough to make irreversible treatment decisions, presented with stability of gender identity over time when the studies were conducted (Cohen-Kettenis & van Goozen, 1997; de Vries et al., 2014; van Goozen, Kuiper, & Cohen-Kettenis, 2005a, Brik et al., 2020).

When extrapolating findings from the longer-term longitudinal Dutch cohort studies to present-day gender diverse adolescents seeking care, it is critical to consider the societal changes that have occurred over time in relation to transgender people. Given the increase in visibility of transgender and gender diverse identities, it is important to understand how increased awareness may impact gender development in different ways (Kornienko et al., 2016). One trend is that more young people are presenting to gender clinics with nonbinary identities (Twist

& de Graaf, 2019). Another phenomenon is adolescents seeking care who have not apparently experienced and/or expressed gender diversity during their childhood years. One researcher attempted to study and describe a specific form of later-presenting gender diversity experience (Littman, 2018); however, the study contained significant methodological challenges which must be considered as context for the findings: 1) the study surveyed parents and not youth perspectives, and 2) recruitment included parents from community settings in which treatments for gender dysphoria are often characterized as pathological or undesired. The phenomenon of social influence on gender is salient, however, as some who have changed their thoughts about their own gender identity have described how social influence was relevant in their experience of their gender during adolescence (Vandenbussche, 2021). For a select subgroup of young people, in the context of exploration, social influence on gender may be a relevant issue and an important differential. This phenomenon is neither new nor surprising for health professionals working with adolescents; however, caution must be taken to avoid assuming these phenomena prematurely in an individual adolescent, as well as from datasets that may have been ascertained with potential sampling bias (WPATH, 2018).

Given the emerging nature of knowledge regarding adolescent gender identity development, an individualized approach to clinical care is considered both ethical and necessary. As is the case in all areas of medicine, each study has methodological limitations and conclusions drawn from research cannot *and should not* be universally applied to all adolescents. This is true also when grappling with common parental questions regarding the stability versus instability of a particular young person's gender identity development. Future research will help advance scientific understanding of gender identity development, however there may always be some gaps, and given the ethics of self-determination in care, these gaps should not leave the TGD adolescent without important and necessary care.

Research evidence of gender affirming medical treatment for transgender adolescents

A key challenge in adolescent transgender care is the quality of evidence for effectiveness of gender affirming medical treatments. Given the lifelong implications of medical treatment and the young age at which treatments may be started, adolescents, their parents, and care providers should be informed about the nature of the evidence base. It seems reasonable that decisions to move forward with medical treatments should be made carefully. Despite the slowly growing body of evidence on effectiveness of early medical intervention, the number of studies is still low, with few outcome studies following youth into adulthood. Therefore, a systematic review regarding outcomes of treatment in adolescents is not possible and a short narrative review is instead provided.

At the time of this chapter's writing, there were several longer-term longitudinal cohort follow-up studies reporting positive results of early (i.e., adolescent) medical treatment; for a significant period of time, many of these studies had been conducted through one Dutch clinic. The findings demonstrate improved psychological functioning and body image satisfaction associated with the resolution of gender dysphoria. Most of these studies followed a pre-post methodological design and compared baseline psychological functioning to outcomes following the provision of medical gender-affirming treatments. Different studies evaluated individual aspects or combinations of treatment interventions: 1) gender-affirming hormones and surgeries (Cohen-Kettenis & van Goozen, 1997; Smith et al., 2001; Smith et al., 2005), 2) puberty suppression (de Vries et al., 2011) and 3) puberty suppression, affirming hormones and surgeries (de Vries et al., 2014). The 2014 long term follow-up study is the only study that followed youth from early adolescence (pre-treatment mean age of 13.6) through young

adulthood (post treatment mean age of 20.7); this was the first study to show that gender-affirming treatment enabled transgender adolescents to make age-appropriate developmental transitions while living as their affirmed gender, and with satisfactory objective and subjective outcomes in adulthood (de Vries et al., 2014). These were convincing results. However, the question of generalizability remains, as the study employed a small (n=55), select, and socially-supported sample; further, all participants had experienced gender nonconformity during childhood. Of note also, the participants were part of a clinic employing a multidisciplinary approach, including provision of comprehensive, ongoing assessment and support of gender dysphoria and emotional well-being.

Several more recently published longitudinal studies followed and evaluated participants at different stages of their gender affirming treatments. In these studies, some participants may not have started gender-affirming medical treatments; others had been treated with puberty suppression, while others started gender affirming hormones or even had their gender affirming surgeries (Costa et al., 2015, Becker-Hebly et al., 2020, Kuper et al., 2020, Achille et al., 2020, Carmichael et al., 2021). Given the heterogeneity of treatments, this type of design makes interpreting outcomes more challenging. Even so, the data consistently demonstrate improved or stable psychological functioning, body image, and/or treatment satisfaction after up to two years following baseline.

Cross-sectional studies provide another design to evaluate affirming treatments. One such study compared psychological functioning in transgender adolescents at baseline and while on puberty suppression to that of cisgender high school peers at two different time points. At baseline the transgender youth demonstrated lower psychological functioning compared to cisgender peers, whereas when on puberty suppression they demonstrated better functioning than their peers (van der Miesen et al., 2020). Grannis et al., (2021) demonstrated that transgender males who started testosterone had lower internalizing mental health symptoms (depression and anxiety) compared to those who had not started testosterone treatment.

Two additional studies followed a different outcome design. In a retrospective chart study Kaltiala and colleagues (2020) reported that transgender adolescents with few or no mental health challenges prior to commencing gender affirming hormones, generally did well during the treatment. However, adolescents with more mental health challenges at baseline continued to experience the manifestations of those mental health challenges over the course of gender affirming medical treatment. Nieder and colleagues (2021) studied *satisfaction with care* as an outcome measure, which demonstrated that transgender adolescents were more satisfied as they progressed further with the treatments they initially desired.

Providers may consider the possibility of an adolescent regretting gender affirming decisions made during adolescence and/or that the young person will detransition in the future. There are two Dutch studies that report low rates of adolescents (1.9% and 3.5%) choosing to stop puberty suppression (Wiepjes et al., 2018, Brik et al., 2019). Again, these studies were conducted in clinics that follow a protocol that includes comprehensive assessment before the gender affirming medical treatment is started. At present, no clinical cohort studies have reported on profiles of adolescents who regret or detransition after *irreversible* affirming treatment. Case study reports indicate there are adolescents who detransition but do not regret initiating treatment as they experience the start of treatment as a part of their gender exploration and consolidation (Turban, 2018). However, this may not be the predominant perspective of people who detransition (Vandenbussche, 2021). Some adolescents may regret the steps they have taken (Dyer, 2020). Therefore, it is important to present the full range of possible outcomes when assisting transgender adolescents. Providers may discuss this topic in a

collaborative and trusting manner (i.e., as a “potential future experience and consideration”) with the adolescent and their parents/caregivers *before* gender affirming medical treatments are started. Also, providers should be prepared to support adolescents who detransition. In an internet convenience sample survey of 237 self-identified detransitioners, 25% had medically transitioned before age 18. Many of them expressed difficulties finding help during their detransition process and reported that their detransition was an isolating experience, during which they did not receive sufficient and/or appropriate support (Vandenbussche, 2021).

To conclude, although the existing samples reported on relatively small groups of youth (e.g., n = 22-101 per study) and the time to follow-up has been varied across studies (6-months – 7 years), this emerging evidence base indicates general improvement in the lives of transgender adolescents who, following careful assessment, receive requested gender affirming medical treatment. Further, rates of reported regret during the study monitoring periods are low. Taken as a whole, the data show that early medical intervention—as part of broader combined assessment and treatment approaches focused on gender dysphoria and general well-being—can be effective and helpful for many transgender adolescents seeking these interventions.

Ethical and human rights perspectives

A medical ethics and human rights perspective was also considered while formulating the adolescent SOC statements. For example, allowing irreversible puberty to progress in adolescents who experience gender incongruence is *not* a neutral act given that it may have immediate and lifelong harmful effects for the transgender young person (Giordano, 2009; Giordano & Holm, 2020; Kreukels & Cohen-Kettenis, 2011). From a human rights perspective, considering gender diversity as a normal and expected variation within the broader human diversity, it is an adolescent's right to participate in their own decision-making process about their health and lives, including access to gender health services (Amnesty International, <https://www.amnesty.org.uk/press-releases/amnesty-international-uk-and-liberty-joint-statement-puberty-blockers>).

Short Summary of Statements and Unique Issues in Adolescence

These guidelines are designed to account for what is known and what is not known about gender identity development in adolescence, the evidence for gender affirming care in adolescence, and the unique aspects that distinguish adolescence from other developmental stages.

Identity Exploration: A defining feature of adolescence is the solidifying of aspects of identity, including gender identity. Statement 2 addresses identity exploration in the context of gender identity development. Statement 12B accounts for the length of time that a young person experiences and/or expresses a gender diverse identity in order to make a meaningful decision regarding gender affirming care.

Consent and Decision-Making: In adolescence, consent and decision-making require assessment of the individual's emotional, cognitive, and psychosocial development. Statement 12C directly addresses emotional and cognitive maturity and describes the necessary components to assessing decision-making capacity.

Caregivers/Parent involvement: Adolescents are typically dependent on their caregivers/parents in numerous ways, including treatment decisions and consent. Statement 11 addresses the importance of involving caregivers/parents and the role they play in assessment and treatment. No set of guidelines can account for every set of individual circumstances on a global scale.

This chapter should be used in coordination with other relevant chapters throughout the Standards of Care. These guidelines are meant to provide a gold standard based on the available evidence at this moment in time. While the available evidence for the assessment and treatment of gender diverse and transgender adolescents is relatively new (compared to adults), when factoring in the collective clinical experience of those working with this population as well as the perspectives and priorities of transgender adolescents, themselves, we believe that these statements represent the most up-to-date ethical guidelines available to assist families in collaborative decision-making.

Summary of Recommendations

Statement 1: We recommend that health professionals working with gender diverse adolescents:

- A. Must be licensed by their statutory body, and hold a Postgraduate degree or its equivalent in a relevant clinical field to this role granted by a nationally accredited statutory institution.
- B. should receive theoretical and evidenced-based training and develop expertise in general child, adolescent, and family mental health across the developmental spectrum.
- C. should receive training and have expertise in gender identity development, gender diversity in children and adolescents, the ability to assess capacity to assent/consent, and general knowledge of gender diversity across the life span.
- D. should receive training and develop expertise in autism spectrum disorders and other neurodiversity conditions or collaborate with a developmental disability expert when working with autistic/neuro-diverse, gender diverse adolescents.
- E. should continue professional development on gender diverse children, adolescents and families

Statement 2: We recommend that health professionals working with gender diverse adolescents facilitate the exploration and expression of gender openly and respectfully such that no one particular identity is favored.

Statement 3: We recommend that health professionals working with gender diverse adolescents undertake a comprehensive biopsychosocial assessment for adolescents presenting with gender identity related concerns seeking medical/surgical transition-related care in a collaborative and supportive manner.

Statement 4: We recommend that health professionals work with families, schools, and other relevant settings in order to promote acceptance of gender diverse expressions of behavior and identities of the adolescents.

Statement 5: We recommend against efforts aimed at trying to change an adolescent's gender identity and lived gender expression to become more congruent with sex assigned at birth, also referred to as reparative and conversion therapy.

Statement 6: We suggest that health professionals should inform the gender diverse and transgender adolescents about the health implications and safety aspects of chest binding or genital tucking interventions.

Statement 7: We recommend that providers should consider prescribing menstrual suppression agents for adolescents experiencing gender incongruence who may not be ready or desire to pursue other medical affirming treatments, as well as those who wish to have testosterone.

Statement 8: We recommend that health professionals should maintain an ongoing relationship with the gender diverse and transgender adolescent and any relevant caregivers in order to support the adolescent in their decision-making throughout the duration of puberty suppression treatment, hormonal treatment, and gender related surgery until transition to adult care.

Statement 9: We recommend that health professionals should involve relevant disciplines, including mental health and medical professionals, in order to reach a decision as to whether puberty suppression, hormone initiation and/or gender related surgery for gender diverse and transgender adolescents is appropriate, and remains indicated throughout the course of treatment until transition to adult care.

Statement 10: We recommend that health professionals working with trans and gender diverse adolescents requesting gender affirming medical or surgical treatments inform of the reproductive effects that includes the potential loss of fertility and options to preserve fertility in the context of the youth's stage of pubertal development prior to the initiation of treatment

Statement 11: We recommend that when gender affirming medical or surgical treatments are indicated for adolescents' health professionals working with trans and gender diverse adolescents involve parent(s)/guardian(s) in the assessment and treatment process, unless their involvement is determined to be harmful or unnecessary to the adolescent.

The following recommendations are made regarding the requirements for gender affirming medical and surgical treatment:

Statement 12: We recommend that health professionals assessing trans and gender diverse adolescents should only recommend gender affirming medical or surgical treatments requested by the patient when:

- A. The adolescent meets the diagnostic criteria of gender incongruence as per the ICD-11 where a diagnosis is necessary to access health care. In countries which have not implemented the latest ICD other taxonomies may be used but efforts should be undertaken to utilize the latest ICD as soon as is practicably possible.
- B. There is well-documented (according to local context) evidence of persistent gender incongruence or gender nonconformity / diversity of several years.
- C. The adolescent demonstrates the emotional and cognitive maturity required to provide informed consent/assent for the treatment.

- D. The adolescent's mental health concerns (if any) that may interfere diagnostic clarity, capacity to consent and/or gender affirmative medical treatment have been addressed.
- E. The adolescent has been informed of the reproductive effects that includes the potential loss of fertility and options to preserve fertility have been discussed in the context of the adolescent's stage of pubertal development.
- F. The adolescent has reached Tanner 2 stage of puberty for pubertal suppression.
- G. The adolescent is the following age for each treatment:
- 14 years and above for hormone treatment (estrogens or androgens), unless there are significant, compelling reasons to take an individualized approach, considering the factors unique to the adolescent treatment frame.
 - 15 years and above for chest masculinization; unless there are significant, compelling reasons to take an individualized approach, considering the factors unique to the adolescent treatment frame.
 - 16 years and above for breast augmentation, facial surgery (including rhinoplasty, tracheal shave, and genioplasty) as part of gender affirming treatment; unless there are significant, compelling reasons to take an individualized approach, considering the factors unique to the adolescent treatment frame.
 - 17 and above for metoidioplasty, orchidectomy, vaginoplasty, and hysterectomy and fronto-orbital remodeling as part of gender affirming treatment unless there are significant, compelling reasons to take an individualized approach, considering the factors unique to the adolescent treatment frame.
 - 18 years or above for phalloplasty, unless there are significant, compelling reasons to take an individualized approach, considering the factors unique to the adolescent treatment frame.
- H. The adolescent had at least 12 months of gender affirming hormone therapy, or longer if required to achieve the desired surgical result for gender-affirming procedures including, Breast augmentation, Orchiectomy, Vaginoplasty, Hysterectomy, Phalloplasty metoidioplasty and facial surgery as part of gender affirming treatment unless hormone therapy is either not desired or is medically contraindicated.

Statement 1:

We recommend that health professionals working with gender diverse adolescents:

- A. Must be licensed by their statutory body, and hold a Postgraduate degree or its equivalent in a relevant clinical field to this role granted by a nationally accredited statutory institution.**
- B. should receive theoretical and evidenced-based training and develop expertise in general child, adolescent, and family mental health across the developmental spectrum.**
- C. should receive training and have expertise in gender identity development, gender diversity in children and adolescents, the ability to assess capacity to assent/consent, and general knowledge of gender diversity across the life span.**
- D. should receive training and develop expertise in autism spectrum disorders and other neurodiversity conditions or collaborate with a developmental disability expert when working with autistic/neuro-diverse, gender diverse adolescents.**

E. should continue professional development on gender diverse children, adolescents and families

When assessing and supporting gender diverse and transgender adolescents and their families, care providers/health professionals need both general as well as gender-specific knowledge and training. Providers who are trained to work with adolescents and families play a significant important role in navigating aspects of adolescent development and family dynamics when caring for youth and families (Adelson et al., 2012; American Psychological Association, 2015; Hembree et al., 2017). Other chapters in these standards of care describe these criteria for professionals for gender care in more detail (see Child, Assessment, or Surgery Chapters). Professionals working with adolescents should understand what is and is not known regarding adolescent gender identity development, and how this differs from that of adults and prepubertal children. Among health professionals, it is the *mental health professional* who has the most appropriate training and time to conduct an assessment and elucidate treatment priorities and goals when working with transgender youth, including those seeking gender affirming medical care. Understanding and managing the dynamics of family members who may share differing perspectives on the history and needs of the young person is an important competency that mental health professionals are often most prepared for.

When access to professionals trained in child and adolescent development is not possible, health professionals should make a commitment to obtain training on family dynamics and adolescent development, including gender identity development. Similarly, considering that autistic/neurodiverse transgender youth represent a substantial minority subpopulation of youth served in gender clinics globally, health professionals should seek additional training on autism and the unique elements of care that autistic gender diverse youth may require (Strang et al., 2016). If these qualifications are not possible, then consultation and collaboration with a provider who specializes in autism and neurodiversity is advised.

Statement 2:

We recommend that health professionals working with gender diverse adolescents facilitate the exploration and expression of gender openly and respectfully such that no one particular identity is favored.

Adolescence is a developmental period that involves physical and psychological changes characterized by individuation and the transition to independence from caregivers (Berenbaum et al., 2015; Steinberg, 2009). It is a period during which young people may explore different aspects of identity, including gender identity.

Adolescents differ regarding the degree to which they explore and commit to aspects of their identity (Meeus et al., 2012). For some adolescents, the pace to achieving consolidation of identity is fast, while for others it is slower. For some adolescents, physical, emotional, and psychological development occur on the same general timeline, while for others, there are certain gaps between these aspects of development. Similarly, there is variation in the timeline for gender identity development (Katz-Wise et al, 2017). For some young people, gender identity development is a clear process that starts in early childhood, while for others pubertal changes contribute to one's experience of themselves as a particular gender (Steensma et al., 2013), and for many others a process may begin well after pubertal changes finish. Given these variations, there is no *one particular pace, process, or outcome* that can be predicted for an individual adolescent seeking gender affirming care.

Therefore, health professionals working with adolescents should prioritize supportive environments that simultaneously respect an adolescent's affirmed gender identity and also allows the adolescent to openly explore evolving gender needs, should they change over time.

Statement 3:

We recommend that health professionals working with gender diverse adolescents undertake a comprehensive biopsychosocial assessment for adolescents presenting with gender identity related concerns seeking medical/surgical transition-related care in a collaborative and supportive manner.

Given the many ways identity may unfold during adolescence, we recommend using a comprehensive assessment, conducted by a qualified health professional (whose qualifications are specified in Statement 1), to guide treatment and optimize outcomes. As mentioned in Statement 1, *mental health professionals* have the most appropriate training to obtain the information discussed here. The assessment process should be approached collaboratively with the adolescent and their caregiver(s), which is described in more detail in statement 11. An assessment should occur prior to any medical interventions being considered (e.g., puberty blocking medication, gender affirming hormones, surgeries, see Hormone and Surgery chapters).

There are many different gender identity trajectories that youth may experience. For example, some youth will realize they are transgender or more broadly gender diverse and pursue medical interventions to align their bodies with their identity. For others, their gender exploration will help them better understand themselves, but will not result in affirming a gender different from what was assigned at birth or involve the use of medical interventions (Arnoldussen et al., 2019). With the ongoing sociocultural developments regarding the definitions of gender, youth may increasingly present with a range of identities and ways of describing their experiences and gender related needs (Twist & de Graaf, 2019), which may change as they mature and develop. Utilizing a comprehensive assessment for each adolescent helps to better understand their unique needs and individualize their care.

Careful assessment was part of the most robust longitudinal study that exists thus far on gender diverse adolescents pursuing gender affirming medical interventions (De Vries et al., 2014). In this study, which followed transgender youth into adulthood, positive psychological and quality of life outcomes were found for those who met the criteria to physically transition. However, it is critical to note that all of these youth experienced childhood gender dysphoria *and* were required to undergo a comprehensive assessment over time prior to each medical intervention to help determine whether they would likely benefit from the intervention (de Vries & Cohen-Kettenis, 2012; de Vries., 2014). In other words, it was a very specific sample and cannot be generalized to all gender diverse adolescents seeking medical interventions. Furthermore, the assessment itself has not been part of any study, so we cannot conclude its unique effect on long-term outcomes.

Delivery of healthcare and access to specialists varies globally. Thus, adaptations to the assessment process and flexibility may be necessary, as long as all of the information needed to guide treatment, as outlined below, is obtained. In some cases, a more extended assessment process may be useful, such as for youth with more complex presentations (e.g., complicating mental health histories, co-occurring autism spectrum characteristics (Strang et al., 2018), in particular for those with an absence of experienced childhood gender incongruence considering

different needs have been described in the literature (Ristori & Steensma, 2016; Sorbara et al., 2021). Given the unique cultural, financial, and geographical factors that exist for specific populations, providers should design assessment models that are flexible and which allow for appropriately timed care to as many young people as possible. At the same time, it is important to remember that treating youth outside of the assessment framework (e.g., with limited or no assessment) currently has no empirical support and therefore carries the risk that the decision to start gender affirming medical interventions *may* not be in the long-term best interest of the young person.

The assessment should include a thorough clinical interview with the adolescent alone, the caregiver(s) alone, and the adolescent and caregiver(s) together. Additionally, psychometrically validated psychosocial and gender measures can also be used to provide additional information.

It is important to develop a positive and trusting working alliance with the adolescent and caregiver(s) that is collaborative and aims to support the young person in making a fully informed decision about their body and their health. A process that takes caregiver(s) viewpoints into account and recognizes the value of their input provides important information for understanding the adolescent and the context in which they live and function. Additionally, involving the young person's caregiver(s) in the assessment process often helps them come to better understand their adolescent's struggles and gender-related needs, thereby allowing them to be more affirming and supportive. Research shows that gender diverse youth do best when supported by their caregiver(s) (see statement 11/12; Ryan, Huebner, Diaz, & Sanchez, 2009).

The comprehensive assessment for gender diverse youth seeking gender affirming medical interventions includes the following domains that correspond with the relevant statements:

- **Gender Identity Development:** Statements 12A and 12B elaborate on the factors associated with gender identity development within the specific cultural context, when assessing transgender and gender diverse adolescents.
- **Social Development and Support; Intersectionality:** Statements 4 and 11 elaborate on the importance of assessing gender minority stress, family dynamics, and other aspects contributing to social development and intersectionality.
- **Diagnostic Assessment of Possible Co-Occurring Mental Health and/or Developmental Concerns:** Statement 12D elaborates on the importance of understanding the relationship that exists, if at all, between any co-occurring mental health or developmental concerns and the young person's gender identity/gender diverse expression.
- **Capacity for Decision Making:** Statement 12C elaborates on the assessment of emotional maturity of a young person and the relevance when an adolescent is considering gender affirming medical/surgical treatments.

Statement 4:

We recommend that health professionals work with families, schools, and other relevant settings in order to promote acceptance of gender diverse expression of behavior and identities of the adolescent.

Multiple studies and related expert consensus support implementation of approaches that promote acceptance and affirmation of gender diverse youth across all settings, including families, schools, healthcare, and all other organizations and communities with which they interact (e.g., Pariseau et al., 2019; Russell et al., 2018; Simons et al., 2013; Toomey et al., 2010; Travers et al., 2012). Acceptance and affirmation are accomplished through a range of approaches, actions, and policies that we recommend be enacted across the various relationships and settings in which a young person exists and functions. Examples of acceptance and affirmation of gender diversity and exploration that can be implemented by family, staff, and organizations, as organized by Pariseau and colleagues (2019) and others include:

1. Actions that are supportive of youth drawn to engaging in gender-expansive (e.g., nonconforming) activities and interests,
2. Communications that are supportive when youth express their experiences about their gender and gender exploration,
3. Use of the youth's asserted name/pronouns,
4. Support for youth wearing clothing/uniforms, hairstyles, and items (e.g., jewelry, makeup) they feel affirm their gender,
5. Positive and supportive communication with youth about their gender and gender concerns,
6. Education for people in the young person's life (e.g., family members, healthcare providers, social support networks), as needed, about gender diversity issues, including how to advocate for gender diverse youth in community, school, healthcare and other settings,
7. Support for gender diverse youth to connect with communities of support (e.g., LGBTQ groups, events, friends),
8. Provision of opportunities to discuss, consider, and explore medical treatment options when indicated,
9. Anti-bullying policies that are enforced.
10. Inclusion of nonbinary experiences in daily life, reading materials, and curricula (e.g., books, health and sex education classes, essay topics assigned moving beyond the binary, LGBTQ and ally groups),
11. Gender inclusive facilities which the youth can readily access without segregation from non-gender diverse peers (e.g., bathrooms, locker rooms).

We recommend healthcare professionals work with parents, schools, and other organizations/groups to promote acceptance and affirmation because acceptance and affirmation are associated with fewer negative mental health and behavioral symptoms and more positive mental health and behavioral functioning (Day et al., 2015; de Vries et al., 2016; Greytak et al., 2013; Pariseau et al., 2019; Peng et al., 2019; Russell et al., 2018; Simons et al., 2013; Taliaferro et al., 2019; Toomey et al., 2010; Travers et al., 2012). Russell and colleagues (2018) found improvement increases with more acceptance and affirmation across more settings (e.g., home, school, work, and friends). Rejection by family, peers, and school staff (e.g., intentionally calling name and pronoun youth does not identify with, not acknowledging affirmed gender identity bullying, harassment, verbal and physical abuse, poor relationships, rejection for being trans/gender diverse, eviction) was strongly linked to negative outcomes such as anxiety, depression, suicidal ideation, suicide attempts, and substance use (Grossman et al., 2005; Klein and Golub; 2016; Pariseau et al., 2019; Peng et al., 2019; Reisner et al., 2015; Roberts et al., 2013). It is important that behaviors that are considered rejecting towards a young person's affirmed gender or gender exploration from family members, peers, and other

adults (e.g., school staff), because negative symptoms increase with increased levels of rejection and continue into adulthood are not used (e.g., Roberts et al., 2013).

Neutral or indifferent responses to a youth's gender diversity and exploration (e.g., letting a child tell others their chosen name but not using the name, not telling family or friends when the youth wants them to disclose, not advocating for the child about rejecting behavior from school staff or peers, not engaging or participating in other supports such as psychotherapists and support groups) have also been found to have negative consequences, such as increased depression symptoms (Pariseau et al., 2019). For these reasons, it is important not to ignore a youth's gender questioning or delaying tending to the gender exploration. There is particular value in professionals recognizing that youth need individualized approaches, support, and pacing of exploration over time and across domains and relationships. Youth may need help coping with the tension of tolerating others' processing/adjusting to an adolescent's identity exploration and changes (e.g., Kuper et al., 2019). It is important that professionals collaborate with parents and others as they process their concerns and feelings and educate themselves about gender diversity as such processes may not be rejection or neutrality, but may be efforts to develop attitudes and gather information that foster acceptance (e.g., Katz-Wise et al., 2017).

Statement 5:

We recommend against efforts aimed at trying to change an adolescent's gender identity and lived gender expression to become more congruent with sex assigned at birth, also referred to as reparative and conversion therapy.

Some healthcare providers, secular or religious organizations, and/or rejecting families may make efforts to thwart gender identity exploration and expression, such as choosing not to use the youth's identified name and pronouns or restricting self-expression in clothing and hairstyles (Craig et al., 2017; Green et al., 2020). These disaffirming behaviors typically aim to reinforce views that a young person's gender identity/expression must match the gender associated with the sex assigned at birth. Activities and approaches (sometimes referred to as "treatments") aimed at trying to change a person's gender identity and expression to become more congruent with the sex assigned at birth have been attempted, but these approaches have not resulted in changes in gender identity (Craig et al., 2017; Green et al., 2020). We recommend against such efforts because they have been found ineffective and are associated with increases in mental illness and poorer psychological functioning (Craig et al., 2017; Green et al., 2020; Turban et al., 2020; SOC8 Adolescent Statement 4).

Much of the research on "conversion therapy" and "reparative therapy" has actually studied efforts to change gender expression (masculinity or femininity), conflating sexual orientation with Gender identity (APA, 2009; Burnes et al., 2016; Craig et al., 2017). Some of these efforts have targeted both gender identity and expression (AACAP, 2018). Conversion/reparative therapy efforts have been linked to increased anxiety, depression, suicidal ideation, suicide attempts, and healthcare avoidance (Craig et al., 2017; Green et al., 2020; Turban et al., 2020). Some of these studies have been criticized for the methodologies used and conclusions reached (e.g., D'Angelo et al., 2020), however this should not detract from the importance of emphasizing that a priori efforts to change a person's identity is ethically not sound. As both secular and religion-based gender identity/expression change efforts have been associated with negative psychological functioning that endures into adulthood (Turban et al., 2020), in addition to the larger ethical reasons that should drive the respect of gender diverse identities, we recommend against any type of conversion or change efforts.

It is important to note that therapeutic exploration of gender diversity, and potential factors driving a young person's experience and report of gender incongruence, is not considered a reparative therapy effort in the context of supporting an adolescent with self-discovery, so long as there is no a priori goal to change or promote one particular gender identity or expression (AACAP, 2018; see SOC8 Adolescent Statement 2). To ensure these explorations are therapeutic, we recommend employing affirmative responses to gender exploration, such as those identified in SOC8 Adolescent Statement 4.

Statement 6:

We suggest that health professionals should inform the gender diverse and transgender adolescents about the health implications and safety aspects of chest binding or genital tucking interventions.

Gender diverse and transgender youth may experience distress related to chest and genital anatomy. Practices such as chest binding, chest padding, genital tucking and genital packing are reversible, non-medical interventions that may help alleviate this distress (Olson-Kennedy, 2018; Deutsch 2016; Transcare BC; Callen-Lorde). It is important to assess distress related to physical development or anatomy, educate youth about potential non-medical interventions to address this distress, and address use and safety of these interventions.

Chest binding involves the compression of the breast tissue to create a flatter appearance of the chest. Studies suggest that up to 87% of transmasculine patients report a history of binding (Peitzmeier, 2017; Jones, 2015). Binding methods may include the use of commercial binders, sports bras, layering of shirts, layering of sports bras, or using elastics or other bandages (Peitzmeier, 2017). Currently most youth report learning about binding practices from online communities comprised of peers (Julian, 2019). Providers can play an important role in ensuring that youth receive accurate and reliable information about the potential benefits and risks of chest binding. Additionally, providers can counsel patients on safe binding practices and monitor for potential negative health effects. While there are potential negative physical impacts of binding, youth who bind report many benefits including increased comfort, improved safety, and lower rates of misgendering (Julian, 2019). Common negative health impacts of chest binding in youth include back/chest pain, shortness of breath, and overheating (Julian, 2019). More serious negative health impacts such as skin infections, respiratory infections, and rib fractures are uncommon, but have been associated with chest binding in adults (Peitzmeier, 2017). If binding, youth should be advised to use only those methods that are considered safe for binding—such as binders specifically designed for the gender diverse population—to reduce the risk of serious negative health effects. Methods that are considered unsafe for binding include the use of duct tape, ace wraps, and plastic wrap as these can cause restriction in blood flow, skin damage, and restricted breathing. If youth report negative health impacts of chest binding these should ideally be addressed by a gender affirming medical provider with experience working with transgender and gender diverse youth. Many youth who bind may desire chest masculinization surgery in the future (Olson-Kennedy, 2018).

Genital tucking is the practice of positioning the penis and testes to reduce the outward appearance of a genital bulge. Methods of tucking include tucking the penis and testes between the legs or, tucking the testes inside the inguinal canal and pulling the penis back between the legs. Typically, genitals are held in place by underwear or a gaff, a garment that may be made or purchased. Limited studies are available on the specific risks and benefits of tucking in adults, and none in youth. Previous studies that have demonstrated that tight undergarments are associated with decreased sperm concentration and motility; elevated scrotal temperatures

can be associated with poor sperm characteristics and theoretically genital tucking could affect spermatogenesis and fertility (Marsh 2019) though no definitive studies exist. Further research is needed on specific benefits and risks of tucking in youth.

Statement 7:

We recommend that providers should consider prescribing menstrual suppression agents for adolescents experiencing gender incongruence who may not desire or be ready to pursue other medical affirming treatments, including testosterone.

When discussing options with gender diverse youth around menstrual-suppressing medications, providers should engage in shared decision making, use gender-inclusive language (e.g. asking patients which terms they utilize to refer to their menses, reproductive organs, and genitalia) and perform physical exams that are approached in a sensitive, gender-affirmative manner (Bonnington et al., 2020; Krempasky et al., 2020). There is no formal research on how menstrual suppression may impact gender dysphoria. However, the use of menstrual suppression can be an initial intervention to allow for further exploration of gender-related goals of care and/or prioritization of other mental health care, especially for those who experience a worsening of gender dysphoria from unwanted uterine bleeding (see Statement 12D, (Mehring & Dowshen, 2019)). To exclude any underlying menstrual disorders, a detailed menstrual history and evaluation is important to obtain prior to implementing menstrual-suppressing therapy (Carswell & Roberts, 2017). As part of the discussion of menstrual-suppressing medications, consideration for desire for contraception and how effective menstrual-suppressing medications are as methods of contraception also needs to be considered (Bonnington et al., 2020). A variety of menstrual suppression options, such as combined oestrogen-progestin medications, oral progestins, depot progestin and IUDs should be offered to allow for individualized treatment plans within the context of availability, cost and insurance coverage, contraindications and side effect profile (Kanj et al., 2019).

Options for combined oral contraception include different combinations of ethinyl estradiol, with ranging doses, and different generations of progestins (Pradhan & Gomez-Lobo, 2019). Lower-dose ethinyl estradiol components of combined oral contraceptive pills are associated with increased breakthrough uterine bleeding. Continuous combined oral contraceptives may be used to allow for continuous menstrual suppression, as can delivered as transdermal or vaginal ring options. Progestin-only hormonal medication options may be desired, especially in transmasculine or non-binary youth who do not desire oestrogen-containing medical therapies, are actively growing, and/or in patients at risk for thromboembolic events or other contraindications to receiving oestrogen (Carswell & Roberts, 2017). Progestin-only hormonal medications include oral progestins, depo-medroxyprogesterone injection, etonogestrel implant and levonorgestrel intrauterine device (Schwartz et al., 2019). Progestin-only hormonal options vary in terms of efficacy in achieving menstrual suppression and have lower rates of achieving amenorrhea than combined oral contraception options (Pradhan & Gomez-Lobo, 2019), and a more detailed description of the clinical studies is addressed further in the Hormone Chapter. Health professionals should not make assumptions regarding the method of administration as some transmasculine youth may desire vaginal rings or IUD implants (Akgul et al., 2019). Hormonal medications require monitoring for potential mood lability and/or depressive effects; however, the benefits and risks of untreated menstrual suppression in the setting of gender dysphoria should be evaluated on an individual basis.

The use of GnRH analogue may also result in menstrual suppression however it is recommended that gender diverse youth meet the eligibility criteria (as outlined in Statement 12)

before consideration of this medication solely for this purpose (Carswell & Roberts, 2017; Pradhan & Gomez-Lobo, 2019). Finally, menstrual-suppression medications may be indicated as an adjunctive therapy for breakthrough uterine bleeding that may occur while on exogenous testosterone or as a bridging medication with awaiting menstrual suppression with testosterone therapy. With the use of exogenous testosterone as a gender-affirming hormone, menstrual suppression is typically achieved in the first six months of therapy (Ahmad & Leinung, 2017). However, it is vital that adolescents be counseled that ovulation and therefore, pregnancy, is still possible, even in the setting of amenorrhea as this is a common misconception (Gomez et al., 2020; Kanj et al., 2019).

Statement 8:

We recommend that health professionals should maintain an ongoing relationship with the gender diverse and transgender adolescent and any relevant caregivers in order to support the adolescent in their decision-making throughout the duration of puberty suppression treatment, hormonal treatment, and gender related surgery until transition to adult care.

Health professionals with expertise in child and adolescent development, as described in statement 1, play an important role in the continuity of care for young people over the course of their gender-related treatment needs (see statement 1). Supporting adolescents and their families necessitates approaching care using a developmental lens, through which understanding a young person's evolving emotional maturity and care needs can take place over time. As gender affirming treatment pathways differ based on the needs and experiences of individual transgender and gender diverse adolescents, decision making for these treatments (puberty suppression, oestrogens/androgens, gender affirming surgeries) can occur at different points in time within a span of several years. Longitudinal research demonstrating the benefits of pubertal suppression and gender affirming hormone treatment took place in a setting where an ongoing clinical relationship between the adolescents/families and the multidisciplinary team was maintained (De Vries et al., 2014).

Clinical settings that offer longer appointment times provide space for adolescents and caregivers to share important psychosocial aspects of emotional wellbeing (e.g. family dynamics, school, romantic and sexual experiences) that contextualize individualized gender affirming treatment needs and decisions as described elsewhere in the chapter. An ongoing clinical relationship can take place across settings, whether that be within a multidisciplinary team or with providers in different locations who collaborate with one another. Given wide variability in access to specialized gender care centers, particularly for other marginalized groups who experience disparities with access, it is important for the health professional to appreciate any barriers to care while maintaining flexibility when defining how an ongoing clinical relationship can take place in that specific context.

An ongoing clinical relationship that increases resiliency in the youth and provides support to parents/caregivers who may have their own treatment needs, may ultimately lead to increased parental acceptance- when needed- which is associated with better mental health outcomes in youth (Ryan, Huebner, Diaz, & Sanchez, 2009).

Statement 9:

We recommend that health professionals should involve relevant disciplines, including mental health and medical professionals, in order to reach a decision as to whether

puberty suppression, hormone initiation and/or gender related surgery for gender diverse and transgender adolescents is appropriate, and remains indicated throughout the course of treatment until transition to adult care.

Transgender and gender diverse adolescents with gender dysphoria/gender incongruence, who seek gender affirming medical and surgical treatments need healthcare professionals of differing disciplines. Providing care to TGD adolescents includes addressing both: 1) diagnostic considerations (see Statement 3, 12A, 12B), conducted by a specialized gender health professional (as defined in statement 1) whenever possible and necessary and 2) treatment considerations when prescribing, managing, and monitoring medications for gender affirming medical and/or surgical care, requiring the training of the relevant medical/surgical professional. The list of key disciplines includes but is not limited to: adolescent medicine/primary care, endocrinology, psychology, psychiatry, speech/language pathology, social work, support staff, and the surgical team.

Transgender youth healthcare guidelines for have routinely emphasized the importance of a multidisciplinary care team that involves both medical and mental health professionals (American Psychological Association, 2015; Hembree et al., 2017; Telfer et al., 2018). The evolving evidence demonstrates clinical benefit from use gender of affirming treatments with transgender youth who come from gender clinics that are multidisciplinary (DeVries et al., 2014; Kuper et al., 2020; Tollit et al., 2019). Additionally, adolescents seeking gender affirming care in multidisciplinary clinics are presenting with significant complexity, necessitating close collaboration between mental health, medical, and/or surgical professionals (McCallion et al., 2021; Sorbara et al., 2020; Tishelman et al., 2015).

Not all patients and/or families are in the position or in a location to access multidisciplinary care, and so therefore the *lack of available disciplines* should not preclude a young person from accessing needed care in a timely manner. When disciplines *are available*, particularly in centers with existing multidisciplinary teams and/or disciplines, efforts to include the relevant providers when developing a gender care team, is recommended. This does not mean that all disciplines are necessary for the provision of care to a particular youth and family.

Statement 10:

We recommend that health professionals working with trans and gender diverse adolescents requesting gender affirming medical or surgical treatments inform of the reproductive effects that includes the potential loss of fertility and options to preserve fertility in the context of the youth's stage of pubertal development prior to the initiation of treatment.

While assessing adolescents seeking gender affirming medical or surgical treatments, health professionals should discuss the specific ways in which the desired treatment may affect reproductive capacity. Fertility issues and the specific preservation options are more thoroughly discussed in the Reproductive Health for Adolescents and Adults chapter and the Hormone Therapy for Adolescents and Adults chapter of the SOC-8. Please see those chapters for greater detail.

It is important that health professionals understand what fertility preservation options exist in order to relay the information to adolescents. Parents are advised to be involved in this and should also understand the pros and cons of the different options. health professionals should acknowledge that adolescents and parents may have different views around reproductive

capacity and may therefore come to different decisions (Quain et al., 2020). health professionals can be helpful in guiding this process.

Health professionals should specifically pay attention to the developmental and psychological aspects of fertility preservation and decision-making competency for the individual adolescent. Adolescents may think they have made up their minds concerning their reproductive capacity , but the chances that adolescents' opinions regarding having biologically related children in the future might change over time and needs to be discussed with a health professional who has sufficient experience and knowledge of adolescent development and working with parents.

Addressing the long-term consequences for fertility of gender affirming medical treatment and ensuring that transgender adolescents have realistic expectations concerning fertility preservation options or adoption, is not a one-time discussion but should be part of an ongoing conversation. This conversation should occur not only before any medical intervention is started (puberty suppression, hormones or surgeries), but also during further treatment and transition.

Currently, there are only preliminary results of retrospective studies of transgender adults regarding decisions that they made about the consequences of medical affirming treatment on reproductive capacity when they were young. Meanwhile, it is important not to assume the future adult goals of an adolescent. Research in childhood cancer survivors reports distress about potential infertility, regret and missed opportunities for fertility preservation (Armund et al, 2014, Ellis et al., 2016, Lehmann et al., 2017). Individuals with cancer who did not prioritize having biological children before treatment have reported "changing their minds" in survivorship (Armund et al, 2014).

Given the complexities of the different fertility preservation options and the challenges that health professionals may experience around discussing fertility with the adolescent and the family (Tishelman et al., 2019), a fertility consultation is an important consideration for every transgender adolescent who pursues medical affirming treatments unless the local situation is such that this is not covered by insurance or public health care plan, is not available locally, or the individual circumstances make this unpreferable.

Statement 11:

We recommend that when gender affirming medical or surgical treatments are indicated for adolescents, health professional's working with trans and gender diverse adolescents involve parent(s)/guardian(s) in the assessment and treatment process, unless their involvement is determined to be harmful or unnecessary to the adolescent.

When there is indication that an adolescent might benefit from a gender affirming medical or surgical treatment, involving the parent(s) and/or primary caregiver(s) in the assessment process is recommended in almost all situations (Edwards-Leeper & Spack, 2012; Rafferty et al., 2018). Exceptions to this might include situations in which an adolescent is in foster care and/or child protective services custody and parent involvement would be impossible, inappropriate, and/or harmful. Parent and family support of T/GD youth is a primary predictor of youth wellbeing and a protective factor for T/GD youth mental health (Gower et al., 2018; Grossman et al., 2019; Lefevor et al., 2019; McConnell et al., 2015; Pariseau et al., 2019; Ryan et al., 2009; Ryan et al., 2010; Simons et al., 2013; Wilson et al., 2016). Therefore, including parent(s)/caregiver(s) in the assessment process to encourage and facilitate increased parental understanding and support of the adolescent may be one of the most helpful practices available.

Parent(s)/caregiver(s) may provide key information for the clinical team, including report on the young person's gender and overall developmental, medical, and mental health history as well as information about the young person's level of current support and general functioning and wellbeing. Concordance or divergence of report between the adolescent and their parent(s)/caregiver(s) may be important information for the assessment team, including for the designing and shaping of individualized youth and family supports (De Los Reyes et al., 2019; Katz-Wise et al., 2017). Knowledge of the family context, including resilience factors and challenges can help providers know where special supports would be needed during the medical treatment process. Engagement of parent(s)/caregiver(s) is also important for educating families around various treatment approaches, ongoing follow-up and care needs, and potential treatment complications. Through psychoeducation regarding clinical gender care options and participation in the assessment process, which may unfold over time, parent(s)/caregiver(s) may better understand their adolescent child's gender-related experience and needs (Andrzejewski et al., 2020; Katz-Wise et al., 2017).

Parent/caregiver concerns or questions regarding the stability of gender-related needs over time and implications of various gender affirming interventions are common, and should not be dismissed. It is appropriate for parent(s)/caregiver(s) to ask these questions, and there are cases in which the parent(s)/caregiver(s)' questions or concerns are particularly helpful in informing treatment decisions and plans. For example, parent/caregiver report may provide critical context in situations in which a young person experiences very recent and/or sudden self-awareness of gender diversity and a corresponding gender treatment request, or when there is concern for possible excessive peer and/or social media influence on a young person's current self-gender concept. Contextualization of parent/caregiver report is also critical, as the report of a young person's gender history as provided by parent(s)/caregiver(s) may or may not align with the young person's self-report. Gender histories may be unknown to parent(s)/caregiver(s) because gender may be an inward experience for youth, not known by others unless it is discussed.

Some parents may present with unsupportive or antagonistic beliefs about T/GD identities and/or clinical gender care (Clark et al., 2020). Such parent perspectives may in some cases seem rigid, but providers should not assume this is the case. There are many examples of parent(s)/caregiver(s) who, over time with support and psychoeducation, have become increasingly accepting of their T/GD's child's gender diversity and care needs. Helping youth and parent(s)/caregiver(s) to work together on important gender care decisions is a primary goal. However, in some cases, parent(s)/caregiver(s) may be too rejecting of their adolescent child and their child's gender needs to be part of the clinical evaluation process. In these situations, youth may require the engagement of larger systems of advocacy and support to move forward with necessary supports and care (Dubin et al., 2020).

Statement 12:

We recommend that health professionals assessing trans and gender diverse adolescents should only recommend gender affirming medical or surgical treatments requested by the patient when:

Statement 12A:

The adolescent meets the diagnostic criteria of gender incongruence as per the ICD-11 where a diagnosis is necessary to access health care. In countries which have not implemented the latest ICD other taxonomies may be used but efforts should be undertaken to utilize the latest ICD as soon as is practicably possible.

When working with transgender and gender diverse adolescents, health professionals should realize that a classification may give access to care, but pathologizing transgender identities may be experienced as stigmatizing (van Beek et al., 2016). Assessments related to gender health and gender diversity have been criticized, and controversies exist around classification systems (Drescher, 2016). Healthcare professionals should realize they do not diagnose a gender identity *per se*, as one's gender identity is the subjective experience of being male or female or another gender. Health professionals should assess the overall and gender-related history and transgender care related needs of youth. Through this assessment process, health care providers may provide a classification when needed to get access to transgender-related care. However, a classification involving gender diversity connotes no pathology, in and of itself.

Gender Incongruence and Gender Dysphoria are the two diagnostic terms used in respectively the World Health Organization's International Classification of Diseases (ICD) and the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM). Of these two widely used classification systems, the DSM is for psychiatric classifications only and the ICD contains all diseases and conditions related to physical as well as mental health. The most recent versions of these two systems, the DSM-5 and the ICD-11 respectively, reflect a long history of reconceptualizing and depsychopathologizing gender related diagnoses (American Psychiatric Association, 2013, World Health Organization, 2019). Compared to the earlier version, the DSM-5 replaced Gender Identity *Disorder* with Gender *Dysphoria* acknowledging the distress experienced by *some* people stemming from the incongruence between experienced gender identity and sex assigned at birth. Compared to the ICD 10th edition, the Gender Incongruence classification was moved from the Mental Health Chapter to a Chapter "Conditions related to Sexual Health" in the ICD-11. One important reconceptualization in comparison to the DSM-5 Gender Dysphoria classification is that distress is not a required indicator of the ICD-11 Gender Incongruence classification (WHO, 2019). After all, when growing up in a supporting and accepting environment, the distress and impairment criterion, an inherent part of every mental health condition, may not be applicable (Drescher, 2012). As such, the ICD-11 Gender Incongruence classification may better capture the fullness of gender diversity experiences and related clinical gender needs.

Criteria of the ICD-11 classification "*Gender Incongruence of Adolescence or Adulthood*" require a marked and persistent incongruence between an individual's experienced gender and the assigned sex which often leads to a desire to 'transition,' in order to live and be accepted as a person of the experienced gender. For some, this includes hormonal treatment, surgery, or other health care services to make the individual's body align as much as desired, and to the extent possible, with the person's experienced gender. Relevant for adolescents is the indicator that a classification cannot be assigned '*prior to the onset of puberty*'. Finally, it is noted "*that gender variant behaviour and preferences alone are not a basis for assigning the classification*" (WHO, ICD-11, 2019).

Criteria for the DSM-5 classification "*Gender Dysphoria in Adolescence and Adulthood*" denote 'a marked incongruence between one's experienced/expressed gender and assigned gender, of at least 6 months' duration' (criterion A, fulfilled when 2 of 6 subcriteria are manifest), associated with 'clinically significant distress or impairment in social, occupational, or other important areas of functioning' (Criterion B, APA 2013). As noted before, not all transgender and gender diverse people experience gender dysphoria and this should not preclude them from accessing medical affirming care. For adolescents, the DSM-5 makes two specific remarks, which make it possible to give the classification when secondary sex characteristics have yet to fully develop. First, there should be a marked incongruence between one's experienced/expressed gender and

one's primary and/or secondary sex characteristics (*or in younger adolescents, the anticipated secondary sex characteristics*). Second, the 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 younger adolescents, a desire to prevent the anticipated secondary sex characteristics*).

Of note, a gender related classification is one of the requirements for medical gender affirming care, but such a classification solely does not *indicate* a person *needs* medical affirming care. The range of youth experiences of gender incongruence necessitates professionals provide a range of treatments or interventions based on the individual's needs. Counseling, gender exploration and mental health assessment, and when needed, treatment with mental health providers trained in gender development may all be indicated with or without medical affirming care.

Statement 12B:

There is well-documented (according to local context) evidence of persistent gender incongruence or gender nonconformity / diversity of several years.

Identity exploration and consolidation are experienced by many adolescents (Klimstra et al., 2010; Topolewska-Siedzik & Ciecuch, 2018). Identity exploration during the teen years may include exploration of gender and gender identity (Steensma et al., 2013). Little is known about how processes of adolescent identity consolidation (e.g., the process of commitment to specific identities) may impact a young person's experience(s) of gender. Given potential shifts in gender-related experiences and needs during adolescence, as discussed below, it is important to establish that the young person has experienced several years of persistent gender incongruence or gender diversity prior to initiating gender-affirming hormones or providing gender-affirming surgeries. Establishing evidence of persistent gender incongruence or gender diversity typically requires careful assessment with the young person over time (see Statement 3). Whenever possible and appropriate, the assessment and discernment process should also include the parent(s)/caregiver(s) (see Statement 1). The documentation to demonstrate well documented gender diversity can be provided via history obtained directly from the adolescents and parents/cargivers when this is not documented in the medical records.

The research literature on continuity versus discontinuity of gender affirming medical care needs/requests is complex and somewhat difficult to interpret. A series of studies conducted over the last several decades, including some with methodological challenges (as noted by Temple Newhook et al., 2018; Winters et al., 2018), suggest that gender diversity is not consistent for all children as they progress into adolescence: A subset of youth who experienced gender diversity prior to puberty show reduced (or fully discontinued) gender diversity over time (de Vries et al., 2010; Ristori & Steensma, 2016; Singh et al., 2021, Wagner et al., 2021). However, there has been less research focus on rates of continuity and discontinuity of gender diversity and gender-related needs in pubertal and/or adolescent populations. The data available regarding broad *unselected* gender-referred pubertal/adolescent cohorts (from the Amsterdam transgender clinic) suggest that, following extended assessments over time, a subset of gender diverse adolescents presenting for gender care elect not to pursue gender-affirming medical care (Arnoldussen et al., 2019; de Vries et al., 2011). Importantly, findings from studies of gender diverse pubertal/adolescent cohorts who have undergone comprehensive gender evaluation over time, shown persistent gender diversity and gender-related need, and received resulting referrals for medical gender care, suggest very low levels of regret regarding gender-related medical care decisions (de Vries et al., 2014; Wiepjes

et al., 2018). Critically, these findings of low regret can only currently be applied to youth who have demonstrated sustained gender diversity and gender-related needs over time, as established through comprehensive and iterative assessment (see Statement 3). Although by clinical observation an increasing number of youth are coming to self-identify as gender diverse in later adolescence, nothing is known about how their gender trajectories compare to those of youth who have come to know their gender diversity earlier (Kaltiala-Heino et al., 2018). This is a much-needed area of research.

The level of reversibility of a gender affirming medical intervention should be considered along with the sustained duration of young person's gender incongruence. For example, the duration of persistent gender incongruence before initiating pubertal blockers may be much shorter than for initiating gender affirming hormones, given that pubertal suppression is intended to provide a young person with the time to explore their gender-related needs before deciding whether to progress to treatments that involve more irreversible elements. For youth who have experienced shorter duration gender incongruence, social transition-related supports may provide some relief as well as additional information for the clinical team regarding a young person's broad gender care needs (see Statements 4, 6, and 7).

Statement 12C:

The adolescent demonstrates the emotional and cognitive maturity required to provide informed consent/assent for the treatment.

The process of informed consent includes communication between a patient and provider regarding the patient's understanding of a potential intervention as well as, ultimately, the patient's decision whether to receive the intervention. In most settings, for minors, the legal guardian is integral to the informed consent process: If a treatment is to be given, the legal guardian (often the parent[s]/caregiver[s]) provides the informed consent to do so. Assent, in most settings, is a somewhat parallel process in which the minor and the provider communicate about the intervention and the provider assesses understanding and intention.

A necessary step in the informed consent/assent process for consideration of gender affirming medical care is careful discussion with qualified healthcare professionals who are trained to assess the emotional and cognitive maturity of adolescents. The reversible and irreversible effects of the treatment, as well as fertility preservation options (when applicable), and any additional potential risks and benefits of the intervention are important components of the discussion. These discussions are required for informed consent/assent. Assessment of cognitive and emotional maturity is important because it helps the care team understand the adolescent's capacity *to be informed*.

The skills necessary to assent/consent to any medical intervention or treatment include the ability to: (1) comprehend the nature of the treatment, (2) reason about treatment options, including risks and benefits, (3) appreciate the nature of the decision, including the long-term consequences; and (4) communicate choice (Appelbaum, 2007; Grootens-Wiegers et al., 2017). In the case of gender affirming medical treatments, a young person should be well-informed about what the treatment may and may not accomplish, typical timelines for changes (e.g., with gender affirming hormones), and any implications of stopping the treatment. Gender-diverse youth should fully understand the reversible, partially reversible, and irreversible aspects of a treatment, as well as the limits of what is known about certain treatments (e.g., the impact of pubertal suppression on brain development; (Chen et al., 2020). Gender-diverse youth should also understand that although many gender-diverse youth begin gender affirming medical care

and experience that care as a good fit for them long-term, there is a subset of individuals who over time discover that this care is not a fit for them (Wiepjes et al., 2018). Youth should know that such shifts are sometimes connected to a change in gender needs over time, and in some cases, a shift in gender identity itself. Given this information, gender-diverse youth must be able to reason thoughtfully about treatment options, considering the implications of the choices at hand. And as a foundation for providing assent, the gender-diverse young person needs to be able to communicate their choice.

The skills needed to accomplish the tasks required for assent/consent may not emerge at specific ages per se (Grootens-Wiegers et al., 2017), and there may be variability in these capacities related to developmental differences and mental health presentations (Shumer & Tishelman, 2015) as well as the opportunities a young person has had to practice these skills (Alderson, 2007). Further, assessment of emotional and cognitive maturity must be conducted separately for each gender-related treatment decision (Vrouenraets et al., 2021).

The following questions may be useful to consider in assessing a young person's emotional and cognitive readiness to assent or consent to a specific gender affirming treatment:

- Can the young person think carefully into the future and consider the implications of a partially and/or fully irreversible intervention?
- Does the young person have sufficient self-reflective capacity to consider the possibility that gender-related needs and priorities can develop over time, and that gender-related priorities at a certain point in time might change?
- Has the young person, to some extent, thought through the implications of what they might do if their priorities around gender do change in the future?
- Is the young person able to understand and manage the day-to-day short-term and/or long-term aspects of a specific medical treatment (e.g., medication adherence, administration, and necessary medical follow-ups).

Assessment of emotional and cognitive maturity may be accomplished over time as the care team continues conversations about the treatment options and affords the young person the opportunity to practice thinking into the future and flexibly considering options and implications. For youth with neurodevelopmental and/or some types of mental health differences, skills for future thinking, planning, big picture thinking, and self-reflection may be less-well developed (Olde Dubbelink & Geurts, 2017). In these cases, a more careful approach to consent and assent may be required, and this may include additional time and structured opportunities for the young person to practice the skills necessary for medical decision-making (Strang et al., 2018).

Statement 12D:

The adolescent mental health concerns (if any) that may interfere diagnostic clarity, capacity to consent and/or gender affirmative medical treatment have been addressed.

Evidence indicates transgender and gender diverse adolescents are at increased risk for mental health challenges (for an overview, see e.g. Leibowitz & de Vries, 2016), often related to family/caregiver rejection, non-affirming community environments, and neurodiversity-related factors (e.g. Weinhardt et al, 2017, Ryan et al., 2010, de Vries et al., 2016, Pariseau et al, 2019). A young person's mental health challenges may impact their conceptualization of their gender development history and gender identity related needs, the adolescent's capacity to

consent, and the ability of the young person to engage in/receive medical treatment. Additionally, transgender and gender diverse youth may experience mental health concerns irrespective of the presence of gender dysphoria gender incongruence, similar to cisgender youth. Depression and self-harm may be of specific concern; many studies reveal depression scores and emotional and behavioral problems that are comparable to mental health clinic referred populations (Leibowitz & de Vries, 2016) and higher rates of not only suicidal ideation, but also suicide attempts and self-harm (de Graaf et al., 2020). Also, eating disorders occur more frequently than expected in non-referred populations (Spack et al., 2012, Khatchadourian et al., 2013, Ristori et al., 2019). Importantly, transgender and gender diverse adolescents show high rates of autism spectrum disorders/characteristics (see this chapter statement 1.4, van der Miesen et al., 2016, Øien et al., 2018). Other mental health challenges may also be present, (e.g. ADHD, intellectual disability and psychotic disorders; de Vries et al., 2011, Parkes et al., 2006, Meijer et al., 2018). Stabilizing the mental health of transgender youth prior to initiation of gender affirming treatment has also been associated with reduced psychiatric acuity during treatment with hormones when compared to those youth who had more challenges at baseline (Kaltiala et al., 2020).

Of note, many transgender adolescents are well-functioning and experience few if any mental health concerns. For example, socially transitioned pubertal adolescents who receive medical gender affirming treatment at specialized gender clinics may experience mental health outcomes equivalent to cisgender peers (e.g. de Vries et al., 2014, van der Miesen, 2020). A key task of the provider is to assess the direction of the relationships that exist between any mental health challenges and the young person's self-understanding of gender care needs, and then prioritize accordingly.

Mental health difficulties may in various ways challenge the assessment and treatment of gender related needs of TGD adolescents:

1. First, when a TGD adolescent is experiencing acute suicidality, self-harm, eating disorders or other mental health crises that threaten physical health, safety must be prioritized. According to the local context and guidelines, appropriate care should seek to mitigate threat or crisis such that there is sufficient time and stabilization for thoughtful gender-related assessment and decision making. For example, an actively suicidal adolescent may not be emotionally able to make an informed decision regarding. If indicated, safety-related interventions should not preclude starting gender affirming care.
2. Second, mental health can also complicate the assessment of gender development and gender identity related needs. For example, it is critical to differentiate gender incongruence from specific mental health presentations, such as obsessions (and compulsions), special interests in autism, rigid thinking, broader identity problems, parent child interaction difficulties, severe developmental anxieties (e.g. fear of growing up and pubertal changes unrelated to gender identity), trauma, or psychotic thoughts. Mental health challenges that interfere with clarity of identity development and gender-related decision making should be prioritized and addressed.
3. Third, decision-making regarding gender affirming medical treatments that have life-long consequences requires thoughtful, future-oriented thinking by the adolescent, with support from the parents/caregivers, as indicated (see statement 11). To be able to make such an informed decision, an adolescent should be able to understand, express a choice, appreciate and give careful thought regarding the wish for medical affirming treatment (see statement 12 C). Neurodevelopmental differences such as autistic

features or autism spectrum disorder (see statement 1.4, e.g., communication differences; a preference for concrete or rigid thinking; differences in self-awareness, future thinking, and planning) may challenge the assessment and decision-making process; neurodiverse youth may require extra support, structure, psychoeducation, and time built into the assessment process (Strang et al, 2016). Other mental health presentations that involve reduced communication and self-advocacy, difficulty engaging in assessment, memory and concentration difficulties, hopelessness and and/or difficulty engaging in future-oriented thinking may complicate assessment and decision making. In such cases, extended time is often necessary before any decisions regarding medical affirming treatment can be made.

4. Finally, during the course of medical treatment, while addressing mental health concerns is important, it does not mean that all mental health challenges can or should be resolved completely. However, it is important that any mental health concerns are addressed enough to not hinder therapeutic adherence (e.g. medication adherence, attending follow-up medical appointments, and self-care particularly during a post-operative course).

Statement 12E:

The adolescent has been informed of the reproductive effects that includes the potential loss of fertility, and options to preserve fertility have been discussed in the context of the adolescent's stage of pubertal development.

For the clinical approach, the scientific background, the rationale and concerned *values* we refer to the Reproductive Health for Adolescents and Adults chapter and the Hormone Therapy for Adolescents and Adults chapter of the SOC-8. Also please see the background text above for statement 10 in this chapter (Adolescent chapter) or the Reproductive Health for Adolescents and Adults chapter. For a detailed description of available preservation options and general consideration regarding fertility consequences of medical affirming treatment, see Fertility chapter.

Statement 12F:

The adolescent has reached Tanner stage 2 of puberty for pubertal suppression.

The onset of puberty is a pivotal point for many gender diverse youth. For some, it creates an intensification of their gender incongruence, and for others, pubertal onset may lead to gender fluidity (e.g. a transition from binary to non-binary gender identity) or even attenuation of a previously affirmed gender identity (Drummond et al., 2008; Steensma et al., 2011, 2013; Wallien & Cohen-Kettenis, 2008). The use of puberty-blocking medications, such as GnRH analogue, is not recommended until children have achieved a minimum of Tanner stage 2 of puberty because the experience of physical puberty may be critical for further gender identity development for some transgender and gender diverse adolescents (Steensma et al., 2011). Therefore, puberty blockers should not be implemented in prepubertal gender diverse youth (Waal & Cohen-Kettenis, 2006). For some youth, GnRH agonists may be appropriate in late or post-puberty (e.g. Tanner stage 4 or 5) and this should be highly individualized. See the Hormone chapter for a more comprehensive description about the use of GnRH agonists.

Variations in the timing of pubertal onset is due to multiple factors (e.g. sex assigned at birth, genetic, nutritional, etc). Tanner staging refers to five stages of pubertal development ranging

from prepubertal (Tanner stage 1) to postpubertal, adult sexual maturity (Tanner stage 5) (Marshall & Tanner, 1969, 1970). For birth-assigned females, pubertal onset (e.g. gonadarche) is defined by the occurrence of breast budding (Tanner stage 2), and in birth-assigned males, by achieving a testicular volume of greater than or equal to 4 mL (Roberts & Kaiser, 2020). The onset of puberty should be differentiated from physical changes such as pubic hair and apocrine body odor due to sex steroids produced by the adrenal gland (e.g. adrenarche) by an experienced medical provider as adrenarche does not warrant the use of puberty-blocking medications (Roberts & Kaiser, 2020). Educating parents and families about the difference between adrenarche and gonadarche helps families understand the timing for shared decision making with their multidisciplinary team related to gender-affirming medical therapies.

The importance of addressing other risks and benefits of pubertal suppression, both hypothetical and actual, cannot be overstated. Evidence demonstrates that there are surgical implications for transgirls who proceed with pubertal suppression (van de Grift et al., 2020), which means that discussions related to the future unknowns related to sexual health are important to have with families.

Statement 12G:

The adolescent is the following age for each treatment:

14 years and above for hormone treatment (estrogens or androgens), unless there are significant, compelling reasons to take an individualized approach, considering the factors unique to the adolescent treatment frame.

15 years and above for chest masculinization; unless there are significant, compelling reasons to take an individualized approach, considering the factors unique to the adolescent treatment frame.

16 years and above for breast augmentation, facial surgery (including rhinoplasty, tracheal shave, and genioplasty) as part of gender affirming treatment; unless there are significant, compelling reasons to take an individualized approach, considering the factors unique to the adolescent treatment frame.

17 and above for metoidioplasty, orchidectomy, vaginoplasty, and hysterectomy and fronto-orbital remodeling as part of gender affirming treatment unless there are significant, compelling reasons to take an individualized approach, considering the factors unique to the adolescent treatment frame.

18 years or above for phalloplasty, unless there are significant, compelling reasons to take an individualized approach, considering the factors unique to the adolescent treatment frame.

The ages outlined above provide general guidance on the age at which gender affirming interventions may be considered. Age criteria should be considered in addition to other criteria outlined for gender affirming interventions in youth as outlined in statements 12 A-F. Individual needs, decision making capacity for the specific treatment being considered, and developmental stage (rather than age) are *most* relevant when determining timing of treatment decisions for individuals. Age has a strong correlation, though not perfect, with cognitive and psychosocial development and may be a useful objective marker in determining potential timing of interventions (Ferguson, Brunson, & Bradford, 2021). Higher (i.e., more advanced) ages are provided for treatments with greater irreversibility and/or complexity. This approach allows for continued cognitive/emotional maturation that may be required for the adolescent to fully consider and consent to increasingly complex treatments (See 12C).

Recommendations above are based on available evidence; expert consensus; and ethical considerations including, respect for the emerging autonomy of adolescents and minimizing harm in the setting of a limited evidence base. Historically, there has been hesitancy in the transgender healthcare setting to offer gender affirming treatments with potential irreversible effects to minors. The age criteria set forth in these guidelines are intended to facilitate youth's access to gender affirming treatments, and are younger than ages stipulated in previous guidelines (Coleman et al., 2012; Hembree et al., 2017). Importantly, for each gender affirming intervention being considered youth must communicate consent/assent and be able to demonstrate an understanding and appreciation of potential benefits and risks specific to the intervention (See statement 12C).

A growing body of evidence indicates the provision of gender affirming treatment for gender diverse youth who meet criteria, leads to positive outcomes (Achille et al., 2020; A. L. de Vries et al., 2014; Kuper et al. 2020). There is however, limited data on the optimal timing of gender affirming interventions, and long-term physical, psychological, and neurodevelopmental outcomes in youth (Chen et al., 2020; Chew et al., 2018; Olson-Kennedy et al., 2016). The only existing longitudinal studies in gender diverse youth with adult outcomes at this time are based on a specific model (i.e. the Dutch approach) that involved a comprehensive initial assessment with follow-up. In this approach pubertal suppression was considered at age 12, GAHT at age 16 and surgical interventions after age 18 with exceptions in some cases. It is not clear if deviations from this approach would lead to the same or different outcomes. Longitudinal studies are currently underway to better define outcomes as well as the safety and efficacy of gender affirming treatments in youth. (Olson-Kennedy et al., 2019). While the long-term effects of gender affirming treatments initiated in adolescence are not fully known, the potential negative health consequences of delaying treatment should also be considered (de Vries et al., 2021). As the evidence base regarding outcomes of gender affirming interventions in youth continues to grow, recommendations on timing and readiness for gender affirming interventions may be updated.

Previous guidelines regarding gender affirming treatment of adolescents recommended that initiation of partially reversible gender affirming hormone treatment (GAHT) could begin at about 16 years of age (Coleman et al., 2012; Hembree et al., 2009). More recent guidelines suggest that there may be compelling reasons to initiate GAHT prior to the age of 16, though there are limited studies on youth who have initiated hormones prior to 14yo (Hembree et al., 2017). A compelling reason for earlier initiation of GAHT, for example, might be to avoid prolonged pubertal suppression, given potential bone health concerns and the psychosocial implications of delaying puberty as described in more detail in the Hormone Chapter (Klink et al., 2015; Schagen et al., 2020; Vlot et al., 2017; Zhu & Chan, 2017). Puberty is a time of significant brain and cognitive development. The potential neurodevelopmental impact of extended pubertal suppression in gender diverse youth has been specifically identified as an area in need of continued study (Chen et al., 2020). While GnRH analogs have been shown to be safe when used for the treatment of precocious puberty, there are concerns that delaying exposure to sex hormones (endogenous or exogenous) at a time of peak bone mineralization may lead to decreased bone mineral density. The potential decrease in bone mineral density as well as the clinical significance of any decrease needs continued study (Klink et al., 2015; Lee et al., 2020; Schagen et al., 2020). It should also be noted that ages for initiation of GAHT recommended above are delayed when compared to when cisgender peers initiate puberty with endogenous hormones in most regions (Palmert & Dunkel, 2012). The potential negative psychosocial implications of not initiating puberty with peers may place additional stress on gender diverse youth, though this has not been explicitly studied. When considering timing of initiation of gender affirming hormones providers should consider the potential physical and psychological

benefits and risks of starting treatment with the potential risks and benefits of delaying treatment.

Age recommendations for irreversible surgical procedures were determined by review of existing literature and expert consensus of mental health providers, medical providers, and surgeons highly experienced in providing care to gender diverse adolescents. Studies done with transmasculine youth have demonstrated that chest dysphoria is associated with higher rates of anxiety, depression, and distress; and can lead to functional limitations such as avoiding exercising or bathing (Mehringer et al., 2021; Olson-Kennedy et al., 2018; Sood et al., 2021). Testosterone unfortunately does little to alleviate this distress and chest masculinization is an option for some individuals to address this distress long-term. Studies with youth who sought chest masculinization surgery to alleviate chest dysphoria demonstrated good surgical outcomes, satisfaction with results, and minimal regret during the study monitoring period (Marinkovic & Newfield, 2017; Olson-Kennedy et al., 2018). Chest masculinization surgery can be considered in minors when clinically and developmentally appropriate as determined by a multidisciplinary team experienced in adolescent and gender development (See statements 1-12). Duration or presence of testosterone therapy should not preclude surgery if otherwise indicated. The needs of some gender diverse youth may be met by chest masculinization surgery alone. Breast augmentation may be desired by transfeminine youth though there is less data on this procedure in youth, possibly due to fewer individuals requesting this procedure. (E. R. Boskey et al., 2019; James, 2016) GAHT, specifically oestrogen, can help with development of breast tissue and it is recommended that youth have a minimum of 12 months of hormone therapy, or longer if required for surgical effect prior to breast augmentation unless hormone therapy is not clinically indicated or is medically contraindicated.

Data are limited on the optimal timing of other gender affirming surgical treatments in adolescents. Part of this is due to the fact that access to these treatments is limited and is variable in different geographical locations. (Mahfouda et al., 2019) Data indicate that rates of gender affirming surgeries have increased since 2000, and that there has been an increase in the number of gender diverse youth seeking vaginoplasty (Mahfouda et al., 2019; Milrod & Karasic, 2017) A 2017 study of 20 WPATH affiliated surgeons in the United States reported that slightly more than half had performed vaginoplasty in minors (Milrod & Karasic, 2017). Limited data are available on outcomes for youth undergoing vaginoplasty. Small studies have reported improved psychosocial functioning and decreased gender dysphoria in adolescents who have undergone vaginoplasty (Becker et al., 2018; Cohen-Kettenis & van Goozen, 1997; Smith et al., 2001). While the sample sizes are small these studies suggest that there may be a benefit in some adolescents to having these procedures performed before the age of 18. Factors that may support pursuing these procedures for youth under 18 years of age include the increased availability of support from family members, greater ease of managing post-operative care prior to transitioning to tasks of early adulthood (e.g. entering university or the workforce), and safety concerns in public spaces (i.e. to reduce transphobic violence) (Boskey et al., 2018; Boskey et al., 2019; Mahfouda et al., 2019). Given the complexity and irreversibility of these procedures an assessment of the adolescent's ability to adhere to post-surgical care recommendations and to comprehend the long-term impacts of these procedures on reproductive and sexual function is crucial (Boskey et al., 2019). Given the complexity of phalloplasty and current rates of complication it is not recommended that this surgery be considered in youth under 18 at this time.

Additional key factors that should be taken into consideration when discussing timing of interventions with youth and families are addressed in detail in Statements 12 A-F.

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Assessment

Introduction

This chapter provides guidance on the assessment of transgender and gender diverse (TGD) adults who are requesting gender affirmative medical and surgical treatments (GAMST). TGD adults are people who are at or above the age of majority in their country, who have some form of gender diversity, and who are requesting GAMST to better align their body with their gender identity. For clarity, this includes all forms of gender identities including, but not limited to, male, female, gender diverse, non-binary and eunuch. The population of TGD adults is heterogenous and will vary according to clinical need, biological, psychological, and social situation, as well as access to healthcare. As such, any assessment for GAMST will need to be adapted to the scientific, clinical, and community knowledge base of the presenting gender identity. This chapter recognizes the individual's right to self-determination while also recognizing that in circumstances where the state, or others, are providing healthcare, individuals may experience different local levels of clinical or regulatory oversight.

The role of the assessor is to assess for the presence of gender incongruence and identify any co-existing mental health concerns, to offer information about GAMST and support the TGD person in considering the effects/risks of GAMST, and to assess if the TGD person has the capacity to understand the treatment being offered and if the treatment is likely to be of benefit. The assessor can also assist the TGD person in considering actions that will support their GAMST outcomes.

The GAMST assessment approach described in this chapter recognizes the lived experience and self-knowledge of the TGD person, and the clinical knowledge of the assessing clinician. Consequently, in this approach, the decision to move forward with GAMST is shared between the TGD person and the assessing clinician, with both playing a key part in collaborative decision making. Some systems of care use an "informed consent" model for TGD adults seeking GAMST, although there is significant variability in such models across jurisdictions, systems and clinicians (Deutsch, 2011; Morenz et al., 2020). The majority of informed consent models are used in hormone prescription protocols (Deutsch, 2011; Deutsch, 2016). Informed consent models prioritize the decision making of the TGD person with the clinician acting as an advisor barring serious contraindications. Some informed consent models utilize an abbreviated assessment which focuses primarily on the ability of a TGD person to grant informed consent and to utilize information about GAMST to inform their medical decision-making process. Because informed consent models vary so widely, some can be in alignment with the guidance in this chapter while others may not be.

Since TGD people include a diverse array of gender identities and expressions who have differing needs for gender affirming care, no single assessment process will fit every person or every situation. Some TGD people may need a comparatively brief assessment process for GAMST. TGD adults with complex histories or current circumstances, or those requesting less common or poorly researched treatments, will require more comprehensive assessments with different members of a multidisciplinary team, whether in person or through telehealth. While psychometric assessment tools have been used in some instances, they are not a required part of the assessment for GAMST. Counselling or psychotherapy can be helpful when requested by a TGD person, however counselling or psychotherapy for TGD people specifically focused on their TGD identity is not a prerequisite for GAMST. In addition, a genital exam should never be

included as a part of an assessment for GAMST. If a genital examination is necessary for other reasons, it should only be conducted by a clinician other than the one assessing for GAMST.

GAMST can be delivered in diverse settings. Settings will depend on available systems of health care within each country, and may include nationalised healthcare, private sector settings, community healthcare settings, and charitable institutions. Local and regional circumstances may therefore influence the availability of healthcare. Regardless of setting, health care offered to TGD people should be of the highest possible quality. WPATH advocates for assessment and treatment to be readily available. Access to assessment and treatment for TGD people seeking GAMST is critical given the clear medical necessity of these interventions and the profound benefits they can offer to TGD people (Aldridge et al., 2020; Byne et al., 2012). The guidance in this chapter will need to be adapted according to local, as well as individual, clinical and social circumstances.

The statements below have been recommended or suggested based on significant background literature, available empirical evidence, literature demonstrating the strong positive impact of access to GAMST, a favourable risk-benefit ratio and consensus of professional best practice. The evidence base for the assessment of TGD adults is limited, with no randomised controlled trials or long-term longitudinal research available (Olsen-Kennedy et al., 2016). This is understandable given the complexity and ethical considerations of allocating patients in need of care to different assessment groups and the lack of funding for research and other resources to assess long-term outcomes of assessment approaches.

Summary of Recommendations:

Statement 1: We recommend that health professionals assessing transgender and gender diverse adults for physical treatments:

- A. Should be licensed by their statutory body, and hold, at a minimum, a Master's degree or equivalent training in a relevant clinical field to this role granted by a nationally accredited statutory institution.
- B. For countries requiring a diagnosis for access to care, the health professional should be competent in using the latest edition of the World Health Organization's International Classification of Diseases (ICD) for diagnosis. In countries which have not implemented the latest ICD, other taxonomies may be used; efforts should be undertaken to utilize the latest ICD as soon as is practicably possible.
- C. Should be able to identify co-existing mental health or other psycho-social concerns and be able to distinguish these from gender dysphoria, incongruence or diversity.
- D. Should be able to assess capacity to consent for treatment.
- E. Should have experience or be qualified to assess clinical aspects of gender dysphoria, incongruence or diversity.
- F. Should have continuing education in the assessment and management of gender dysphoria, incongruence or diversity.

Statement 2: We suggest that healthcare professionals assessing transgender and gender diverse adults seeking gender affirming treatment should liaise with professionals from different disciplines within the field of trans health for consultation and referral if required.

The following recommendations are made regarding the requirements for gender affirming medical and surgical treatment (all should be fulfilled):

Statement 3: We recommend that healthcare professionals assessing transgender and gender diverse adults for gender affirming medical and surgical treatment should:

- A. Only recommend gender affirming medical treatment requested by the patient when there is well-documented (according to local contexts) persistent gender incongruence.
- B. Ensure fulfillment of diagnostic criteria prior to physical treatments in regions where a diagnosis is necessary to access health care.
- C. Identify and exclude other possible causes of apparent gender incongruence prior to the initiation of gender affirming treatments.
- D. Ensure that any mental health conditions which could negatively impact the outcome of gender affirming medical treatments have been assessed, with risks and benefits discussed, before a decision is made regarding treatment.
- E. Ensure that any physical health conditions which could negatively impact the outcome of gender affirming medical treatments have been assessed, with risks and benefits discussed, before a decision is made regarding treatment.
- F. Assess the capacity to consent for the specific physical treatments prior to the initiation of this treatment.
- G. Assess the capacity of gender diverse and transgender adult to understand the effect of gender affirming treatment on reproduction and explore reproductive options with the individual prior to the initiation of gender affirming treatment.

Statement 4: We suggest that, as part of the assessment for gender affirming hormonal or surgical treatment, professionals who have competencies in the assessment of transgender and gender diverse people wishing gender related medical treatment should consider, together with the individual, the role of social transition.

Statement 5: We suggest that transgender and gender diverse adults who fulfil the criteria for gender affirming medical and surgical treatment require a single opinion from a professional who has competencies in the assessment of trans and gender diverse people wishing gender related medical treatment for the initiation of this treatment.

Statement 6: We suggest that healthcare professionals assessing transgender and gender diverse people seeking gonadectomy should consider a minimum of 6 months of hormone therapy as appropriate to the patient's gender goals before the patient undergoes irreversible surgical intervention, (unless hormones are not clinically indicated for the individual).

Statement 7: We recommend that healthcare professionals assessing adults who wish to retransition and seek gender related hormonal and/or surgical interventions to do so, should utilize a comprehensive interdisciplinary assessment, which may include further viewpoints from experienced healthcare professionals in transgender health and that considers, together with the individual, the role of social transition as part of the assessment process.

Statement 1:

We recommend that health professionals assessing transgender and gender diverse adults for physical treatments:

Statement 1A:

Should be licensed by their statutory body, and hold, at a minimum, a Master's degree or equivalent training in a relevant clinical field to this role granted by a nationally accredited statutory institution.

TGD people, as with all other people seeking healthcare, should have the highest quality of care accessible which is commensurate with the quality of care provided in health services for all people (The Yogyakarta Principles; 2017). As this will vary around the globe, the nature of the professional completing an assessment for GAMST will vary according to the nature of healthcare in the local setting, as well as regulatory requirements set by licensing and registration boards. It is important that healthcare includes an assessment conducted by a competent, statutorily regulated, healthcare professional who can identify gender incongruence and conditions that can be mistaken for gender incongruence, and who can support the TGD person throughout the assessment process (RCGP, 2019). Assessors must be able to refer to health care professionals licensed to provide GAMST.

Accessing a competent, statutorily regulated, healthcare professional with expertise in GAMST assessment can sometimes be difficult. Continuity of care, gaps in accessible care or significantly delayed care (e.g., a long wait list) may require that a healthcare professional without expertise provide care and support the assessment of a TGD person for GAMST. Avoiding unnecessary delays in care is critically important. However, TGD people should be supported to access care with an experienced healthcare professional as soon as possible (RCGP, 2019).

Established practice requires the ability to identify and diagnose Gender Incongruence (Hembree et al., 2017; Reed, et al., 2016; T'Sjoen et al., 2020) and the ability to identify differentials or conditions that may be mistaken as gender dysphoria (Byne et al., 2020; Dhejne et al., 2016; Hembree et al., 2017). Established practice also strongly emphasizes the need for ongoing continuing education in the provision of care and assessment of TGD people (American Psychological Association, 2015; T'Sjoen et al., 2020) (see Education chapter for additional details).

Statement 1B:

For countries requiring a diagnosis for access to care, the health professional should be competent in using the latest edition of the World Health Organization's International Classification of Diseases (ICD) for diagnosis. In countries which have not implemented the latest ICD, other taxonomies may be used; efforts should be undertaken to utilize the latest ICD as soon as is practicably possible.

A diagnosis of gender incongruence may be necessary to access GAMST (as described below) in some countries. Healthcare professionals assessing TGD people in those countries should be competent in using the most current classification system necessary for TGD people to access GAMST.

Statement 1C:

Should be able to identify co-existing mental health or other psycho-social concerns and be able to distinguish these from gender dysphoria, incongruence or diversity.

Gender diversity is a natural variation in people and is not inherently pathological (American Psychological Association, 2015). However, assessment is best provided by a healthcare professional that has some expertise in mental health to identify conditions that can be mistaken for gender incongruence; such conditions are rare and, when present, are often psychological in nature (Byne et al., 2012; Byne et al., 2020; Hembree et al., 2017).

The need to include a healthcare professional with some expertise in mental health does not dictate the inclusion of a psychologist, psychiatrist or social worker in every assessment. Instead, a general practitioner, nurse or other qualified clinician could fulfil this requirement as long as they have sufficient expertise to diagnose gender incongruence, recognize mental health concerns, distinguish between these concerns and gender dysphoria, incongruence or diversity, assist a TGD person in care planning and preparing for GAMST, and refer to a mental health professional (MHP) if needed. MHPs have an important role to play in the care of TGD people, as discussed in greater depth in the mental health chapter. For example, the prejudice and discrimination experienced by some TGD people (Robles et al., 2016) can lead to depression, anxiety, or the worsening of other mental health conditions such as mood disorders. In such cases, an MHP can diagnose or clarify and treat mental health conditions. Health professionals with expertise in mental health and MHPs are well-placed to support TGD people who require or request mental health input or support during their transition. Please see the Mental Health chapter for additional information.

Statement 1D:

Should be able to assess capacity to consent for treatment.

An assessment for GAMST must include an examination of the TGD person's ability to consent to the proposed treatment. Consent requires the cognitive capacity to understand the risks and benefits of a treatment and the potential negative and positive outcomes, and the cognitive ability to use that understanding to make an informed decision (American Medical Association, nd; Applebaum, 2007).

Some TGD individuals will have the capacity to grant consent immediately during the assessment; some individuals may need a lengthier process to support the development of consent through ongoing discussion and the practice of skills required for medical decision making. The presence of psychiatric illness or mental health symptoms should not be a barrier for GAMST, particularly as GAMST has been found to reduce mental health symptomology (Aldridge et al., 2020). Health care systems can consider GAMST for individuals who may not be able to directly consent if an appropriate legal guardian or regulatory approved independent decision maker with the power to determine health care treatment grants consent and confirms that the proposed treatment is in alignment with the TGD individual's needs and wishes.

Statement 1E:

Should have experience or be qualified to assess clinical aspects of gender dysphoria, incongruence or diversity.

Statement 1F:

Should have continuing education in the assessment and management of gender dysphoria, incongruence or diversity.

As in any other area of practice, it is vital that healthcare professionals who are providing assessment for the initiation of GAMST are knowledgeable and experienced in TGD healthcare. If this is not possible in the local context, the healthcare professional providing the assessment should work closely with a healthcare professional that is knowledgeable and experienced. As part of their clinical practice, healthcare professionals should commit to ongoing training in TGD healthcare; become a member of relevant professional bodies; attend relevant professional meetings, workshops, or seminars; and consult with a healthcare professional with relevant experience and engage with the TGD community. This is particularly important in TGD healthcare as it is a relatively new field and the knowledge and terminology are constantly changing (American Psychological Association, 2015; Thorne et al., 2019), hence keeping up to date in the areas of TGD health is vital for anyone involved in an assessment for GAMST.

Statement 2:

We suggest that healthcare professionals assessing transgender and gender diverse adults seeking gender affirming treatment should liaise with professionals from different disciplines within the field of trans health for consultation and referral if required.

Assessment for GAMST should be conducted by a multidisciplinary team if possible (Costa et al., 2018; Hembree et al., 2017; Karasic & Fraser, 2018; T'Sjoen, et al, 2020), with team members who have timely and adequate contact with one another. This team could include a healthcare professional who is expert in each aspect of care which the TGD person is accessing, and may include a mental health professional, an endocrinologist, a primary care provider, a surgeon, a voice and communication specialist, TGD peer navigator and others. It is critical that TGD people are supported by follow-up appointments with any involved healthcare provider during assessment for GAMST, and during and after physical treatments.

The following suggestions are made regarding the requirements for gender affirming medical and surgical treatment (all of them should be fulfilled)

Statement 3:

We recommend that healthcare professionals assessing transgender and gender diverse adults for gender affirming medical and surgical treatment should:

Statement 3A:

Only recommend gender affirming medical treatment requested by the patient when there is well-documented (according to local contexts) persistent gender incongruence.

There should be marked and persistent, well documented evidence of gender incongruence to access GAMST. A consideration of the length and consistency of gender incongruence in the absence of formal documentation may also be considered. Persistent gender incongruence can exist in the absence of disclosure to others by the TGD person (Brumbaugh-Johnson & Hull, 2019; Saeed et al., 2018; Sequeira et al., 2020). An abrupt or superficial change in gender identity or lack of persistence is insufficient to initiate physical treatments and further assessment is encouraged. In such circumstances, ongoing assessment can be very useful in assuring consistency and persistence before GAMST is initiated.

It is not necessary for TGD people to experience severe levels of distress regarding their gender identity to access physical treatments. In fact, access to physical treatment can act as a prophylactic measure against distress (Becker et al., 2018; Giovanardi et al., 2021; Nieder et al. 2021; Nobili et al., 2018; Robles et al., 2016). A TGD adult can have persistent gender incongruence without distress and can still benefit from GAMST.

Established clinical practice examines the persistence of gender incongruence when considering the initiation of GAMST (Chen & Loshak, 2020). Jones et al. (2017), in a review of 200 clinical notes, does consider the importance of the “stability of gender identity” when care planning. Providing GAMST to TGD people with persistent gender incongruence has shown low rates of patient regret and high rates of patient satisfaction (Becker et al., 2018; El-Hadi et al., 2018; Staples et al., 2020; Wiepjes et al., 2018). However, while the ICD 11 (WHO, 2019) requires a marked and persistent gender incongruence for a diagnosis of Gender Incongruence to be made, there is little specific evidence concerning the length of persistence required for treatment in adults. Healthcare professionals involved in an assessment of a TGD person for GAMST are encouraged to give due consideration to the life stage, history and current circumstances of the adult being assessed.

Statement 3B:

Ensure fulfilment of diagnostic criteria prior to GAMST, in regions where a diagnosis is necessary to access health care.

A diagnosis of gender incongruence may be necessary in some contexts to access transition-related care. In those contexts where a diagnosis is necessary to access GAMST, the assessment for GAMST will involve determining and assigning a diagnosis. In these instances, health professionals should have competence in using the International Classification of Diseases and Related Health Problems (ICD) (WHO, 2019). In regions where diagnosis is necessary to access health care, a diagnosis of HA60 Gender Incongruence of adolescence or adulthood should be determined prior to physical interventions. Physical interventions secondary to a diagnosis of HA6Z Gender incongruence, unspecified may be considered in the context of a more comprehensive assessment by the multidisciplinary team.

There is evidence that the use of rigid, standardized assessments for “transition readiness” may reduce access to care and are not always in the best interest of the TGD person (MacKinnon et al., 2020). Therefore, in situations where the assignment of a diagnosis is mandatory to access care, the process should be approached with trust and transparency between healthcare provider and the TGD individual requesting GAMST, with the needs of the TGD individual in mind. Indeed, high quality relationships between TGD people and their healthcare providers is associated with lower emotional distress and better outcomes (Kattari et al., 2016). Because many TGD people fear that healthcare providers will conflate transgender identity with mental illness (Ellis et al., 2015), a diagnostic assessment should be undertaken with sensitivity to facilitate the best relationship between provider and the TGD individual.

Statement 3C:

Should identify and exclude other possible causes of apparent gender incongruence prior to the initiation of gender affirming treatments.

In rare cases, TGD individuals might have a condition that may be mistaken for gender incongruence or may have another reason for seeking treatment aside from the alleviation of gender incongruence. In these cases and where there is ambiguity regarding the diagnosis of

gender incongruence, a more detailed and comprehensive assessment is important. For example, further assessment might be required to determine if feelings of gender incongruence persist outside of an acute psychotic episode. If gender incongruence persists after an acute psychotic episode resolves, GAMST may be considered. If gender incongruence does not persist and only occurs during such an episode, treatment should not be considered. It is important that such circumstances be identified and excluded prior to the initiation of GAMST (Byne et al., 2012; Byne et al., 2020; Hembree et al., 2017).

It is important to understand, however, that TGD people may present with gender incongruence as well as with a mental health condition. Indeed, some mental health conditions are more prevalent in TGD people who have not accessed GAMST; such as anxiety (Bouman et al., 2017), depression (Heylens et al., 2014a; Witcomb et al., 2018), and self-harm (Arcelus et al., 2016; Claes et al., 2015). Recent longitudinal studies suggest that TGD peoples' mental health symptoms tend to improve following GAMST (Aldridge et al., 2020; Heylens et al., 2014b; White Hughto & Reisner, 2016). There is no evidence to suggest that it is beneficial to withhold GAMST from TGD people who have gender incongruence as well as a mental health condition. See the mental health chapter for more information.

Statement 3D:

Ensure that any mental health conditions which could negatively impact the outcome of gender affirming medical treatments have been assessed, with risks and benefits discussed, before a decision is made regarding treatment.

TGD people may have mental health problems just as cisgender people do. There are no mental health diagnoses which, in and of themselves, are a contraindication to GAMST for TGD people.

In general, social and medical transition are both associated with reductions in mental health problems (Aldridge et al., 2020; Bouman et al., 2017; Durwood, McLaughlin, & Olson, 2017; Glynn et al., 2016; Hughto & Reisner, 2016; Wilson et al., 2015; Witcomb et al., 2018). Unfortunately, the loss of social support, and the physical and financial stress that can be associated with initiation of GAMST may exacerbate pre-existing mental health problems and warrants additional support from the treating clinician (Budge, Adelson, & Howard, 2013; Yang et al., 2016). An assessment of mental health symptoms can improve transition outcomes, particularly when the assessment is used to facilitate access to psychological and social support during transition (Byne et al., 2012). Treatment for mental health problems can and should occur in conjunction with GAMST when medical transition is desired. It is vital that gender affirmative care is not impeded unless, in some extremely rare cases, there is robust evidence that doing so is necessary to prevent significant decompensation with risk of harm to self or others. In those cases, it is also important to consider the risks of delaying GAMST on a TGD person's mental and physical health (Byne et al., 2018).

A delay of transition may be considered if the TGD person is unable to engage with the process of transition, for example, or if the TGD person would be unable to manage aftercare following surgery, even with support. Where a delay in GAMST has, as a last resort, been found to be necessary, the healthcare provider should offer resources and support to improve mental health and facilitate re-engagement with the GAMST process as soon as practicably possible. Indeed, there should generally be an assumption to treat, as access to desired medical transition for TGD people facilitates social transition and safety in public (Rood et al., 2017). In turn, the degree to which transgender people's appearance conforms to their gender identity is the best

predictor of quality of life and mental health outcomes following medical transition (Austin & Goodman, 2017). Delaying access to GAMST due to the presence of mental health problems may exacerbate symptoms (Owen-Smith et al., 2018) and damage rapport; consequently, this should be done only when all other avenues have been exhausted.

Statement 3E:

Ensure that any physical health conditions which could negatively impact the outcome of gender affirming medical treatments have been assessed, with risks and benefits discussed, before a decision is made regarding treatment.

In rare cases, GAMST, such as hormones and surgical interventions, may have iatrogenic consequences or may exacerbate pre-existing physical health conditions (Hembree et al., 2017). In these instances, care should be taken to manage pre-existing physical health conditions while initiating (if appropriate) or continuing gender affirming treatments whenever possible, with any interruptions in treatment to be as brief as possible and with treatment to be re-initiated as soon as is practicably possible.

Limited data and inconsistent findings suggest cardiovascular and metabolic risks associated with hormone therapy in TGD adults (Defreyne et al., 2019; Iwamoto et al., 2019; Iwamoto et al., 2021; Spanos et al., 2020). Based on the possible harm related to long-term treatment and probable benefits expected from the preventive measures applied before and during hormone treatment, a careful assessment of physical health conditions prior to initiation of treatment is encouraged. Some specific conditions, such as a history of hormone-sensitive cancer, may require further assessment and management (Center of Excellence for Transgender Health, 2016; Hembree et al., 2017).

Similar concerns may be present for TGD adults who wish to access surgical interventions. Each gender-affirming surgical intervention has specific risks and possible unfavourable consequences (Bryson & Honig, 2019; Remington et al., 2018; Nassiri et al., 2020). However, intervention-specific risks associated with the presence of specific physical conditions have not been well researched. Thus, the kinds of medical concerns raised by TGD people during the assessment are typically no different from those of any other surgical candidate.

Taking into consideration the mental and physical health disparities (Brown & Jones, 2016) and barriers to health care (Safer et al., 2016) experienced by TGD people, the assessment of physical conditions by healthcare professionals should not be limited to a history of medical interventions. In the presence or emergence of physical health conditions, it is important that care be taken to manage the physical health difficulty while continuing gender treatments whenever possible, with any interruptions in treatment being with a view to the re-initiation of treatment as soon as is practically possible. It is also important that healthcare professionals develop a treatment strategy for physical conditions that facilitates health and consistent adherence to a treatment plan.

Statement 3F:

Assess the capacity to consent for the specific physical treatments prior to the initiation of this treatment.

The practice of informed consent to treatment is central in the provision of healthcare. Informed consent is couched in the ethical principle that recipients of healthcare should have an

understanding of the healthcare they receive and an understanding any potential consequences that could result. The importance of informed consent is embedded in many legislative and regulatory practices of healthcare providers around the world (Jefford & Moore, 2008). It is not possible to know of all the potential consequences of a healthcare treatment; instead, considering what would be “reasonable” to expect is often used as a minimum criterion for consent (Jefford & Moore, 2008; Spatz et al., 2016).

Being able to consent to a healthcare procedure or clinical intervention requires several complex cognitive processes. Consent requires the cognitive capacity to understand the potential limitations, risks and benefits of the treatment, and the ability to integrate that understanding into decision-making (American Medical Association, nd; Applebaum, 2007). It is vital that any TGD person is aware of the nature of the treatment sought and the potential effects, both positive and negative, that treatment may have on their life in biological, psychological and social domains.

Psychiatric illness, in particular symptoms of cognitive impairment or psychosis, can impact a person’s ability to grant consent for GAMST and the process most effective for obtaining consent (Hostiuc et al., 2018). The presence of such symptoms do not equate to an inability to give consent as many people with significant mental health symptoms are able to understand the risks and benefits of treatment to make an informed decision (Carpenter et al., 2000). Instead, a careful assessment is encouraged to examine each TGD person’s ability to comprehend the nature of the specific GAMST being considered; reason about treatment options, including risks and benefits; appreciate the potential short term and long-term consequences of the decision; and communicate their choice to receive the treatment (Applebaum, 2007; Grootens-Wiegers et al., 2017).

There may be instances in which an individual lacks capacity to consent to healthcare. For example, during an acute episode of psychosis or where an individual has long term cognitive impairment. However, limits to capacity to consent to treatment should not be an impediment to individuals receiving appropriate GAMST. For some, understanding the risks and benefits may require the use of repeated explanation in jargon-free language over time, or the use of diagrams to facilitate explanation and comprehension. A comprehensive and thorough assessment undertaken by the multidisciplinary healthcare team can further inform this process. For others, an alternative decision maker, such as a legal guardian or regulatory approved independent decision maker may need to be appointed. These situations would need to be considered on a case by case basis with the ultimate aim to ensure the provision of the most affirmative, least restrictive healthcare for the individual. (Also see *Applicability of the Standards of Care to People Living in Institutional Environments*).

Statement 3G:

Assess the capacity of gender diverse and transgender adult to understand the effect of gender affirming treatment on reproduction and explore reproductive options with the individual prior to the initiation of gender affirming treatment.

As gender-affirming medical interventions often affect reproductive capacity, healthcare professionals should ensure that a TGD person is aware of the implications for reproduction of the desired treatments and is familiar with gamete storage and assistive reproductive options. Gender-affirming hormone treatments have been shown to effect reproductive functions and fertility, but with heterogenous consequences among people from both birth assigned-sexes (Adeleye et al., 2019; Jindarak et al., 2018; Taub et al., 2020). As there may be individual

differences and fluctuations in these effects on TGD adults, it is essential that healthcare professionals inform a TGD person about the possible effects of the treatment on their reproductive potential during the assessment and as part of the evaluation of the person's capacity to consent for gender-affirming interventions. Reproductive options should be considered and discussed prior to initiation of physical treatments. This may include information about the necessity of contraception to avoid pregnancy and the different methods of contraception available since data is not clear about the possibility of conception while on hormone treatment (Light et al., 2014; Shubert & Carey, 2020).

Cross-sectional studies in clinical and nonclinical samples from different populations consistently report parental desire and wish to pursue fertility preservation among TGD adults with varying rates associated with age, gender, and duration of gender-affirming hormone treatment (Auer et al., 2018; De Sutter et al., 2002; Defreyne et al., 2020a; 2020b; Wierckx et al., 2012). In a small sample, provision of fertility information was found to have an influence in decision-making related to use of fertility preservation (Chen et al., 2019). Although, a comparison between groups receiving and not receiving fertility counselling was not made, high fertility preservation rates were found after comprehensive fertility counselling among transgender individuals (Amir et al., 2020). Consultation with a specialist was suggested to reduce the regret related to the decision whether to pursue fertility preservation procedure in one study (Vyas et al., 2020). Therefore, a strong recommendation is made that healthcare professionals ensure that the TGD people are aware of the implications of the desired treatments for reproduction, and that healthcare professionals are familiar with fertility preservation and assisted reproductive options. (Please see chapter the Reproductive health for Adolescents and Adults for more information).

Statement 4:

We suggest that as part of the assessment for gender affirming hormonal or surgical treatment professionals who have competencies in the assessment of transgender and gender diverse people wishing gender related medical treatment should consider, together with the individual, the role of social transition.

Social transition can be extremely beneficial to many TGD people. However not all TGD people are able to socially transition and not all TGD people wish to socially transition (Bränström & Pachankis, 2021; Koehler, et al., 2018; Nieder, et al., 2020). Consequently, some TGD people seek physical interventions after social transition, some before social transition, some during social transition, and some in the absence of social transitioning. Social transitioning and gender identity disclosure can improve the mental health of the person seeking physical transitioning (Hughto, et al., 2020; McDowell, Hughto, & Reisner, 2019). In addition, chest surgeries in transmen and facial surgeries in transwomen prior to hormone therapy can facilitate social transition (Altman, 2012; Davis & Colton Meier, 2014; Olson-Kennedy et al. 2018; Van Boerum et al., 2019). As part of the assessment process, healthcare professionals are encouraged to discuss which social role is most comfortable for the TGD person, if a social transition is planned, and the timing for any planned social transition (Barker & Wylie, 2008). It is imperative that during the assessment process, healthcare professionals are respectful of the wide diversity of gendered social roles - which includes non-binary identities and presentations, as well as binary ones, and which will vary according to cultural, local community, and individual understandings.

Not everyone who requests GAMST will wish to or be able to socially transition. Little is known about TGD people who do not socially transition before, during or after medical treatment, as

this has not been systematically studied. The most frequent reasons that have been identified to avoid social transition are being afraid of being abandoned by family or friends, fearing economic loss (Bradford et al. 2013) or being discriminated against and stigmatized (Langenderfer-Magruder et al., 2016; McDowell, Hughto & Reisner, 2019; White Hughto et al., 2015). However, some people choose not to socially transition feeling that hormonal or surgical treatment offers enough subjective improvement to reduce gender dysphoria; for example, in the case of some nonbinary people.

If there is no clear plan for social transition or if a social transition is not planned, especially if surgical treatment is requested, additional assessment can be of assistance to determine the specific nature and advisability of the treatment request. Additional assessment can offer the TGD person an opportunity to consider the possible effects of not socially transitioning prior to or following GAMST. Given the lack of data on health outcomes for TGD people who do not socially transition (Evans et al., 2021; Levine 2009; Turban et al., 2021a), GAMST should be approached cautiously in such circumstances.

Statement 5:

We suggest that transgender and gender diverse adults who fulfil the criteria for gender affirming medical and surgical treatment require a single opinion from a professional who has competencies in the assessment of trans and gender diverse people wishing gender related medical treatment for the initiation of this treatment.

Previous versions of the SOC guidelines have required that TGD individuals must be independently assessed by two qualified health professionals for their eligibility and readiness to pursue GAMST. It was considered that two independent opinions would ensure safety and best practice for both TGD people and health professionals. For example, seeing two health professionals can offer potential advantages to TGD adults and assuredness for both TGD people and their assessing health professionals when pursuing irreversible medical interventions.

However, in practice, the necessity of two opinions presents numerous disadvantages and the, albeit limited, research in the area indicated this assessment methodology to be largely unnecessary. In reviewing case notes of highly experienced clinicians, Jones et al. (2017) reported that there was overwhelming congruence between the two independent opinions of health professionals working within a state funded gender service, suggesting that the requirement for two independent assessments may not need to be routine. Bouman et al. (2014) identified that the requirement for two independent assessors reflects paternalism in health services and from an ethical standpoint raises a potential breach of the autonomy of trans and gender diverse individuals. They posit that when clients are adequately prepared and assessed, within a multidisciplinary team, that a second independent assessment is unnecessary.

Therefore general assessment for physical treatments including hormones, and genital, chest, and facial surgeries should be undertaken by a healthcare professional competent to independently assess and diagnose; such physical treatments will usually only require a single opinion/signature (Bouman et al., 2014; Yuan et al, 2021). Further opinions/signatures may be requested as necessary according to specific clinical need.

Statement 6:

We suggest that healthcare professionals assessing transgender and gender diverse people seeking gonadectomy should consider a minimum of 6 months of hormone therapy as appropriate to the patient's gender goals before the patient undergoes irreversible surgical intervention, (unless hormones are not clinically indicated for the individual).

The Endocrine Society Clinical Practice Guidelines advise a period of consistent hormone treatment prior to genital surgery (Hembree et al., 2017). While there was limited supportive research, this recommendation was considered 'Good Clinical Practice' as it allows a period of more reversible experience prior to the irreversible experience of surgery.

The effects of endogenous sex steroids may not be wanted by a TGD person as endogenous sex steroids are responsible for the secondary sex characteristics of the person's sex assigned at birth (e.g., beard and body-hair, menstrual bleeding). TGD people who were assigned male sex at birth are sometimes concerned about reduced sexual desire if testosterone is blocked. TGD people assigned male sex at birth can experience a decrease in sexual desire after genital surgery (Wierckx et al. 2014), although some report an increase in desire (Lawrence, 2005). In this context, reversible testosterone suppression can offer a TGD person the possibility to experience the lack of endogenous sex steroids, and to decide if this is the right step for them in their transition. The effects of reduced estrogen on a TGD person's sexual desire and functioning following an oophorectomy is less documented.

A surgery which removes gonads is an irreversible procedure and implies a loss of fertility and a loss of the effects of endogenous sex steroids. Both implications should be discussed as a component of the assessment process (see the Reproductive Health for Adults and Adolescents chapter for additional information).

Statement 7:

We recommend that healthcare professionals assessing adults who wish to retransition and seek gender related hormonal and/or surgical interventions to do so, should utilize a comprehensive interdisciplinary assessment, which may include further viewpoints from experienced healthcare professionals in transgender health and that considers, together with the individual, the role of social transition as part of the assessment process.

Many TGD adults may consider a range of identities and elements of gender presentation while they are exploring their gender identity and considering transition options. Accordingly, people may spend some time in a gender identity or presentation before finding it does not feel comfortable and adapting it or shifting to an earlier identity or presentation (Turban et al., 2021b). Some TGD adults may also experience a change in gender identity over time so that their needs for medical treatment evolve. This is a healthy and reasonable process of determining the most comfortable and congruent way of living as informed by the person's gender identity and the context of their life. This process of identity exploration should not necessarily be equated to regret, confusion or poor decision making as a TGD adult's gender identity may change without de-valuing previous transition decisions (MacKinnon et al., 2021; Turban et al., 2021b). TGD adults should be assisted in this exploration and any changes in their identity they experience (Expósito-Campos, 2021). While exploration continues, physical treatments which are irreversible should be avoided until clarity about long-term goals and outcomes is achieved.

Available research shows consistent positive outcomes for the majority of TGD adults who transition through gender affirmative care, including medical transition (Byne et al., 2012; Green & Fleming, 1990; Lawrence, 2003; Motmans et al., 2012; Van de Grift et al., 2018). While little research has been conducted to systematically examine variables that correlate with a TGD adult's decision to halt a transition process or retransition, a recent study found that the vast majority of TGD people who opted to retransition did so due to external factors, such as stigma and lack of social support, not because of changes in gender identity (Turban et al., 2021b). The occurrence of a decision to retransition appears to be rare (Defreyne et al., 2017; Hadje-Moussa et al., 2019; Wiepjes et al., 2018). Guidance in this area is based primarily on individual case studies and expert opinion of clinicians working with TGD adults (Expósito-Campos, 2021; Richards & Barrett, 2020). Estimates of the number of people who retransition due to a change in identity are likely overinflated given how some research has blended very different cohorts (Expósito-Campos, 2021). Retransition research cohorts often include TGD adults who chose to retransition because of a change in their identity and TGD adults who chose to retransition without a change in identity. TGD adults who have not experienced a change in identity may choose to halt transition or retransition to reduce oppression, violence and social/relational conflict, because of surgical complications, as a result of health concerns or physical contraindications, because of a lack of resources, or because of dissatisfaction with results (Expósito-Campos, 2021). While the choice to retransition is proportionally rare, it would be expected that an overall increase in the number of adults who identify as TGD could also result in an increase in the absolute number of people seeking to halt or reverse a transition that has occurred. This is an expected outcome given a population increase; however, the proportion of people seeking to halt or reverse permanent physical changes would still remain very low. The existence of these rare requests should not be used as a justification to interrupt critical, medically necessary care, including hormones and surgery, for the far majority of TGD adults.

If a TGD adult has undergone permanent physical changes and seeks to undo them, the healthcare professional should be part of a comprehensive interdisciplinary team assessment. An interdisciplinary team allows additional viewpoints from healthcare professionals experienced in transgender health. In collaboration with the TGD adult, the interdisciplinary team is encouraged to thoroughly investigate the motivations for the original treatment and for the decision to retransition. Any concerns with the previous physical changes should be carefully explored, with significant effort to ensure that similar concerns are not replicated with the reversal. To ensure the greatest likelihood of satisfaction and comfort with a reversal of permanent physical changes, the TGD adult and the interdisciplinary team should explore the role of social transition in the assessment and in preparation for the reversal. It is highly likely in such instances that a persisting period of living in role will be necessary before further physical changes are recommended. Healthcare professionals should support the TGD adult through any feelings of failure, shame, depression, or guilt in deciding to make such a change. It will be important help the TGD adult to remain engaged in care throughout the process (Narayan et al., 2021).

While available research shows consistent positive outcomes for the majority of TGD adults who chose to transition (Aldridge et al., 2020; Byne et al., 2012; Gorin-Lazard et al., 2012; Owen-Smith et al., 2018; White Hughto & Reisner, 2016), some TGD adults may decompensate or experience a worsened condition following transition. Little research has been conducted to systematically examine variables that correlate with poor or worsened biological, psychological or social condition following transition (Hall et al., 2021; Littman, 2021). This occurrence appears to be rare (Hall et al., 2021; Wiepjes et al., 2018). In cases where people decompensate after physical or social transition and then remain in a poorer biological, psychological, or social condition than they had prior to transition, consideration should be given

as to whether transition is helpful at this time and/or for this person. In cases where treatment is no longer supported, assistance should be arranged to support the person to manage the process of stopping treatment; and to manage any concomitant difficulties (Narayan et al., 2021).

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Nonbinary

Introduction

Nonbinary is used as an umbrella term referring to individuals who experience their gender as outside of the gender binary. This includes people who may have more than one gender identity (i.e. bigender), not have a gender identity, have a neutral gender identity (i.e. agender or neutrois), have gender identities that encompass or blend elements of other genders (e.g., polygender, demi-boy, demi-girl), and/or have a gender that changes over time (e.g., genderfluid) (Kuper et al., 2014; Richards et al., 2016; Richards et al., 2017; Vincent, 2019). Nonbinary also functions as a gender identity in its own right. Genderqueer, first used in the 1990s, is an identity category somewhat older than nonbinary - which first emerged in approximately the late 2000s (Nestle et al., 2002; Wilchins, 1995). Genderqueer may sometimes be used synonymously with nonbinary, or may communicate a specific consciously politicized dimension to a person's gender. Nonbinary people may identify to varying degrees with more than one gender identity, e.g., nonbinary man/woman, nonbinary and genderfluid (James et al., 2016; Kuper et al., 2012). While transgender is often used as an umbrella term inclusive of nonbinary people, not all nonbinary people consider themselves to be transgender for a range of reasons, including because they consider transgender to be part of the gender binary, or because they do not feel "trans enough" to describe themselves as transgender. Some nonbinary people are unsure or ambivalent about whether they would describe themselves as transgender (Darwin, 2020; Vincent, 2019).

Nonbinary people may use the pronouns they/them/theirs, or neopronouns which include e/emm/eir, ze/hir/hir, er/ers/erself among others (Moser & Devereux, 2019; Vincent, 2018). Some nonbinary people use a combination of pronouns (either deliberately mixing usage, allowing free choice, or changing with social context), or prefer to avoid gendered pronouns entirely, instead using their name. Additionally, some nonbinary people use she/her/hers, or he/him/his, sometimes or exclusively, whilst in some regions in the world descriptive language for nonbinary people does not (yet) exist.

Recent studies suggest that nonbinary people comprise roughly 25% to over 50% of the larger transgender population, with samples of youth reporting the highest percentage of nonbinary people (Burgwal et al., 2019; James et al., 2016; Watson, 2020). Within recent studies of transgender adults, nonbinary people tend to be younger than binary-oriented transgender people. Within studies of both youth and adults, nonbinary people are more likely to have been assigned female at birth (Burgwal et al., 2019; James et al., 2016; Watson, 2020; Wilson & Meyer, 2021).

Understanding gender identities and gender expressions as a non-linear spectrum

Nonbinary genders have long been recognized historically and cross-culturally (Herdt, 1994; Vincent & Manzano, 2017). Many gender identity categories are culturally specific and cannot be easily translated from their context, either linguistically, or in relation to the Western paradigm of gender. From the 1950s, within contemporary Western contexts, gender was used to reference the socially-constructed categorization of behaviors, activities, appearance, etc. in relation to a binary model of male/man/masculine, and female/woman/feminine. However, gender now has a wider range of possible meanings, appreciating interrelated yet distinguishable concepts, including gendered biology (sex), gender roles, gender expression, and gender identity (Vincent, 2020). Aspects of gender expression that might traditionally be understood culturally as 'masculine', 'feminine', or 'androgynous' may be legitimately expressed among people of any and all gender identities, whether nonbinary or not. For example, a trans woman is no less a woman because of her clothing choices, name choice, etc. A person's gender nonconformity in relation to cultural expectations should neither be viewed as a cause for concern nor assumed to be indicative of clinical complexity – for example, a nonbinary person assigned male at birth (AMAB) wearing feminine-coded clothing, using she/her pronouns, but keeping a masculine-coded first name.

Modelling gender as a spectrum offers greater nuance than a binary model. However, there remain significant limitations in a linear spectrum model that can lead to uncritical generalisations about gender. For example, while it is intuitive to position the 'binary options' (man/male, woman/female) at either end of such a continuum, doing so situates masculinity as oppositional to femininity, failing to accommodate gender neutrality, the expression of masculinity and femininity simultaneously, and genderqueer or non-Western concepts of gender. It is essential that health professionals do not view nonbinary or gender diverse identities as 'partial' articulations of trans manhood (in nonbinary people AFAB) or trans womanhood (in non-binary people AMAB), or definitively as 'somewhere along the spectrum of masculinity/femininity'; some non-binary individuals consider themselves outside male/female dichotomization altogether. A *non-linear* spectrum indicates that differences of gender expression, identity, or desires around gender affirmation between clients should not be compared for the purposes of situating them along a linear spectrum. Additionally, the interpretation of gender expression is subjective, and what may be experienced or viewed as highly feminine by one person, may not be viewed as such by another (Vincent, 2020). Health professionals benefit from avoiding assumptions about how each client conceptualizes their gender, and being prepared to be led by a given client's personal understanding of gender as it relates to the client's gender identity, expression, and any need/desire for medical care.

The gender development processes experienced by all transgender people regardless of their relationship to a gender binary appear to share similar themes (e.g., awareness, exploration, meaning making, integration), but the timing, progression, and personal experiences associated with each of these processes vary both within and across groups of transgender and nonbinary people (Kuper et al., 2018; Kuper et al., 2019; Tatum et al., 2020). Sociocultural and intersectional perspectives can be helpful at contextualizing gender development and social transition, including how individual

experiences are shaped by the social and cultural context and how they interact with additional domains of identity and personal experience.

The need for access to gender affirming care

Some nonbinary people seek gender affirming care to alleviate gender incongruence and increase body satisfaction through medical intervention. Some nonbinary people may feel that a certain treatment is necessary for them (Beek et al., 2015; Jones et al., 2019; Köhler et al., 2018), whilst others do not (Burgwal & Motmans, 2021; Nieder et al., 2020), and the proportion of nonbinary people who seek gender affirming care remains unclear. It is the role of the health professional to provide information about existing medical options (and their availability) that might help alleviate gender incongruence and increase body satisfaction without making assumptions about which treatment options may best fit each individual person.

Motivations for accessing (or not accessing) gender affirming medical interventions, including hormone treatment and/or surgeries, are heterogeneous and potentially complex (Burgwal & Motmans, 2021; Vincent, 2019, 2020) and should be explored collaboratively before making decisions about physical interventions. The need of an individual to access gender-affirming medical procedures cannot be predicted by their gender role, expression, or identity. For example, some transgender women have no desire or need of vaginoplasty, while some non-binary individuals AMAB may need and benefit from that same intervention. Further, nonbinary people seeking gender affirming care associated closely with a transition pathway from their assigned sex/gender to the other binarily-recognised category (i.e., estrogen prescription and vaginoplasty for someone AMAB) does not undermine the validity of their non-binary identity.

While barriers to care remain a widespread for many transgender people, nonbinary people appear to experience particularly high rates of difficulty accessing both mental health and gender affirming medical care (Clark et al., 2018; James, 2016). Many non-binary people report having experiences with health professionals who were not affirming of their non-binary gender, including experiences where health professionals convey beliefs that their gender is not valid, or they are fundamentally more difficult to provide care for (Valentine, 2016; Vincent, 2020). Nonbinary people may face provider assumptions that they do not need or want gender affirming treatment (Kcomt et al., 2020; Vincent, 2020) and have described experiencing pressure to present themselves as trans men or trans women (within a binary framework of gender) in order to access treatment (Bradford et al., 2019; Taylor et al., 2019). At times, nonbinary people find themselves educating the provider from whom they are seeking services despite the inappropriateness of providers relying primarily on their patients for education (Kcomt et al., 2020). In comparison to binary-oriented transgender people, Burgwal and Motmans (2021) found that nonbinary people experienced more fear of prejudice from healthcare providers, less confidence in the services provided, and greater difficulty knowing where to go to for care. Studies in both Europe and US have shown that nonbinary individuals tend to delay care more often than binary transgender men or women, with fear of

insensitive or incompetent treatment being the most cited reason (Burgwal & Motmans, 2021; Grant et al., 2011). Nonbinary people also appear less likely to disclose their gender identity to their health-care providers than other trans people (Kcomt et al., 2020). Clinical guidance is now developing to assist providers in adapting gender affirming therapeutic care to meet these unique experiences of nonbinary people (Matsuno, 2019; Rider, 2019).

The need for an appropriate level of support

Providing gender affirming care to nonbinary people goes beyond the provision of specific gender affirming interventions such as hormone therapy or surgery, and involves supporting the overall health and development of nonbinary people. Minority stress models have been adapted to conceptualize how the gender-related stressors experienced by transgender people are associated with physical and mental health disparities (Testa, 2017). Nonbinary people appear to experience minority stressors that are both similar to and unique from those experienced by binary-oriented transgender people. Both nonbinary and binary-oriented transgender people report experiences of discrimination, victimization, and interpersonal rejection (James, 2016) as well as bullying within samples of youth (Witcomb et al., 2019; Human Rights Campaign, 2018). However, the prevalence of these experiences may vary across groups and appears influenced by additional intersecting characteristics. For example, Newcomb (2020) found that trans women and nonbinary youth AMAB experienced higher levels of victimization than trans men and nonbinary youth AFAB, with nonbinary youth AMAB reporting the highest levels of traumatic stress. In a second study, Poquiz (2021) found that trans men and women experienced higher levels of discrimination than nonbinary people. In contrast, Johnson (2020) reported that experiences of invalidation are particularly high among nonbinary people, e.g., statements or actions conveying a belief that nonbinary identities are not “real” or are the result of a “fad” or “phase,” and nonbinary people appear less likely than binary trans people to have their correct pronouns used by others. Similarly, nonbinary people have described feeling “invisible” to others (Conlin, 2019, Taylor, 2018) and one study found that nonbinary youth reported lower levels of self-esteem in comparison to binary-oriented trans youth (Thorne et al., 2019).

Given nonbinary identity narratives may be less widely available than more binary-oriented identity narratives, nonbinary people may have less resources available to explore and articulate their gender-related sense of self. For example, this might include access to community spaces and interpersonal relationships where nonbinary identity can be explored, or access to language and concepts that allow more nuanced consideration of nonbinary experiences (Bradford et al., 2018; Fiani & Han, 2019; Galupo et al., 2019).

Gender affirming medical interventions for nonbinary people

In contexts where a particular medical intervention does not have established precedent, it is important that before the intervention is considered, the individual is provided with an overview of available information, including recognition of potential knowledge limits. It is equally important to undertake and document a comprehensive discussion of the desired physical changes and the potential limitations in achieving those attributes, as well as the implication that any given intervention may or may not enhance an individual's ability to express their gender.

With regards to estrogen prescription for nonbinary people AMAB, it is important to note that the possibility of breast growth cannot be avoided (Seal, 2017). Although the extent of growth is highly variable, this should be made clear if a nonbinary person seeks some of the other changes associated with estrogen (such as softening of skin and reduction in facial hair growth), but does not want, or is ambivalent about, breast growth. Likewise, for nonbinary people AFAB who may wish to access testosterone in order to acquire some changes but not others, it should be recognized that if facial hair development is desired, genital growth is inevitable (Seal, 2017). The time frame for taking testosterone means that these changes are likely also to be accompanied by an irreversible vocal pitch drop, though the extent of each is individual (Vincent, 2019; Ziegler et al., 2018). A vocal pitch drop without the development of body hair, is another such challenge.

If hormonal therapy is discontinued and gonads are retained, many physical changes will revert to pre-hormone therapy status as gonadal hormones once again take effect, including reversal of amenorrhoea and body hair development in nonbinary people AFAB, and decrease in muscular definition and erectile dysfunction in nonbinary people AMAB. Other changes will be permanent such as "male-pattern" baldness, genital growth, and facial hair growth in nonbinary people AFAB, or breast development in nonbinary people AMAB (Hembree et al., 2017). These will need further interventions to reverse such as electrolysis or mastectomy, and are sometimes described as "partially reversible" (Coleman et al., 2012). As the implications of using low-dose hormone therapy are not documented in this patient population it is important to consider monitoring of cardiovascular risk and bone health if low-dose hormone therapy is used. If neither testosterone nor estrogen expression is desired, inhibition of estrogen and/or testosterone production is possible. The implications of this with regards to increased cardiovascular risk, reduced bone mineralization, and risk of depression should be discussed and measures taken to mitigate risk (Brett et al., 2007; Vale et al., 2010; Wassersug & Johnson, 2007). See also the Chapter on care for eunuch-identified people in this regard.

Summary of Recommendations

Statement 1: We recommend that health professionals should provide nonbinary people with individualized assessment and treatment that affirms their experience of gender.

Statement 2: We recommend that health professionals should consider gender affirming medical interventions (hormonal treatment or surgery) for nonbinary people in the absence of social gender transition.

Statement 3: We recommend that health professionals should consider gender affirming surgical interventions in the absence of hormonal treatment unless hormone therapy is required to achieve the desired surgical result.

Statement 4: We recommend that health professionals provide information to nonbinary people about the effects of hormonal therapies/surgery on future fertility and options for fertility preservation prior to starting hormonal treatment or undergoing surgery.

All Delphi statements have been recommended, based on clinical consensus against the emerging background literature in health care provision for non-binary individuals as well as a favorable risk-benefit ratio of providing such clinical services.

Statement 1:

We recommend that health professionals should provide nonbinary people with individualized assessment and treatment that affirms their nonbinary experiences of gender.

An individualized assessment with a nonbinary person starts with understanding of how they experience their own gender, and how this impacts their goals for the care they are seeking. How individuals conceptualize their gender related experiences are likely to vary across groups and cultures and may incorporate experiences associated with other intersecting aspects of identity (e.g., age, sexuality, race, ethnicity, socioeconomic status, disability status) (Kuper et al., 2014; Subramanian et al., 2015).

Health professionals should avoid making a priori assumptions about any client's gender identity, expression, or desires for care. They should also be mindful that a client's nonbinary experience of gender may or may not be relevant to assessment and treatment-related goals. The extent to which the client's gender is relevant to their treatment goals should determine the level of detail at which their gender identity is explored. For example, when seeking care for a presenting concern wholly unrelated to gender, simply determining the correct name and pronouns may be sufficient (Knutson et al., 2019). When addressing a concern for which current or past hormonal or surgical status is relevant, more detail may be needed, even if the concern is not specifically gender related.

Clinical settings and approaches that are welcoming and reflective of the diversity of genders, affirm the experiences of gender of nonbinary people. Ensuring that clinic and provider information (e.g., websites), forms (e.g., intake surveys), and other materials

are inclusive of nonbinary identities and experiences conveys that nonbinary people are welcome and recognised (Hagen & Galupo, 2014). Having transgender inclusive guidelines for name and pronouns, ensuring privacy at the reception desk, setting up alternatives for listing legal names in digital databases, installing gender-neutral toilets, and setting up alternatives to calling out the legal name in the waiting room are examples of this approach (Burgwal et al., 2021). In care settings, it is important that preferences for names, pronouns, and other gender-related terms are asked, both initially and on a regular basis as they may vary over time and circumstance.

Health professionals are encouraged to adopt an approach that focuses on strengths and resilience. Increasingly critiques are emerging regarding health professionals over-focus on gender-related distress, arguing that it is also important to consider experiences of increased comfort, joy, and self-fulfilment that can result from self-affirmation and access to care (Ashley, 2019; Benestad, 2010). In addition to utilizing diagnoses when needed to facilitate access to care, health professionals are encouraged to collaboratively explore with clients this broader range of potential gender-related experiences and how they may fit with treatment options (Motmans et al., 2019). For both nonbinary and binary-oriented people, resiliency factors such as supportive relationships, participation in communities that include similar others, and identity pride are essential to consider as they are associated with a range of positive health outcomes (Bowling et al., 2019; Budge, 2015; Johns et al., 2018).

Awareness of the limitations that exist in the tools providers have historically used to assess transgender people's experience of dysphoria is important as they may be particularly pronounced for many nonbinary people. Most gender related measures assume clients experience their gender in a binary way, among other concerns (e.g., Recalled Gender Identity Scale, Utrecht Gender Dysphoria Scale). Several newer measures have been developed in an attempt to better capture the experiences of nonbinary people (McGuire, 2018; McGuire, 2020); however, open-ended discussion is likely to provide a deeper and more accurate understanding each individual's unique experiences of dysphoria and their associated care needs. Similarly, while more recent iterations of diagnostic categories (i.e., "gender dysphoria" in the DSM 5 and "gender incongruence" in ICD-11) were intended to be inclusive of people with nonbinary experiences of gender, they may not adequately capture the full diversity and scope of experiences of gender-related distress, particularly for nonbinary people. In addition to distress associated with aspects of one's physical body and presentation (including features that may be existing or absent), distress may arise from how one experiences their own gender, how one's gender is perceived within social situations, and/or from experiences of minority stress associated with one's gender (Winters & Ehrbar, 2010). Nonbinary peoples' experiences in each of these areas may or may not be similar to those of more binary-oriented people.

A person-centered approach for affirming care includes specific discussion of how different interventions may or may not shift the client's comfort with their own experience of gender, and how their gender is perceived by others. Nonbinary people can face challenges in reconciling their personal identities with the limits of the medical

treatments available and can also encounter confusion and intolerance from society regarding their desired gender presentations (Taylor et al. (2019). Emerging research suggests that medical treatment needs of non-binary people are particularly diverse, with some reporting desire for treatments that have typically been associated with transition trajectories historically associated with trans men and women, and some reporting desire for alternative approaches (e.g., low dose hormone therapy, surgery without hormone therapy), some reporting a lack of interest in medical treatment, and some reporting feeling unsure about their desires (Burgwal & Motmans, 2021; James et al., 2016). Conceptualizing assessment as an ongoing process is particularly important given gender-related experiences and associated needs may shift throughout the lifespan. Given the ongoing evolution in treatment options and knowledge of treatment effects, particularly for nonbinary people, clients will benefit from providers who regularly seek up to date knowledge and convey these updates to their clients.

Statement 2:

We recommend that health professionals should consider gender affirming medical interventions (hormonal treatment or surgery) for nonbinary people in the absence of “social gender transition.”

Previous requirements for accessing hormone treatment and surgery, such as “living in a gender role that is congruent with one’s gender identity,” do not reflect the lived experiences of many transgender people (Coleman et al., 2012). Due to the entrenched nature of the gender binary in most contemporary Western cultures, one can typically only be understood by others as a man or woman within most settings (Butler, 1993). Hence, the visibility of nonbinary embodiments and expressions is limited. This is due to gendered cues being almost always understood in reference to a gender binary (Butler, 1993). Presently, it can be difficult for nonbinary people to be reliably recognised as their gender via visual cues associated with their gender expression (e.g. clothing, hair). However, androgyny or gender nonconformity may be communicated by the mixing or combining of cultural markers with traditionally masculine or feminine connotations. Because there is no commonly recognized ‘nonbinary category’ within most contemporary Western, global north cultural contexts, nonbinary visibility often necessitates explicit sharing of one’s gender with others or use of cues that may be interpreted as gender nonconformity (but not necessarily nonbinary).

For these reasons, framing access to medical care in the context of someone experiencing a “social gender transition” where they are “living in a gender role that is congruent with one’s gender identity” is not in line with the way many transgender people understand themselves and their personal transition process. For some, “living in a gender role that is congruent with one’s gender identity” does not involve changes in name, pronouns, or gender expression even as medical intervention may be necessary. Even if a person is able to live in ways that are congruent with their gender identity, it may be difficult for an outside observer to assess this without learning directly from that person how they understand their own experience in this regard. Expectation of “social gender transition” may be unhelpful when considering eligibility for gender

affirming care, such as hormones and surgery, and rigid expectations of what a “social gender role transition” “should” look like can be a barrier to care for nonbinary people. There is no logical requirement that gender affirming medical interventions can only be done once a person legally changes their name, changes the gender marker on their identity documents, or wears or refrains from wearing particular items of clothing. A requirement that someone disclose their gender identity in all circles of their lives (family, work, school, etc.) in order to access medical care can place them at risk if it is not safe to do so and may not be consistent with their goals.

Statement 3:

We recommend that health professionals should consider gender affirming surgical interventions in the absence of hormonal treatment, unless hormone therapy is required to achieve the desired surgical result.

The trajectory of ‘hormones before surgery’ is an option across a range of surgical interventions. Some nonbinary people will seek gender affirming surgical treatment to alleviate gender incongruence and increase body satisfaction (Beek et al., 2015; Köhler et al., 2018; Jones et al., 2019; Burgwal & Motmans, 2021), but do not want or are unable to have hormonal treatment due to other medical reasons (Nieder et al., 2020). Currently, it is unknown for which proportion of nonbinary people these options apply.

Perhaps the surgery which has some specific association with nonbinary people (rather than sought by trans men or undergone by some cisgender women) is mastectomy in nonbinary people AFAB who have not taken testosterone; some nonbinary people AFAB may desire breast reduction (McTernan et al., 2020). An example of a surgery for which at least a period of hormone therapy may be necessary to the result is metoidioplasty which enhances the enlarged clitoris produced by testosterone therapy. See the surgical chapter for more detail on whether hormone therapy is necessary for various surgeries. Procedures addressing the internal reproductive system include hysterectomy, unilateral or bilateral salpingo-oophorectomy, and vaginectomy. Hormone therapy is not required for any of these procedures, but hormone replacement therapy (either with estrogens, testosterone or both) is advisable in those individuals undergoing a total gonadectomy to prevent adverse effects on their cardiovascular and musculoskeletal system (Hembree et al., 2017; Seal, 2017). See also the chapter on treatment of eunuch-identified individuals for those who choose to forego hormone replacement therapy. For phalloplasty, while there is no surgical requirement per se for a minimum period of testosterone treatment, virilization (or the absence of virilization) of the clitoris and labia minora may impact choice of surgical technique and influence surgical options. See also the Surgical Chapter for more information.

Nonbinary AMAB clients should be informed that commencing estrogen therapy post-surgically with no prior history of estrogen therapy may influence (perhaps adversely) the surgical result (Kanhai, Hage, Asscherman et al., 1999; Kanhai, Hage, Karim et al., 1999). Nonbinary people AMAB requesting a bilateral orchidectomy do not require estrogen therapy for a better outcome (Hembree et al., 2017). In these contexts it is

good practice to inform clients of the risks and benefits of hormone replacement therapy (estrogens, testosterone, or both) in preventing adverse effects on the cardiovascular and musculoskeletal system as well as alternative treatment options, such as calcium plus vitamin D supplementation to prevent osteoporosis (Hembree et al., 2017; Seal, 2017; Weaver et al., 2016). See also the chapter for care of eunuch identified people for those who chose to forgo hormone replacement therapy. In the case of vaginoplasty, individuals should be advised that lack of testosterone-blocking therapy may cause postoperative hair growth in the vagina when hair-bearing skin graft and flaps have been used (Giltay & Gooren, 2000). Additional surgical requests in nonbinary people AMAB include penile-preserving vaginoplasty, vaginoplasty with preservation of the testicle(s), and procedures to create a “flat front” (i.e., penectomy, scrotoectomy, orchiectomy, etc...). The surgeon and individual seeking treatment should work collaboratively with the multidisciplinary team so as to understand the individual's goals and expectations as well as benefits and limitations of the intended (or requested) procedure and make decisions on an individualized basis.

Statement 4:

We recommend that nonbinary people have information about and access to fertility preservation prior to starting hormonal treatment.

All non-binary individuals, who seek gender affirming hormone therapies should be offered information and guidance about fertility options (Hembree et al., 2017; Quinn et al., 2021; De Roo et al., 2016; Defreyne et al., 2020a; Defreyne et al., 2020b; Nahata et al., 2017). It is important to discuss the potential impact of hormone therapy on fertility prior to initiating hormone therapy. This discussion should include fertility preservation options, to what extent fertility may or may not be regained if hormone therapy is ceased, and that hormone therapy per se is not birth control. See the Chapter on Reproductive Health for more information.

Recent studies suggest that nonbinary individuals are less likely to access care and make their desires for potential interventions heard (Beek et al., 2015; Taylor et al., 2019). As such, it stands to reason that any gender diverse individual should be offered information on current options and techniques for fertility preservation, ideally prior to commencing hormone treatment as the quality of the sperm or eggs may be impacted by exposure to hormones (Hamada et al., 2015; Payer et al., 1979), although this should in no way preclude later information seeking or discussion, as there is evidence that fertility is still possible for individuals taking estrogen and testosterone (Light et al., 2014). A decision by a nonbinary or gender diverse person that fertility preservation or counselling is not desired or needed should not be used as a basis for denying or delaying access to hormone treatment.

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Mental Health

Introduction

This chapter is intended to provide guidance to health professionals (HPs) and mental health professionals (MHPs) who offer mental health care to transgender and gender diverse (TGD) people with mental health problems (symptoms or disorders) and substance use disorders. It is not meant to be a substitute for chapters on assessment or evaluation of patients for hormonal or surgical interventions. Many TGD people will not require therapy or other forms of mental health care as part of their transition, while others may benefit from the support of mental health providers and systems (Dhejne et al., 2015).

Some studies have shown a higher prevalence of depression (Witcomb et al, 2018), anxiety (Bouman et al., 2017), and suicidality (Arcelus, et al. 2016; Davey, et al. 2016) among TGD people (Thorne et al, 2020; Jones et al., 2020) than in the general population, particularly in those wishing gender-affirming medical treatment but who are not in treatment (Dhejne, 2011, Herman, et al. 2017). However, transgender identity is not a mental illness, and these elevated rates have been linked to complex trauma, societal stigma, violence, and discrimination (Nuttbrock et al., 2014; Peterson et al., 2021; Bränström and Pachankis, 2021). In addition, psychiatric symptoms lessen with appropriate gender-affirming medical and surgical care (Aldridge et al, 2020; Grannis et al., 2021) and with interventions that lessen discrimination and minority stress (Heylens et al., 2014; McDowell et al., 2020)

Mental health treatment needs to be provided by staff and implemented through the use of systems that respect patient autonomy and recognize gender diversity. MHPs working with transgender people should use active listening as a method to encourage exploration in individuals who are uncertain about their gender identity. Rather than impose their own narratives or preconceptions, MHPs should assist their clients in determining their own paths. While many transgender people desire medical or surgical interventions or seek mental health care, others do not (Margulies et al., 2021). Therefore, findings from research involving clinical populations should not be extrapolated to the entire transgender population.

Addressing mental illness and substance use disorders is important but should not be a barrier to transition-related care. Rather, these interventions to address mental health and substance use disorders can facilitate successful outcomes from transition-related care, which can improve quality of life (Nobili et al., 2018).

Summary of Recommendations

Statement 1: We recommend mental health professionals address mental health symptoms that interfere with a person's capacity to consent to gender-affirming treatment before gender-affirming treatment is initiated.

Statement 2: We recommend mental health professionals offer care and support to transgender and gender diverse people to address mental health symptoms that interfere with a person's capacity to participate in essential perioperative care before gender affirmation surgery.

Statement 3: We recommend when significant mental health symptoms or substance abuse exists, mental health professionals assess the potential negative impact that mental health symptoms may have on outcomes based on the nature of the specific gender-affirming surgical procedure.

Statement 4: We recommend health professionals assess the need for psychosocial and practical support of transgender and gender diverse people in the perioperative period surrounding gender affirmation surgery.

Statement 5: We recommend health professionals counsel and assist transgender and gender diverse people in becoming abstinent from tobacco/nicotine prior to gender affirmation surgery.

Statement 6: We recommend health professionals maintain existing hormone treatment if a transgender and gender diverse individual requires admission to a psychiatric or medical inpatient unit.

Statement 7: We recommend health professionals ensure if transgender and gender diverse people need in-patient or residential mental health, substance abuse or medical care, all staff use the correct name and pronouns (as provided by the patient), as well as provide access to bathroom and sleeping arrangements that are aligned with the person's gender identity.

Statement 8: We recommend mental health professionals encourage, support, and empower transgender and gender diverse people to develop and maintain social support systems, including peers, friends, and families.

Statement 9: We recommend health professionals should not make it mandatory for transgender and gender diverse people to undergo psychotherapy prior to the initiation of gender-affirming treatment, while acknowledging that psychotherapy may be helpful for some transgender and gender diverse people.

Statement 10: We recommend reparative and conversion therapy aimed at trying to change a person's gender identity and lived gender expression to become more congruent with sex assigned at birth should not be offered.

All these statements have been recommended based on the large amount of background literature and a favorable risk-benefit ratio.

Statement 1:

We recommend mental health professionals address mental health symptoms that interfere with a person's capacity to consent to gender-affirming treatment before gender-affirming treatment is initiated.

Because patients generally are assumed to be capable of providing consent for care, whether the presence of cognitive impairment, psychosis, or other mental illness impairs the ability to give informed consent is subject to individual examination (Applebaum, 2007). Informed consent

is central to the provision of healthcare. The healthcare provider must educate the patient about the risks, benefits, and alternatives to any care that is offered so that the patient can make an informed, voluntary choice (Berg et al. 2001). Both the primary care provider or endocrinologist prescribing hormones and the surgeon performing surgery must obtain informed consent. Similarly, MHPs obtain informed consent for mental health treatment and may consult on a patient's capacity to give informed consent when this is in question. Psychiatric illness and substance use disorders, in particular cognitive impairment and psychosis, may impair an individual's ability to understand the risks and benefits of the treatment (Hostiuc et al., 2018). Conversely, a patient may also have significant mental illness, yet still be able to understand the risks and benefits of a particular treatment (Carpenter et al., 2000). Multidisciplinary communication is important in challenging cases, and expert consultation should be utilized as needed (Karasic and Fraser, 2018). For many patients, difficulty understanding the risks and benefits of a particular treatment can be overcome with time and careful explanation. For some patients, treatment of the underlying condition that is interfering with the capacity to give informed consent—for example treating an underlying psychosis—will allow the patient to gain the capacity to consent to the desired treatment. However, mental health symptoms, such as anxiety or depressive symptoms that do not affect the capacity to give consent should not be a barrier for gender-affirming medical treatment, particularly as this treatment has been found to reduce mental health symptomatology (Aldridge et al., 2020).

Statement 2:

We recommend mental health professionals offer care and support to transgender and gender diverse people to address mental health symptoms that interfere with a person's capacity to participate in essential perioperative care before gender affirmation surgery.

The inability to adequately participate in perioperative care due to mental illness or substance use should not be viewed as an obstacle to needed transition care but should be seen as an indication that mental health care and social support should be provided (Karasic, 2020). Mental illness and substance use disorders may impair the ability of the patient to participate in perioperative care (Barnhill, 2014). Visits to healthcare providers, wound care, and other aftercare procedures (such as dilation after vaginoplasty) are necessary for a good outcome. A patient with a substance use disorder might have difficulty keeping necessary appointments to the primary care provider and the surgeon. A patient with psychosis or severe depression might neglect their wound or not be attentive to infection or signs of dehiscence (Lee 2016). Active mental illness is associated with a greater need for further acute medical and surgical care after the initial surgery (Wimalawansa et al., 2014).

In these cases, treatment of the mental illness or substance use disorder may assist in achieving successful outcomes. Arranging more support for the patient from family and friends or a home healthcare worker may help the patient participate sufficiently in perioperative care for surgery to proceed. The benefits of mental health treatments that may delay surgery should be weighed against the risks of delaying surgery and should include an assessment of the impact on the patients' mental health delays may cause in addressing gender dysphoria (Byne et al., 2018).

Statement 3:

We recommend when significant mental health symptoms or substance abuse exists, mental health professionals assess the potential negative impact that mental health

symptoms may have on outcomes based on the nature of the specific gender-affirming surgical procedure.

Gender-affirming surgical procedures vary in terms of their impact on the patient. Some procedures require a greater ability to follow preoperative planning as well as engage in peri- and postoperative care to achieve the best outcomes (Tollinche, et al., 2018). Mental health symptoms can influence a patient's ability to participate in the planning and perioperative care necessary for any surgical procedure (Paredes, et al., 2020). The mental health assessment can provide an opportunity to develop strategies to address the potential negative impact mental health symptoms may have on outcomes, and to plan support for the patient's ability to participate in the planning and care.

Gender-affirming surgical procedures have been shown to relieve symptoms of gender dysphoria and improve mental health. (Van de Griff et al., 2017; Owen-Smith et al., 2018). These benefits are weighed with the risks of each procedure when patient and provider are deciding whether to proceed with treatment.

MHPs can assist TGD people in reviewing preplanning and perioperative care instructions for each surgical procedure (Karasic, 2020). Provider and patient can collaboratively determine the necessary support or resources needed to assist with keeping appointments for perioperative care, obtaining necessary supplies, addressing financial issues, and handling other preoperative coordination and planning. In addition, issues surrounding cosmetic and functional expectations, including the impact of these various factors on gender dysphoria, can be explored.

Statement 4:

We recommend health professionals assess the need for psychosocial and practical support of transgender and gender diverse people in the perioperative period surrounding gender affirmation surgery.

Regardless of specialty, all HPs have a responsibility to support patients in accessing medically necessary care. When mental health care providers are working with TGD people as they prepare for gender-affirming surgical procedures, they should assess the levels of psychosocial and practical support required (Deutsch, 2016a). Assessment is the first step in recognizing where additional support may be needed and enhancing the ability to work collaboratively with the individual to successfully navigate the pre-, peri-, and postsurgical periods (Tollinche, 2018).

In the perioperative period, it is important to help patients optimize functioning, secure stable housing when possible, build social and family supports by assessing their unique situation, plan ways of responding to medical complications, navigate the potential impact on work/income, and overcome additional hurdles some patients may encounter, such as coping with electrolysis and tobacco cessation (Berli et al., 2017). In a complex medical system, not all patients will be able to independently navigate the procedures required to obtain care, and HPs and peer navigators can support patients through this process (Deutch, 2016a).

Statement 5:

We recommend health professionals counsel and assist transgender and gender diverse people in becoming abstinent from tobacco/nicotine prior to gender affirmation surgery.

Trans populations have higher rates of tobacco and nicotine use (Kidd et al., 2018). However, many are unaware of the well-documented smoking-associated health risks (Bryant et al., 2014). Tobacco consumption increases the risk of developing health problems (e.g., thrombosis) in individuals receiving gender-affirming hormone treatment, particularly estrogens (Chipkin & Kim, 2017).

Tobacco use has been associated with worse outcomes in plastic surgery, including overall complications, tissue necrosis, and the need for surgical revision (Coon et al., 2013). Smoking also increases the risk for postoperative infection (Kaoutzanis et al., 2019). Tobacco use has been shown to affect the healing process following any surgery, including gender-related surgeries (e.g., chest reconstructive surgery, genital surgery) (Pluvy et al., 2015). Tobacco users have a higher risk of cutaneous necrosis, delayed wound healing, and scarring disorders due to hypoxia and tissue ischemia (Pluvy et al., 2015). In view of this, surgeons recommend stopping the use of tobacco/nicotine prior to gender affirmation surgery and abstaining from smoking up to several weeks postoperatively until the wound has completely healed (Matei & Danino, 2015).

Despite the risks, cessation may be difficult. Tobacco smoking and nicotine use is addictive and is also used as a coping mechanism (Matei et al., 2015). HPs who see patients longitudinally before surgery, including mental health and primary care providers, should address the use of tobacco/nicotine with individuals in their care, and either assist TGD people in accessing smoking cessation programs or provide treatment directly (e.g., varenicline).

Statement 6:

We recommend that clinicians maintain existing hormone treatment if a trans and gender diverse individual requires admission to a psychiatric or medical inpatient unit.

TGD people entering inpatient psychiatric, substance use treatment, or medical units should be maintained on their current hormone regimens. Stopping hormone treatment prior to surgery also does not appear to be necessary (Boskey et al., 2018). There is an absence of evidence supporting routine cessation of hormones prior to medical or psychiatric admissions. Rarely, a newly admitted patient may be diagnosed with a medical complication necessitating suspension of hormone treatment, for example an acute venous thromboembolism (Deutsch, 2016b).

Hormone treatment has been shown to improve quality of life and to decrease depression and anxiety (Aldridge et al., 2020; Nguyen et al, 2018; Nobili et al, 2018; Owen-Smith et al 2018, Rowniak et al, 2019). Access to gender confirming medical treatment is associated with a substantial reduction in risk of suicide attempt (Bauer et al 2015). Halting a patient's regularly prescribed hormones denies the patient of these salutary effects, and therefore may be counter to the goals of hospitalization.

Some providers may be unaware of the low risk of harm and the high potential benefit of continuing transition-related treatment in the inpatient setting. A study of US and Canadian medical schools revealed that students received an average of 5 hours of LGBT-related course content over their entire four years of education (Obedin-Maliver et al., 2011). According to a survey of Emergency Medicine physicians, who are often responsible for making quick decisions about medications as patients are being admitted, while 88% reported caring for transgender patients, only 17.5% had received any formal training about this population (Chisolm-Straker et al., 2018). As education about transgender topics increases, more providers

will become aware of the importance of maintaining transgender patients on their hormone regimens during hospitalization.

Statement 7:

We recommend that clinicians ensure that if trans and gender diverse people need inpatient or residential mental health, substance abuse, or medical care, all staff use the correct name and pronouns (as provided by the patient), as well as provide access to bathroom and sleeping arrangements that are aligned with the person's gender identity.

Many TGD patients encounter discrimination in a wide range of health settings, including hospitals, mental health treatment settings, and drug treatment programs (Grant et al., 2011). When health systems fail to accommodate TGD individuals, they reinforce the longstanding societal exclusion that many have experienced (Karasic, 2016). Experiences of discrimination in health settings lead to avoidance of needed healthcare due to anticipated discrimination. (Kcomt, et al., 2020).

The experience of discrimination experienced by TGD individuals is predictive of suicidal ideation (Rood et al., 2015; Williams et al., 2021). Gender minority stress associated with rejection and non-affirmation has been associated with suicidality (Testa et al., 2017). Denial of access to gender appropriate bathrooms has been associated with increased suicidality (Seelman, 2016). However, the use of chosen names for TGD people has been associated with lower depression and suicidality (Russell et al., 2018). Structural as well as internalized transphobia must be addressed to reduce the incidence of suicide attempts in TGD people (Brumer et al., 2015). To successfully provide care, health settings must minimize the harm done to patients because of transphobia by respecting and accommodating TGD identities.

Statement 8:

We recommend mental health professionals encourage, support, and empower transgender and gender diverse people to develop and maintain social support systems, including peers, friends, and families.

While minority stress and the direct effects of discriminatory societal discrimination can be harmful to the mental health of TGD people, strong social support can help lessen this harm (Trujillo et al, 2017). TGD children often internalize rejection from family and peers as well as the transphobia that surrounds them (Amodeio et al., 2015). Furthermore, exposure to transphobic abuse may be impactful across a person's lifespan and may be particularly acute during the adolescent years (Nuttbrock et al., 2010).

The development of affirming social support is protective of mental health. Social support can act as a buffer against the adverse mental health consequences of violence, stigma, and discrimination (Bockting et al., 2013) and can contribute to psychological resilience (Bariola et al., 2015; Başar and Öz, 2016) in TGD people. Diverse sources of social support, especially LGBT peers and family, were found to be associated with better mental health outcomes, well-being, and quality of life (Bariola et al., 2015; Başar et al, 2016; Kuper et al., 2018; Puckett et al., 2019). Social support has been proposed to facilitate the development of coping mechanisms and lead to positive emotional experiences throughout the transition process (Budge et al., 2013).

HPs can support patients in developing social support systems that allow them to be recognized and accepted as their authentic identity and help them cope with symptoms of gender dysphoria. Interpersonal problems and lack of social support have been associated with a greater incidence of mental health difficulties in TGD people (Bouman et al., 2016; Davey et al., 2015) and have been shown to be an outcome predictor of gender-affirming medical treatment (Aldridge et al., 2020). Therefore, MHPs should encourage, support, and empower TGD people to develop and maintain social support systems. These experiences can foster the development of interpersonal skills and help with coping with societal discrimination, potentially reducing suicidality and improving mental health. (Pflum et al., 2015).

Statement 9:

We recommend health professionals should not make it mandatory for transgender and gender diverse people to undergo psychotherapy prior to the initiation of gender-affirming (medical?) treatment, while acknowledging that psychotherapy may be helpful for some transgender and gender diverse people.

Psychotherapy has a long history being used in clinical work with TGD people (Fraser, 2009b). The aims, requirements, methods and principles of psychotherapy have been an evolving component of the Standards of Care from the initial versions (Fraser, 2009b). At present, psychotherapeutic assistance and counseling with adult TGD people may be sought to address common psychological concerns related to coping with gender dysphoria and may also help some individuals with the coming-out process (Hunt, 2014). Psychological interventions, including psychotherapy, offer effective tools and provide context for the individual, such as exploring gender identity and its expression, enhancing self-acceptance and hope, and improving resilience in hostile and disabling environments (Matsuno and Israel, 2018). Psychotherapy is an established alternative therapeutic approach for addressing mental health symptoms that may be revealed during the initial assessment or later during the follow-up for gender-affirming medical interventions. Recent research shows that, although mental health symptoms are reduced following gender-affirming medical treatment, levels of anxiety remain high (Aldridge et al, 2020) suggesting psychological therapy can play a role in helping individuals suffering from anxiety symptoms following gender-affirming treatment.

In recent years, the uses and potential benefits of specific psychotherapeutic modalities have been reported (Embaye, 2006; Fraser, 2009a; Budge, 2013; Heck et al., 2015; Austin et al., 2017; Budge et al., 2021). Specific models of psychotherapy have been proposed for adult trans and non-binary individuals (Matsuno & Israel, 2018). However, more empiric data is needed on the comparative benefits of different psychotherapeutic models. (Catelan et al., 2017). Psychotherapy can be experienced as a fearful experience, as well as a beneficial one, by transgender persons (Applegarth & Nuttall 2016) and presents challenges to the therapist and to alliance formation when it is associated with gatekeeping for medical interventions (Budge, 2015).

Experience suggests that many trans and non-binary individuals decide to undergo gender-affirming medical treatment with little or no use of psychotherapy (Spanos et al., 2021). Although various modalities of psychotherapy may be beneficial for different reasons before, during and after gender-affirming medical treatments, and varying rates of desire for psychotherapy have been reported during different stages of transition (Mayer et al., 2019), a requirement for psychotherapy for initiating gender-affirming medical procedures has not been demonstrated beneficial, and may be a harmful barrier to care for those who don't need this type of treatment or who lack access to it.

Statement 10:

We recommend reparative and conversion therapy aimed at trying to change a person's gender identity and lived gender expression to become more congruent with the sex assigned at birth should not be offered.

The use of reparative or conversion therapy or gender identity change efforts is opposed by many major medical and mental health organizations across the world, including the World Psychiatric Association, Pan American Health Organization, American Psychiatric and American Psychological Associations, Royal College of Psychiatrists, and British Psychological Society. Six countries (Albania, Brazil, Ecuador, Germany, Malta, and Taiwan) (Savage, 2020). Many states in the US states have instituted bans on practicing conversion therapy with minors.

Advocates of conversion therapy have suggested it could potentially allow a person to fit better into their social world. They also point out that some clients specifically ask for help changing their gender identities or expressions and that therapists should be allowed to help clients achieve their goals. However, conversion therapy has not been shown to be effective (APA, 2009; Przeworski et al., 2020). In addition, there are numerous potential harms. In retrospective studies, a history of having undergone conversion therapy is linked to increased levels of depression, substance abuse, suicidal thoughts, and suicide attempts, as well as lower educational attainment, and less weekly income (Ryan et al., 2020; Salway et al., 2020, Turban et al., 2020). In 2021, the American Psychological Association resolutions states that "scientific evidence and clinical experience indicate that GICEs [gender identity change efforts] put individuals at significant risk of harm" (APA, 2021).

While there are barriers to ending gender identity change efforts, education about the lack of benefit and the potential harm of these practices may lead to fewer providers offering conversion therapy and fewer individuals and families choosing this option.

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Primary Care

Introduction

Primary care is the broadest of health care disciplines, defined by the “provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community.” (Institute of Medicine, 1996).

Primary care providers (PCPs) encompass a wide range of health care professionals who deliver this care, including general and family medical practitioners, nurse practitioners, advanced practice nurses, physician associates/assistants and internists.

PCPs cross a variety of education, training, and specialties. Given degree and specialty, the scope of practice varies, and not all providers may be trained or qualified to directly provide the full breadth of trans health care, such as mental health, genital/pelvic care, or post-operative care following gender confirming procedures. Physicians and other providers receive little education in transgender health at any time during their training (Dubin, et al., 2018; see SOC8 education section), thus most skills are currently acquired out in practice, either informally or through brief continuing education opportunities (Jaffee et al., 2016), see SOC8 education section. However, if providers are competent to deliver similar care for cisgender patients, they should develop competency with TGD patients. Competencies outlined below are all to be understood as applying within the provider’s scope of licensure and practice. However, all PCPs should be able to manage the comprehensive health of transgender patients either directly or by appropriate referral to other health care providers, including other specialists, for evaluation and treatment. There is no evidence that competency in caring for TGD patients can only be achieved through a formal or certification process. In explicitly stating recommended competencies, however, PCP’s and TGD persons across all settings can share a standard set of expectations of the knowledge, skills and cultural competence required in the care of TGD persons.

Due the singular medical, surgical and social conditions faced by TGD people, primary care providers (PCPs) need distinct competencies in the care of transgender persons, apart from what is expected of all PCP’s who may otherwise care for diverse population, including ethnic, racial, or sexual minorities. Professional bodies from a range of generalist disciplines have issued position statements and guidelines specific to the care of TGD people, including the American College Obstetrics and Gynecology (ACOG), the Italian Society of Gender, Identity and Health (SIGIS), the Italian Society of Andrology and Sexual Medicine (SIAMS) and the Italian Society of Endocrinology (SIE), the Polish Sexological Society and Southern African HIV Clinicians’ Society, 2021. (ACOG, 2021; Fisher et al., 2021; Grabski et al., 2021; Tomson et al., 2021) Reisner et al. (2015) state that “For the most part, the general health and wellbeing of transgender people should be attended to within the primary care setting, without differentiation from services offered to cisgender (non-transgender) people for physical, psychological, and sexual health issues. Specific care for gender transition is also possible in primary care.” There are many examples of these services being provided safely and effectively outside of specialist care in diverse cities such as Toronto and Vancouver in Canada, New York and Boston, USA, and Sydney, Australia. (Radix & Einfeld, 2014; Reisner, 2016)

Hormone Therapy

Whether transgender patients receive HT from a specialist, e.g., an endocrinologist, or a primary care provider (PCP) may depend on the availability of knowledgeable and welcoming providers and country-level factors such as healthcare regulations and health services funding. In much of the world, specialty services for TGD people are partly or wholly unavailable, which reinforces the need for all health providers to undertake training in provision of gender affirming care. In some countries, primary care providers may be required to refer TGD patients to specialist services (e.g., gender identity clinics) resulting in unacceptable delays to access HT. (Royal College of General Practitioners, 2019).

Hormone-related therapy encompasses a range of interventions, such as puberty suppression and hormone initiation or hormone maintenance. With training, gender affirming hormone therapy can be managed by most PCPs. Regardless of whether or not serving as the primary hormone prescriber, all PCPs should be familiar with the medications, suggested monitoring, and potential side effects for hormone therapy as noted in the Standards of Care 8 (see hormone therapy section). PCPs should be able to make appropriate referral to appropriate providers for all transition related services they do not themselves provide.

This chapter supports the argument that hormone therapy (HT) can be prescribed by PCPs or other non-specialists - "Considering barriers to health care access and the importance of HT to this population, it is imperative that PCPs are able and willing to provide HT for transgender patients (Shires, 2017).

Primary Care Providers are commonly called upon to provide care for a broad range of conditions and needs, including those with which they may have had limited or no prior experience. Often this care involves accessing commonly used and readily available reference sources, such as professional society guidelines, or subscription online knowledge bases. PCPs are advised to use a similar approach when asked to provide basic hormone therapy care, by using these Standards of Care as well as other readily accessed resources (Oliphant et al., 2018, Cheung et al., 2019, T'Sjoen et al., 2020, Hembree et al., 2017) It should be noted that most of the commonly used medications in gender affirming regimens are familiar to everyday primary care practice, including but not limited to: Testosterone, estradiol, progesterone and other progestagens, and spironolactone.

Mental Health

Primary care providers should be able and willing to provide mental health support for transgender people and gender-affirming hormone treatments that can alleviate gender dysphoria and allow gender expression. At the very least, they should be aware of these needs and consult additional specialty support if needed.

Wylie et al state that "Primary health-care providers assessing for hormone and surgery eligibility should be competent in assessing basic mental health issues and should recognize that referral to a mental health professional may be necessary—for example, where there is evidence of depression or gender minority stress." (Wylie et al., 2016)

Preventive Care

General practitioners are versed in providing comprehensive primary and secondary cancer prevention as a part of routine primary care. Evidence based cancer prevention guidelines vary globally, due to differences in national guidelines and levels of access to screening modalities at the local level. To date, research on the long-term impact of gender affirming hormone therapy on cancer risk is limited (Blondeel et al., 2016; Braun et al., 2017). We have insufficient evidence to estimate prevalence of cancers in breast or reproductive organs among transgender populations (Joint et al., 2018). However, cancer screening should commence, in general, according to local guidelines. Several modifications are discussed in detail, below, depending on type and duration of hormone use and/or surgical intervention. The primary care provider should maintain an updated record of which organs are present for transgender patients (an organ inventory), that is updated based on surgical history or development from gender affirming hormones, and then offer routine screening as appropriate.

Not all PCP's provide care across the lifespan. However, if providers routinely care for children, adolescents or elder cisgender persons, they should develop competency in trans care applicable to these age groups. Otherwise, PCPs should be able to make appropriate referral to other health care providers caring for these populations.de.

Summary of Recommendations

Statement 1: We recommend that clinicians obtain detailed medical history for trans and gender diverse people, including past and present use of hormones and gonadal surgeries, and presence of traditional cardiovascular and cerebrovascular risk factors, in order to provide regular cardiovascular risk assessment according to established, locally used guidelines.

Statement 2: We recommend that clinicians should assess and manage cardiovascular health in trans and gender diverse people using tailored risk factor assessment and cardiovascular/cerebrovascular management methods.

Statement 3: We recommend that clinicians tailor sex-based risk calculators used for assessment of medical conditions to the needs of trans and gender diverse people, taking into consideration length of hormone use, dosing and levels, current age, and age at initiation of hormones.

Statement 4: We recommend that clinicians counsel trans and gender diverse patients about their tobacco use and advise tobacco/nicotine abstinence prior to gender affirming surgery.

Statement 5: We recommend that clinicians discuss and address aging-related psychological, medical, and social concerns with trans and gender diverse patients.

Statement 6: We recommend that clinicians follow local breast cancer screening guidelines developed for cisgender women for transfeminine individuals who have received estrogens, taking into consideration length of hormone use, dosing, current age, and age at initiation of hormones.

Statement 7: We recommend that clinicians follow local breast cancer screening guidelines developed for cisgender women in transmasculine individuals who have not had chest

masculinization surgery.

Statement 8: We recommend that clinicians should follow local screening guidelines developed for cisgender women of average and elevated risk respectively including recommendation not to screen) for transmasculine individuals of average and elevated risk for ovarian or endometrial cancer.

Statement 9: We recommend against routine oophorectomy or hysterectomy in transmasculine individuals on testosterone treatment with otherwise average risk solely for the purpose of preventing ovarian or uterine cancer.

Statement 10: We recommend that clinicians should offer cervical cancer screening to transmasculine individuals with a cervix, or a history of having a cervix, following local guidelines for cisgender women.

Statement 11: We recommend that clinicians counsel trans and gender diverse people that the use of antiretroviral medications is not a contraindication for gender-affirming hormone therapy.

Statement 12: We advise that clinicians obtain a detailed medical history on trans and gender diverse people including past and present use of hormones and gonadal surgeries, and presence of traditional osteoporosis risk factors, to assess optimal age and necessity for osteoporosis screening.

Statement 13: We advise that clinicians discuss bone health with transgender individuals including the need for active weight bearing exercise, healthy diet, calcium and vitamin D supplementation and fall prevention strategies.

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Statement 2:

We recommend that clinicians should assess and manage cardiovascular health in trans and gender diverse people using tailored risk factor assessment and cardiovascular/cerebrovascular management methods.

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We recommend that clinicians tailor sex-based risk calculators used for assessment of medical conditions to the needs of trans and gender diverse people, taking into consideration length of hormone use, dosing and levels, current age, and age at initiation of hormones.

Cardiovascular disease (CVD) and stroke are the leading causes of mortality worldwide (World Health Organization, 2017). Extensive data among racial, ethnic and sexual minorities in multiple settings demonstrate significant disparities in prevalence of CVD and its risk factors, as well as outcomes to medical interventions. Structural factors such as access to care, socioeconomic status, and allostatic load related to minority stress contribute to these disparities (Flentje et al., 2019; Havranek et al., 2015). TGD people often experience social, economic and discriminatory conditions similar to other minority populations with known increased cardiovascular risk (James et al., 2016, Reisner et al., 2016; Carpenter et al., 2020). Transgender and gender diverse persons of racial, ethnic and sexual minorities would experience increased impact related to intersectional stress. Conversely, access to gender affirming care, including hormone therapy, may buffer against the elevation of CVD risk due to improving quality of life, and reducing gender dysphoria and incongruence (Martinez C et al., 2018; Defreyne, J et al., 2019). Primary care providers can significantly improve transgender health through screening and prevention of CVD and its associated risk conditions—tobacco use, diabetes mellitus, hypertension, dyslipidemia, and obesity.

The few, primarily U.S based, studies of the prevalence of CVD, stroke or CVD risk in transgender and gender diverse persons independent of hormone therapy indicate elevated CV risk, including high rates of undiagnosed and untreated CV risk factors with inadequate CV prevention compared to cisgender populations (Denby et al., 2021; Nokoff et al., 2018, Malhotra, A et al., 2020). In one population based study, transgender people had greater odds of discrimination, psychological distress, and adverse childhood experience, and these were associated with increased odds of a having cardiovascular condition (Poteat et al., 2021).

In U.S studies based on the data from the Behavioral Risk Factor Surveillance System, both transgender men and transgender women show higher prevalence of myocardial infarction (MI), stroke, or any CVD compared to cisgender men and/or cisgender women. Results vary based on the adjustment of data for additional variables, including race, income or cardiovascular risk factors. (Nokoff et al., 2018; Caceres et al., 2020, Alzahrani et al., 2019). Gender nonbinary persons also had higher odds of CVD (Downing & Przedworski, 2018). Data on hormone use was not collected in these studies, and the studies are limited by the use of self-reported health histories. In the U.S., transgender and gender diverse individuals presenting for hormone therapy may have higher rates of undiagnosed and untreated CVD risk factors compared to the cisgender population (Denby et al., 2021), although may not be applicable globally.

A large 2018 case control study from several US centers which used 10:1 cisgender matched controls found no statistically significant difference in rates of MI or stroke between transgender women and cisgender men, and rates of MI, stroke, or VTE between transgender men and cisgender men or women. There was a statistically significant hazard ratio of 1.9 for venous thromboembolism among transgender women in comparison to cisgender men. A sub-cohort of transgender women who initiated hormone therapy during (as opposed to prior to) the 6-year study window did show an increased risk of stroke. Increases in rates of VTE in the overall cohort of transgender women and stroke in the initiation sub-cohort of transgender women demonstrated calculated numbers-needed-to-harm (not reported in the paper) between 71-123. (Getahun et al, 2018) Other studies have demonstrated no increase in CV events or stroke among transgender men on testosterone therapy, though studies are limited by small sample size, relatively short follow up, and younger age of sample population. (Nota et al., 2019; Martinez et al., 2020).

European and US studies in transgender women who have accessed feminizing hormone therapy increasingly indicate higher risk of CVD and/or stroke, compared to cisgender women

and in some studies, cisgender men (Wierckx et al., 2013; Nota et al., 2019; Getahun et al., 2018). Many of these studies had significant limitations: variably adjusting for CV related risk factors, small sample sizes especially of older transgender women, and variable duration and types of hormone therapy (Connelly et al., 2019; Defreyne et al., 2019, Connelly et al., 2019; Martinez et al., 2020). The overall increased risk was small. The majority of transgender women who experienced cardiac events or stroke in many of these studies were over 50 years old, had one or more CVD risk factors, and were on a variety of hormone regimens, including but not limited to ethinyl estradiol, which is a synthetic estrogen that confers significant elevations in thrombotic risk and is not recommended for use in feminizing regimens. (Martinez et al., 2020; Gooren et al., 2014). Current limited evidence suggests that estrogen-based hormone therapy is associated with an increased risk of myocardial infarction and stroke, but whether this small risk is a result of hormone therapy or an effect of pre-existing CV risk is unclear. There are no known studies specifically addressing CVD and related conditions in non-binary individuals, those who use sub-physiologic doses of gender affirming hormones, or in adults previously treated with puberty suppression.

Primary care providers can best address CVD risk during hormone therapy by assessing transgender and gender diverse people for CVD and modifiable CVD risk factors: diabetes mellitus, hypertension, hyperlipidemia, obesity, and smoking, as well as address minority stress contributing to cardiovascular risk. In addition, primary care providers can mitigate transgender cardiovascular health disparities with timely diagnosis and treatment of risk conditions, and tailored management supportive of ongoing gender affirming interventions.

Risk assessment guidelines vary, based on the national or international context and scientific affiliation of guideline developers. CVD prevention guidelines vary regarding the nature and frequency of risk assessment for otherwise healthy adults under age 40 (WHO, 2007; Arnett et al., 2019; Authors/Task Force members et al., 2016; Precoma et al., 2019) Over age 40, when cardiovascular risk increases, guidelines clearly recommend scheduled risk assessment using a calculated prediction of ten-year total CVD risk, based on risk prediction equations from large population samples. Examples of risk calculators include SCORE (recommended by European Guidelines on CVD Prevention), Pooled Cohort Studies Equations (2013 AHA ACC Guideline on the assessment of CVD risk), Framingham risk scores, and the World Health Organization (WHO) Risk Prediction Charts. The WHO charts were developed based on information on the countries in each WHO subregion. In many low resource settings, facilities are not available to measure cholesterol or serum glucose, and alternative prediction charts are available based without these measures.

However, all current cardiovascular risk calculators are gendered, using sex as a significant risk variable. There is currently insufficient data on cardiovascular risk interventions across the lifespan in transgender and gender diverse persons with medical and surgical interventions to adjust these predictive equations. Nonetheless, it is clear that both sex-assigned at birth and medical transition can affect the parameters used to calculate cardiovascular risk (Maraka et al., 2017; Martinez et al., 2020; Defreyne et al., 2019; Connelly et al., 2019). Providers can take a variety of approaches to the use of cardiovascular risk calculators in transgender and gender diverse persons, including using the risk calculator for the sex assigned at birth, affirmed gender, or a weighted average of the two, taking into consideration total lifetime exposure to hormone therapy. Though data are lacking, it is likely most appropriate to use the affirmed gender for transgender adults with a history of pubertal-age hormone therapy initiation. Patients with a history of sub-maximal hormone therapy use, or prolonged periods of time post-gonadectomy without hormone replacement before roughly age 50 may require an even more nuanced approach. Providers should be aware of the characteristics and limitations of the risk

calculator in use. Providers should engage patients in shared decision making regarding these specific considerations.

There are currently no studies comparing the prevalence of dyslipidemia between transgender and cisgender samples, controlled for hormone use. As noted previously, data in other populations demonstrates that psychosocial stress during childhood and remote adulthood favor adiposity and abnormal lipid metabolism (Grebreaab et al., 2018). Both testosterone and estrogen-based hormone therapy affect lipid metabolism, although evidence is limited by the variety of hormone regimens and additional variables (Maraka et al., 2017; Martinez et al., 2020; Defreyne et al., 2019 Connelly et al., 2019; Deutsch et al., 2013). On balance, estrogen tends to raise in high-density lipoprotein (HDL) cholesterol and triglycerides, with variable effects on low density lipoprotein (LDL) cholesterol, while testosterone variably affects triglycerides, decreases HDL cholesterol and increase LDL cholesterol. The method of administration may affect this pattern, particularly related to oral versus transdermal estrogen and triglycerides (Maraka et al., 2017). In general, the effect sizes of these differences are minimal, and the overall impact on cardio- and cerebrovascular outcomes are unclear. There are no studies examining hormone effects on transgender and gender diverse people with pre-existing dyslipidemia, with hormone use starting over age 50 or effects beyond 2-5 years of therapy.

There are currently no studies comparing the prevalence of hypertension between transgender and cisgender samples, controlled for hormone use. Data in other populations demonstrates that chronic and acute psychosocial stress, including experiences of discrimination, can mediate hypertension (Spruill, 2010; Din-Dzietham et al., 2004). There were no differences in reported hypertension between transgender men or women compared to cisgender samples in studies from U.S. the Behavioral Risk Factor Surveillance System, a large national US health survey. (Nokoff et al., 2018; Alzahrani et al., 2019).

Studies of testosterone and estrogen-based hormone therapy have shown inconsistent effects on systolic and diastolic blood pressure, and a systematic review concluded that given the limited quality of the studies, there is insufficient data to reach conclusions on the effects of gender affirming hormone therapy on blood pressure (Connelly et al., 2021). Spironolactone, often used as an androgen blocker in feminizing hormone therapy, is a potassium sparing diuretic, and may increase potassium when use conjunction with ACE inhibitors or angiotension receptor blocker medications, as well as salt substitutes. There are no studies examining hormone effects on transgender and gender diverse people with pre-existing hypertension, with hormone use starting over age 50 or effects beyond 2-5 years of therapy. Transgender persons on hormone therapy should undergo any additional blood pressure screening or monitoring as indicated by WPATH guidelines for hormone therapy.

There are currently no studies comparing the prevalence of diabetes mellitus between transgender and cisgender samples, independent of hormone use. Data in other populations, including sexual minorities, indicates that chronic and acute psychosocial stress can mediate the development and control of type 2 diabetes (Kelly and Mubarak, 2015; Beach et al., 2018).

No differences in reported diabetes were found between transgender men, transgender women or nonbinary persons compared to cisgender samples in studies from the U.S. Behavioral Risk Factor Surveillance System (Nokoff et al., 2018; Alzahrani et al., 2019; Caceres et al., 2020). Several small studies have shown a higher-than-expected prevalence of polycystic ovarian syndrome or hyperandrogenemia among transgender men (Feldman, J 2016), conditions associated with insulin resistance and diabetes risk. While studies of both testosterone and estrogen-based hormone therapy show varying effects on weight/body fat, glucose metabolism

and insulin resistance (Defreyne et al., 2019), most do not demonstrate any increase in prediabetes or diabetes (Connelley et al., 2019; Chan et al., 2018). There are no studies examining hormone effects on transgender and gender diverse people with pre-existing diabetes, with hormone use starting over age 50 or effects beyond 2-5 years of therapy. There are currently no studies specifically addressing diabetes in adults previously treated with puberty suppression.

Statement 4:

We recommend that clinicians counsel trans and gender diverse patients about their tobacco use and advise tobacco/nicotine abstinence prior to gender affirming surgery.

Tobacco use is a leading contributor to cardiovascular disease, pulmonary disease and cancer worldwide (World Health Organization, 2020, May 27). TGD persons have a higher prevalence of tobacco use compared to cisgender individuals, varying across the gender spectrum (Buchting et al., 2017; Azagba et al., 2019), a pattern consistent with other populations experiencing minority stress (Gordon et al., 2020). Primary care providers can promote protective factors against tobacco use, including reducing exposure to personal or structural discrimination, having gender affirming identification, and having health insurance (Shires & Jafee, 2016; Kidd et al., 2018).

The health risks of tobacco use affect trans and gender diverse persons disproportionately, primarily due to decreased access to culturally competent, affordable screening and treatment of tobacco related disease (Shires & Jafee, 2016; Alzahrani et al., 2020). Smoking may further increase cardiovascular and venous thromboembolic risk for trans and gender diverse individuals on feminizing gender affirming hormone therapy (Alzahrani et al., 2020; Hontscharuk et al., 2021). Smoking doubles or triples the risk of general surgery complications, such as wound healing, scarring, and infection (Yoong et al., 2020), increasing the risk for those accessing gender affirming surgeries. Quitting smoking prior to surgery and maintaining abstinence for six weeks after significantly reduces complications (Yoong et al., 2020)

There are currently few studies of smoking cessation programs specifically focused on trans and gender diverse persons (Berger & Mooney-Somers, 2017). Limited evidence suggests, however, that primary care providers can enhance smoking cessation efforts by addressing the effects of minority stress (Gamarel et al., 2015), and incorporating gender affirming interventions such as hormone therapy (Myers & Safer, 2016).

Statement 5:

We recommend that clinicians discuss and address aging-related psychological, medical, and social concerns with trans and gender diverse patients.

Aging presents specific social, physical, and mental health challenges for trans and gender diverse persons. While the literature on aging and trans elders is limited, many older trans and gender diverse adults have experienced a lifetime of stigma, discrimination, and repression of identified gender (Witten, et al., 2017; Fabre, V. D., & Gaveras, E. 2020). This experience affects trans and gender diverse elders' interactions with health care (Fredriksen-Goldsen et al., 2014; Kattari & Hasche, 2016; Walker et al., 2017). Trans elders are more likely than cisgender LGB peers to report poor physical health, even when controlled for socio demographic factors. (Fredriksen-Goldsen et al., 2011; Fredriksen-Goldsen et al., 2014). Reduced access to culturally competent care and sequelae of minority stress often result in delayed care, potentially

exacerbating chronic conditions common with aging (Fredriksen-Goldsen et al., 2014; Bakko & Kattari, 2021).

Although there are few studies on gender affirming medical interventions among trans and gender diverse elders, evidence suggests that older adults experience significantly higher quality of life with medical transition even compared to younger trans and gender diverse adults (Cai, X et al., 2019). Age itself is not an absolute contraindication or limitation to gender affirming medical or surgical interventions, however trans and gender diverse elders may not be aware of the current range of social, medical or surgical options available to meet their individual needs (Hardacker et al., 2019; Houlberg, 2019).

While studies on mental health among trans and gender diverse elders are limited, those over age fifty experience significantly higher rates of depressive symptoms and perceived stress compared to cisgender LGB and heterosexual older adults. (Fredriksen-Goldsen et al., 2011, Fredriksen-Goldsen et al., 2014). Risk factors specific to trans and gender diverse elders include gender and age-related discrimination, general stress, identity concealment, victimization, and internalized stigma, while social support, and community belonging appear protective (Fredriksen-Goldsen et al., 2014; Hoy-Ellis & Fredriksen-Goldsen, 2017; White Hughto & Reisner, 2018). PCPs may assist patients by encouraging spirituality, self-acceptance and self-advocacy, and an active healthy lifestyle which are associated with resilience and successful aging (McFadden et al., 2013; Witten, 2014).

TGD elders often face social isolation and loss of support systems, including close friends and children (Fredriksen-Goldsen et al., 2011; Witten, 2017). The most common aging concerns among trans and gender diverse persons are losing the ability to care for themselves followed by having to go into a nursing home or assisted living facility (Henry et al., 2020). Long term care settings present the potential for physical or emotional abuse, denial of hormones, denial of routine care, being "outed," and being prevented to live and dress according to ones affirmed gender Services and Advocacy for GLBT Elders (SAGE) and National Center for Transgender Equality (NCTE), 2012; Porter et al., 2016; Pang et al., 2019). TGD elders identify senior housing, transportation, social events, support groups as being most needed services (SAGE) and National Center for Transgender Equality (NCTE), 2012; Witten, 2014).

Despite barriers, most trans and gender diverse persons engage in successful aging, strengthened with clear areas of resilience (Fredriksen-Goldsen et al., 2011; Witten, 2014). Primary care providers should address core health issues facing trans and gender diverse elders, including mental health, gender affirming medical interventions, social support, and end of life/long term care.

Beyond the independent impact of factors such as minority stress and social determinants on health in later years, data are lacking on specific health issues for transgender people using hormone therapy later in life, including those who began hormone therapy at a younger age, and those seeking to continue or begin hormone therapy in their sixth, seventh, eighth, or later decades. With an increasing proportion of transgender people beginning hormone therapy at younger ages, including some who begin at the time of puberty, studies to examine the impact of decades of treatment on long-term health are ever more important.

Statement 6:

We recommend that clinicians follow local breast cancer screening guidelines developed for cisgender women for transfeminine people who have received estrogens, taking into

consideration length of hormone use, dosing, current age, and age at initiation of hormones.

Transfeminine people taking estrogen will develop breasts and therefore warrant consideration for breast cancer screening. Exogenous estrogen may be one of multiple factors that contribute to breast cancer risk in cisgender people. Two cohort studies have been published on breast cancer prevalence among transgender women in the Netherlands (Gooren et al., 2013) and the U.S. (Brown & Jones, 2015). Both were retrospective cohorts of clinical samples using a diagnosis of breast cancer as the outcome of interest, with comparisons made to cisgender controls. Neither study involved prospective screening for breast cancer, and both have significant methodologic limitations. Numerous guidelines have been published (Center of Excellence for Transgender Health & Community Medicine, 2016) recommending some combination of age + length of estrogen exposure as the determinant of need to commence screening. These recommendations are based on expert consensus only and are evidentiarily weak.

BRCA 1 and 2 mutations increase the risk of breast cancer, including the risk of hormone sensitive tumors. The degree of increase in risk, if any, from gender affirming estrogen therapy is unknown. Patients with a known BRCA1 mutation should be counseled on the unknowns, and shared decision making with informed consent should occur between the patient and provider, recognizing the numerous benefits of hormone therapy.

Other considerations for breast cancer screening among transgender women may include that transgender woman are likely to have more dense breasts on mammography. Dense breasts, history of injecting breasts with fillers such as silicone, and/or breast implants may complicate interpretation of breast imaging via mammography (Sonnenblick et al., 2018); special techniques should be used accordingly. People who have injected particles for breast augmentation such as silicone or other fillers may have complications, including sclerosing lipogranulomas that obscure normal tissue on mammography or ultrasound.

Statement 7:

We recommend that clinicians follow local breast cancer screening guidelines developed for cisgender women in transmasculine people who have not had chest masculinization surgery.

For transgender men, theoretical concerns exist regarding direct exposure to testosterone as well as aromatized estrogen resulting from testosterone therapy as a risk factor for the development of breast cancer. Limited retrospective data has not demonstrated increased risk for breast cancer among transgender men (Gooren et al., 2013; Grynberg et al., 2010), however prospective and comparison data are lacking. Most people who have had chest masculinization surgery will have some breast tissue remaining, and therefore it is important for providers to be aware that breast cancer risk is not zero in this population. The timing and approach to breast cancer screening in transgender men who have had chest surgery is currently not established, and, similar to cisgender men with significant family history or BRCA gene mutation, screening via MRI, or ultrasound may be appropriate. Because the utility and performance of these approaches have not been studied, and because self- and clinician-led chest/breast exams are not recommended in cisgender women due to potential harms of both false-positive results and over-detection (detection of a cancer which would have regressed on its own with no need for intervention), any approach to screening in transgender men who have had chest surgery

should occur in the context of shared decision making between patients and providers regarding the potential harms, benefits, and unknowns of these approaches.

Statement 8:

We recommend that clinicians should follow local screening guidelines developed for cisgender women of average and elevated risk respectively (including recommendation not to screen) for transmasculine people of average and elevated risk for ovarian or endometrial cancer.

Current consensus guidelines do not recommend routine ovarian cancer screening in cisgender women. Case reports of ovarian cancer among transgender men have been reported (Dizon et al., 2006; Hage et al., 2000). No evidence currently exists to suggest that testosterone therapy leads to an increased risk of ovarian cancer, however long-term prospective studies are lacking (Joint et al., 2018).

Statement 9:

We recommend against routine oophorectomy or hysterectomy in transmasculine people on testosterone treatment with otherwise average risk solely for the purpose of preventing ovarian or uterine cancer.

Transgender men are often in an oligo- or anovulatory state, or otherwise experience shifts in luteal phase function and progesterone production. This combined with the possible increased estrogen exposure from aromatization of exogenous testosterone raises the concern for excessive or unopposed endometrial estrogen exposure, although clinical significance is unknown. Histologic studies of the endometrium in transgender men taking testosterone have found atrophy rather than hyperplasia (Grimstad et al., 2018; Grynberg et al., 2010; Perrone et al., 2009). In a large cohort of transmasculine people who had hysterectomy with oophorectomy, benign histopathology in ovaries was noted in all cases (n=85) (Grimstad et al., 2020). While prospective outcome data are lacking, there is insufficient evidence at this time to support a recommendation of routine hysterectomy or oophorectomy solely conducted for prevention of endometrial or ovarian cancer in transgender men. Otherwise, unexplained signs/symptoms of endometrial or ovarian cancer should be evaluated appropriately.

Statement 10:

We recommend that clinicians should offer cervical cancer screening to transmasculine individuals with a cervix, or a history of having a cervix, following local guidelines for cisgender women.

Individuals with a cervix should undergo routine cervical cancer prevention and screening according to age-based regional practices and guidelines. This includes vaccination against the human papilloma virus (HPV) and screening according to local guidelines, including cytologic, high-HPV co-testing if available. It is important that clinicians are mindful of approaches to the pelvic speculum exams that minimize pain and distress for trans masculine people.

TGD people with a cervix are less likely to have had conventional cervical cancer screening, often because the exam can cause worsening of dysphoria and/or general practitioners and patients are misinformed about the need for this screening (Agenor et al., 2016; Potter et al.,

2015). Testosterone therapy can result in atrophic changes of the genital tract, and length of time on testosterone has been associated with greater likelihood for insufficient sampling on cervical cancer screening cytology (Peitzmeier et al., 2014). Alternatives to speculum exams and/or cervical cytology, such as provider- or self-collected high-risk HPV swabs, may be of particular benefit for screening people with a cervix. Research underway in the U.S. is examining use of self-collected vaginal high-risk HPV testing among trans masculine populations; HPV swabs were found to be highly acceptable among trans men with a sensitivity to high-risk HPV of 71.4% (negative predictive value of X) and specificity of 98.2%, (Reisner et al., 2018). Further study is needed on the harms of HPV primary screening in transgender men with respect to potential increased risk of invasive examinations and colposcopies.

Statement 11:

We recommend that clinicians counsel trans and gender diverse people that the use of antiretroviral medications is not a contraindication for gender-affirming hormone therapy.

PCPs have unique opportunities to contribute crucial education and prevention efforts, especially related to decreasing HIV burden among transgender women. Mistrust of health care providers due to past experiences of discrimination and transphobia impacts HIV prevention and linkage to care efforts (Sevelius et al., 2016; Silva-Santisteban et al., 2016). Stigma, lack of adequate training, and innate power hierarchies within medical establishments all contribute to ambivalence and uncertainty among health care professionals when caring for transgender patients (Poteat et al., 2013). Finally, a lack of inclusive and gender affirming practices in the health care setting may lead to transgender people feeling unsafe discussing sensitive topics such as HIV diagnosis and avoiding care out of fear (Bauer et al., 2014; Gibson et al., 2016; Minor Peters, 2016; Seelman et al., 2017).

Clinicians should be aware of this broader context within which many trans and gender diverse people are seeking care for either gender affirming hormones and/or HIV chemoprophylaxis or treatment. Various misconceptions may exist about the safety of taking gender affirming hormones concurrently with antiretroviral therapy for HIV chemoprophylaxis or treatment.

Direct study of ART/GAHT interactions has been limited. Two studies of the effects of GAHT on tenofovir diphosphate (Grant et al., 2021) and tenofovir diphosphate and emtricitabine (Shieh et al., 2019) have found some signals of statistically significant lowered ART drug levels of unlikely clinical significance. Data on interactions between hormonal contraceptives and anti-retrovirals on the whole are reassuring with respect to the impact of hormones on ART (Nanda et al., 2017). Because estradiol is partially metabolized by cytochrome P450 (CYP) 3A4 and 1A2 enzymes, potential drug interactions with other medications that induce or inhibit these pathways, such as non-nucleoside reverse transcriptase inhibitors (NNRTIs, e.g., efavirenz (EFV) and nevirapine (NVP) may exist. (Badowski, 2021). (DHHS 2021). However, the preferred first-line ART regimens in most countries use integrase inhibitors, which have minimal to no drug interactions with gender-affirming hormones and can be used safely (Badowski, 2021, DHHS 2021).

If concerns exist about potential interactions, clinicians should monitor hormone levels as needed. Therefore, trans and gender diverse people living with HIV and taking antiretroviral medications should be counseled that taking antiretrovirals is safe alongside gender affirming hormone therapy.

Statement 12:

We advise that clinicians obtain a detailed medical history on trans and gender diverse people including past and present use of hormones and gonadal surgeries, and presence of traditional osteoporosis risk factors, to assess optimal age and necessity for osteoporosis screening.

Statement 13:

We advise that clinicians discuss bone health with transgender individuals including the need for active weight bearing exercise, healthy diet, calcium and vitamin D supplementation and fall prevention strategies.

Estrogen and testosterone both impact bone formation and turnover. Testosterone results in greater periosteal apposition and bone mass in individuals assigned male at birth who have a male puberty however peak bone mineral density (BMD) does not vary by sex assigned at birth. (Almeida et al., 2017; Vanderschueren et al., 2004) Declines of sex hormones are associated with development of osteoporosis in older age. (Almeida et al., 2017). The World Health Organization has stated that the osteoporosis prevention and its associated fractures is essential to the maintenance of health and quality of life. (World Health Organization, 2004)

TGD individuals may receive medical and/or surgical interventions that have the potential to influence bone health, such as receipt of sex hormones, androgen blockers, and gonadectomy, therefore a detailed medical history, including past and present use of hormones and gonadal surgeries is necessary to establish the need for osteoporosis screening.

Several observational studies have compared BMD in transgender adults before and after receipt of hormones and in transgender individuals compared to sex-at-birth matched cisgender controls. These studies have had disparate results, including both increases and decreases in BMD after initiating GAHT, likely due to different study designs, hormone regimes and length of follow-up. In recent years, well conducted prospective studies and systematic reviews and metaanalyses have advanced knowledge about bone health for TGD persons.

Low bone mineral density may exist before initiation of hormones. One study among transgender women showed lower mean areal BMD at the femoral neck, total hip and spine compared to age-matched cisgender male controls, (Van Caenegem et al., 2013) and another study revealed a high prevalence of low BMD scores among TGD youth before starting puberty blockers. (Lee et al., 2020). The authors for both studies concluded that low rates of physical activity may be an important contributor to these findings.

Acceleration of bone loss can occur after gonadectomy if hormones are stopped, or hormones levels are suboptimal. In one study, thirty percent of transgender women who had undergone gonadectomy had low bone mass, and this correlated with lower 17B estradiol levels and adherence to GAHT. (Motta et al., 2020)

Investigation of the effects of GAHT on BMD have revealed that transgender women receiving estrogen therapy show improvements in BMD. A systematic review and meta-analysis on the impact of sex hormones on bone health of transgender individuals included 9 eligible studies in transgender women (n=392) and 8 eligible studies in transgender men (n=247) published between 2008 and 2015. The meta-analysis revealed that transgender women showed a statistically significant increase in lumbar spine BMD (but not femoral neck BMD) compared with

baseline measures. Among transgender men, there were no statistically significant changes in the lumbar spine, femoral neck, and total hip BMD at 12 and 24 months after starting testosterone compared to baseline. (Singh-Ospina et al., 2017) Since the publication of this study, the European Network for Investigation of Gender Incongruence (ENIGI) study, a multicenter prospective observational study (Belgium, Norway, Italy and the Netherlands) published results on BMD outcomes for 231 transgender women and 199 transgender men one year after initiating hormone therapy. (Wiepjes et al., 2017) Transgender women had an increase in BMD of the lumbar spine, total hip and femoral neck, and increased BMD of the total hip occurred in transgender men. One study has reported no fractures in transgender individuals at 12 months following initiation of hormones (53 transgender men and 53 transgender women. (Wierckx et al., 2014). These studies provide guidance that receipt of GAHT alone is not an indication for enhanced osteoporosis screening.

The recommended screening modality for osteoporosis is dual energy x-ray absorptiometry (DXA) of the lumbar spine, total hip and femoral neck. (Kanis, 1994) However in many low- and middle-income countries BMD tests using DXA are not available, and routine DXA-based screening is conducted in few countries, the USA being an exception. When they exist, recommendations for BMD screening are based on several factors including sex assigned at birth, age and presence of traditional risk factors for osteoporosis, such as prior fracture, high risk medication use, conditions associated with bone loss and low body weight. (International Society for Clinical Densitometry, 2019)

Clinical practice guidelines include recommendations for osteoporosis screening in TGD individuals. (Hembree et al., 2017; Rosen et al., 2019; UCSF Transgender Care, 2016) For TGD people, both the ISCD and The Endocrine Society suggest consideration of baseline BMD screening before initiation of hormones. The ISCD guidelines state that BMD testing is indicated for TGD individuals if they have a history of gonadectomy or therapy that lowers endogenous gonadal steroid levels prior to initiation of hormone therapy, hypogonadism with no plan to take GAHT or known indications for BMD testing. (Rosen et al., 2019)). However, the evidentiary basis for these recommendations is weak, and widespread implementation is not practical and unlikely to result in interventions or changes in management. From the perspective of face validity, there is no reason to suspect that GAHT in the setting of gonadectomy or endogenous hormonal suppression with physiologic add-back until at least the age of 50 would lead to clinically relevant BMD disorders requiring intervention.

PCPs should discuss ways to optimize bone health with TGD clients. In addition, PCPs should provide information about the importance of nutrition and exercise on maintaining bone health. TGD individuals with, or at risk for, osteoporosis should be informed about the benefits of weight bearing exercise and strength and resistance exercises in limiting bone loss. (Benedetti et al., 2018). Good nutrition is integral to bone health as nutritional deficiencies, including insufficient calcium intake and low vitamin D, can result in low bone mineralization. Vitamin D and calcium supplementation have been shown to reduce hip as well as total fracture incidence (Weaver et al., 2016). Although relevant to all populations, this discussion is pertinent as high prevalence of hypovitaminosis D has been seen in TGD populations. (Motta et al., 2020; Van Caenegem et al., 2013).

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Hormone Therapy

Introduction

Transgender and gender diverse (TGD) persons may request gender-affirming hormone therapy (GAHT) to achieve changes consistent with their embodiment goals and/or gender identity. Ever since the first WPATH SOC published in 1979 and in subsequent updates of the SOC, including SOC version 7, gender-affirming hormone therapy has been accepted as medically necessary (Coleman et al., 2012). WPATH endorsed the Endocrine Society's guidelines for GAHT for TGD persons in 2009 and 2017 (Hembree et al., 2009; Hembree et al., 2017). The European Society for Sexual Medicine has also published a position statement on hormone management in adolescent and adult TGD people (T'Sjoen et al., 2020). When provided under medical supervision, GAHT in adults is safe (Tangpricha and den Heijer, 2017; Safer and Tangpricha, 2019). However, there are some potential long-term risks, and careful monitoring and screening is required to reduce adverse events (Hembree et al., 2017; Tangpricha et al., 2019; Rosenthal, 2021).

The approach to GAHT differs and depends on the developmental stage of the individual at the time of initiation of hormone therapy as well as their treatment goals. Hormone therapy is not recommended for children who have not begun endogenous puberty. In eligible youth (as per the adolescent chapter) who have reached the early stages of puberty, the focus is usually to delay further pubertal progression with gonadotropin releasing hormone agonists (GnRHAs) until an appropriate time when GAHT can be introduced. Eligible adults may initiate GAHT if they fulfill the criteria as per the assessment chapter. In addition, health care providers should discuss fertility goals and fertility preservation options prior to initiating GAHT (see chapter on Reproductive Health).

Gender affirming hormone therapy with feminine embodiment goals typically consists of estrogen and an androgen lowering medication (Hembree et al., 2017). Although there are anecdotal reports of progesterone use for breast development and mood management, there is currently insufficient evidence that potential benefits of progesterone administration outweighs the potential risks (Iwamoto et al., 2019). Masculinizing GAHT typically consists of testosterone. Both WPATH and the Endocrine Society recommend monitoring levels of sex hormones. While GAHT is customized to meet the individual needs of the TGD person, typically hormone levels are maintained at a concentration sufficient to support good bone health and not supraphysiologic (Hembree et al., 2017; Rosen et al., 2019).

In most cases, GAHT is maintained throughout life. It is not known if doses of GAHT should be reduced in older TGD people. Discontinuation of hormone therapy may result in bone loss in both trans feminine and trans masculine individuals and definitely in those whose gonads have been removed (Wiepjes et al., 2020). Routine primary care should also be performed (see chapter on Primary Care). Epidemiology studies have reported an increased incidence of cardiovascular disease and venous thromboembolism (VTE) in TGD people receiving estrogen, most notably in older women and with different preparations of GAHT (Maraka et al., 2017; Irwig, 2018). TGD individuals treated with testosterone may also have increased adverse cardiovascular risks and events, such as increased myocardial infarction, blood pressure, decreased HDL-cholesterol, and excess weight (Alzahrani et al., 2019; Cocchetti et al., 2021; Irwig, 2018; Kyinn et al., 2021). Health professionals (HPs) should discuss lifestyle and pharmacologic therapy with patients who are at the highest risk of developing

cardiovascular disease (see chapter on Primary Care. Polycythemia is another disorder that may present in TGD people taking testosterone (Antun et al., 2020). Therefore, it is important to continuously monitor for the development of conditions that can be exacerbated by GAHT throughout life (Hembree et al., 2017).

Summary of Recommendations

Statement 1: We recommend health professionals should begin pubertal hormone suppression in eligible transgender and gender diverse adolescents after they first exhibit physical changes of puberty (Tanner stage 2).

Statement 2: We recommend health professionals use GnRH agonists to suppress endogenous sex hormones in transgender and gender diverse patients where puberty blocking is indicated.

Statement 3: We suggest health professionals prescribe progestins (oral or injectable depot) for pubertal suspension in transgender youth when GnRH agonists are either not available or are cost prohibitive.

Statement 4: We suggest health professionals prescribe GnRH agonists for suppression of sex steroids without concomitant sex steroid hormone replacement in adolescents seeking such intervention and who are well into or have completed pubertal development (past Tanner stage 3) but are either unsure about or do not want to begin sex steroid hormone therapy.

Statement 5: We suggest health professionals prescribe sex hormone treatment regimens as part of gender-affirming treatment in eligible adolescents who are at least Tanner stage 2, preferably* with parental/guardian consent, and that treatment decisions be made with the participation of the adolescent, parents/guardians, and treatment team*.

Statement 6: We recommend health professionals measure hormone levels during gender-affirming treatment to ensure that endogenous sex steroids are lowered and administered sex steroids are maintained at levels appropriate to the treatment goals of transgender and gender diverse patients according to the Tanner stage.

Statement 7: We recommend health professionals prescribe progestogens or a GnRH agonist in transgender adolescents with a uterus to reduce dysphoria caused by their menstrual cycle when gender-affirming testosterone use is not yet indicated.

Statement 8: We suggest healthcare providers involve professionals from multiple disciplines who are experts in transgender health and the management of the care required for transgender and gender diverse adolescents.

Statement 9: We recommend health professionals institute regular clinical evaluations for physical changes and potential adverse reactions to sex steroid hormones, including laboratory monitoring of sex steroid hormone every 3 months during the first year of hormone therapy or with dose changes until stable adult dosing is reached followed by clinical and laboratory testing once or twice a year once an adult maintenance dose is attained.

Statement 10: We recommend health professionals inform and counsel all individuals seeking gender-affirming medical treatment about the options available for fertility preservation prior to initiating puberty suppression and prior to treating with hormonal therapy.

Statement 11: We recommend health professionals evaluate and address medical conditions that can be exacerbated by lowered endogenous sex hormone concentrations and treatment with exogenous sex hormones before beginning treatment for transgender and gender diverse people.

Statement 12: We recommend health professionals educate transgender and gender diverse patients undergoing gender-affirming treatment about the onset and time course of the physical changes induced by sex hormone treatment.

Statement 13: We recommend health professionals not prescribe ethinyl estradiol for transgender youth and adults as part of a gender-affirming hormone treatment.

Statement 14: We suggest health professionals prescribe transdermal estrogen for transgender youth and adults at higher risk of developing venous thromboembolism based on age > 45 years or a previous history of venous thromboembolism, when it is recommended, they receive gender-affirming estrogen treatment.

Statement 15: We suggest health professionals not prescribe conjugated estrogens in transgender youth and adults when estradiol is available as a component of gender-affirming hormone treatment.

Statement 16: We recommend health professionals prescribe testosterone-lowering medications (either cyproterone acetate, spironolactone, or GnRH agonists) for transgender youth and adults with testes who are taking estrogen as part of a hormone treatment plan if the individual's goal is to approximate circulating sex hormone concentrations of cisgender women.

Statement 17: We recommend health professionals monitor hematocrit (or hemoglobin) in transgender youth and adults treated with testosterone.

Statement 18: We suggest health professionals collaborate with surgeons regarding hormone use before and after gender affirmation surgery.

Statement 19: We suggest health professionals counsel patients about the various options available for gender affirmation surgery for transgender and gender diverse patients unless surgery is not desired or is medically contraindicated.

Statement 20: We recommend health professionals initiate and continue gender-affirming hormone therapy in transgender youth and adults who desire this treatment due to demonstrated improvement in psychosocial functioning and quality of life.

Statement 21: We recommend health professionals maintain existing hormone therapy for transgender youth and adults in the event of a deterioration in mental health and assess the reason for the deterioration.

** this statement should be read in conjunction with the statement that indicates the meaning of “preferably” in the Adolescent Chapter, “We recommend that when gender- affirming medical or surgical treatments are indicated for adolescents, health professionals working with transgender and gender diverse adolescents involve parent(s)/guardian(s) in the assessment and treatment process, unless their involvement is determined to be harmful or unnecessary to the adolescent”.*

Gender-Affirming Hormone Therapy in Youth

The following sections will discuss hormone therapy in TGD youth. Depending on the developmental stage of the youth, this hormone therapy generally comprises two phases, namely pubertal suppression followed by the addition of GAHT. During the first phase, pubertal development is halted to allow the youth to explore their gender identity and embodiment goals to prepare for the next phase, which may include GAHT. This section will discuss the recommendations for the use of GnRHAs as well as alternate approaches to pubertal suppression and will be followed by recommendations for gender-affirming hormone treatment. Sections that are applicable to youth and adults will follow in the next section.

Statement 1:

We recommend health professionals begin pubertal hormone suppression in eligible transgender and gender diverse adolescents only after they first exhibit physical changes of puberty (Tanner stage 2).

In general, the goal of GnRHa administration in TGD adolescents is to prevent further unwanted development of the endogenous secondary sex characteristics corresponding to the sex designated at birth. Since this treatment is fully reversible, it is regarded as an extended time for adolescents to explore their gender identity by means of an early social transition (Ashley, 2019). Treatment with GnRHAs also has therapeutic benefit since it often results in a vast reduction in the level of distress stemming from unwanted physical changes that occur when endogenous puberty begins (Rosenthal, 2014; Turban et al., 2020).

In addition, the suppression of the development of secondary sex characteristics is most effective when sex hormone treatment is initiated in early to mid-puberty as compared to when sex hormone treatment is initiated after puberty is completed (Bangalore-Krishna et al., 2019). Correspondingly, for adolescents who have already completed endogenous puberty and are considering starting GAHT, GnRHAs can be used to inhibit unwanted physical functions, such as menses or erections, and can serve as a bridge until the adolescent, guardian(s) (if the adolescent is not able to consent independently), and treatment team reach a decision (Bangalore-Krishna et al., 2019; Rosenthal, 2021).

The onset of puberty occurs through reactivation of the hypothalamic-pituitary-gonadal axis. Clinical assessment of the stages of puberty is based on physical features that reflect that reactivation. In individuals with functioning ovaries, Tanner stage 2 is characterized by the budding of the mammary gland. The development of the mammary gland occurs from exposure to estrogen produced by the ovaries. In individuals with functioning testes, Tanner stage 2 is characterized by an increase in testicular volume (typically greater than 4 ml). The growth of the testes is mediated through the gonadotropins luteinizing hormone (LH) and follicle stimulating hormone (FSH). In the later stages, the testes produce enough testosterone to induce virilization of the body (Palmert et al., 2021).

Statement 2:

We recommend health professionals use GnRH agonists to suppress endogenous sex hormones in transgender and gender diverse patients in whom puberty blocking is indicated.

Statement 3:

We suggest health professionals prescribe progestins (oral or injectable depot) for pubertal suspension in transgender youth when GnRH agonists are not available or are cost prohibitive.

Statement 4:

We suggest health professionals prescribe GnRH agonists to suppress sex steroids without concomitant sex steroid hormone replacement in adolescents seeking such intervention who are well into or have completed pubertal development (past Tanner stage 3) but are unsure about or do not wish to begin sex steroid hormone therapy.

GnRHAs reduce gonadotrophin and sex steroid concentrations in TGD adolescents and thus halt the further development of secondary sex characteristics (Schagen et al., 2016). Their use is generally safe with the development of hypertension being the only short-term adverse event reported in the literature (Delemarre-van de Waal & Cohen-Kettenis, 2006; Klink et al., 2015). GnRHAs prevent the pituitary gland from secreting LH and FSH (Gava et al., 2020). When the gonadotropins decrease, the gonad is no longer stimulated to produce sex hormones (estrogens or androgens), and the sex hormone levels in the blood decrease to prepubertal levels. GnRHa treatment leads to partial regression of the initial stages of the already developed secondary sex characteristics (Bangalore et al., 2019). TGD adolescents with functioning ovaries will experience diminished growth of breast tissue, and if treatment is started at Tanner Stage 2, the breast tissue may disappear completely (Shmer et al., 2016). Menarche can be prevented or discontinued following the administration of GnRHAs in adolescents with a uterus. In TGD adolescents with functioning testes, testicular volume will regress to a lower volume.

When GnRHa treatment is started in adolescents at the later phases of pubertal development, some physical changes of pubertal development, such as late-stage breast development in TGD adolescents with functioning ovaries and a lower voice and growth of facial hair in TGD adolescents with functioning testes, will not regress completely, although any further progression will be stopped (Delemarre-van de Waal & Cohen-Kettenis, 2006). GnRHAs have been used since 1981 for the treatment of central precocious puberty (Comite et al., 1981; Laron et al., 1981), and their benefits are well established (please also see the Adolescent Chapter Statements). The use of GnRHAs in individuals with central precocious puberty is regarded as both safe and effective, with no known long-term adverse effects (Carel et al., 2009). However, the use of GnRHAs in TGD adolescents is considered off-label because they were not initially developed for this purpose. Nonetheless, data from adolescents prescribed GnRHAs in a similar dose and fashion demonstrate effectiveness in delaying the onset of puberty although the long-term effects on bone mass have not been well established (Klink et al., 2014). Although long-term data are more limited in TGD adolescents than in adolescents with precocious puberty, data collection specifically in this population are ongoing (Klaver et al., 2020; Lee et al., 2020; Millington et al., 2020; Olson-Kennedy et al., 2019).

We recognize GnRHAs may not be available for eligible adolescents because it is not covered by health insurance plans or may be cost-prohibitive. Therefore, other approaches should be considered in these cases, such as oral or injectable progestin formulations. In addition, in adolescents older than 14 years, there are currently no data to inform health professionals whether GnRHAs can be administered as monotherapy (and for what duration) without posing a significant risk to skeletal health. This is because the skeleton will not have any exposure to adequate levels of sex steroid hormones (Rosenthal, 2021).

Prolonged hypogonadal state in adolescence, whether due to medical conditions such as hypergonadotropic hypogonadism, iatrogenic causes such as GnRHa monotherapy or physiological conditions such as conditional delay of growth and development, often is associated with an increased risk of poor bone health later in life (Finkelstein et al., 1996, Bertelloni et al., 1998). However, bone mass accrual is a multifactorial process that involves a complex interplay between endocrine, genetic, and lifestyle factors (Anai et al., 2001). When deciding on the duration of GnRHa monotherapy, all contributing factors should be considered, including factors such as pretreatment bone mass, bone age, and pubertal stage from an endocrine perspective and height gain, as well as psychosocial factors such as mental maturity and developmental stage relative to one's adolescent cohort and the adolescent's individual treatment goals (Rosenthal, 2021). For these reasons, a multidisciplinary team and an ongoing clinical relationship with the adolescent and the family should be maintained when initiating GnRHa treatment (see Adolescent Chapter statements 8, 9, and 12). The clinical course of the treatment, e.g., the development of bone mass during GnRHa treatment and the adolescent's response to treatment, can help to determine the length of GnRHa monotherapy.

Statement 5:

We suggest health providers prescribe sex hormone treatment regimens as part of gender-affirming treatment in eligible adolescents who are at least Tanner stage 2, preferably* with parental/guardian consent, and treatment decisions should be made with the participation of the adolescent, parents/guardians, and treatment team*.

(this statement should be read in conjunction with the statement that indicates the meaning of "preferably" in the Adolescent Chapter, "We recommend that when gender-affirming medical or surgical treatments are indicated for adolescents, health professionals working with transgender and gender diverse adolescents involve parent(s)/guardian(s) in the assessment and treatment process, unless their involvement is determined to be harmful to the adolescent or unnecessary.")*

Statement 6:

We recommend health professionals measure hormone levels during gender-affirming treatment to ensure endogenous sex steroids are lowered and administered sex steroids are maintained at a level appropriate for the treatment goals of transgender and gender diverse patients according to the Tanner stage.

Sex steroid hormone therapy generally comprises two treatment regimens, depending on the timing of the GnRHa treatment. When GnRHa treatment is started in the early stages of endogenous pubertal development, puberty corresponding with gender identity or embodiment goals is induced with doses of sex steroid hormones similar to those used in peripubertal hypogonadal adolescents. In this context, adult doses of sex steroid hormones are typically reached over approximately a 2-year period (Chantrapanichkul et al., 2021). When GnRHa treatment is started in late- or post-pubertal transgender adolescents, sex steroid hormones can

be given at a higher starting dose and increased more rapidly until a maintenance dose is achieved, resembling treatment protocols used in transgender adults (Hembree et al., 2017). An additional advantage of GnRHa treatment is that sex steroid hormones do not have to be administered in supraphysiological doses, which would otherwise be needed to suppress endogenous sex steroid production (Safer & Tangpricha, 2019). For TGD individuals with functioning testes, GnRHa treatment (or another testosterone-blocking medication) should be continued until such time as the transgender adolescent/young adult ultimately undergoes gonadectomy, if this surgical procedure is chosen as part of their gender-affirming care. Once adult levels of testosterone are reached in TGD individuals with functioning ovaries who have been initially suppressed with GnRHa's, testosterone alone at physiological doses is typically sufficient to lower ovarian estrogen secretion, and GnRHAs can be discontinued as discussed below (Hembree et al., 2017). For TGD adolescents with functioning ovaries who are new to care, transition can be accomplished with physiological doses of testosterone alone, without the need for concomitant GnRHa administration (Hembree et al., 2017).

Gender-affirming sex steroid hormone therapy induces the development of secondary sex characteristics of the gender identity. Also, the rate of bone mineralization, which decreases during treatment with GnRHa's, rapidly recovers (Klink et al., 2014). During GnRHa treatment in early-pubertal TGD adolescents, the bone epiphyseal plates are still unfused (Kvist et al., 2020, Schagen et al., 2020). Following the initiation of sex steroid hormone treatment, a growth spurt can occur, and bone maturation continues (Vlot et al., 2017). In postpubertal transgender adolescents, sex steroid hormone treatment will not affect height since the epiphyseal plates have fused, and bone maturation is complete (Vlot et al., 2017).

In TGD adolescents with functioning testes, the use of 17- β -estradiol for pubertal induction is preferred over that of synthetic estrogens, such as the more thrombogenic ethinyl estradiol (see Recommendations for Sex Steroid Hormones in Transgender Adults) (Asscheman et al., 2015). It is still necessary to either continue GnRHa's to suppress endogenous testosterone production or transition to another medication that suppresses endogenous testosterone production (see Recommendations for Sex Hormones in Transgender Adults) (Rosenthal et al., 2016). Breast development and a female fat distribution are among a number of physical changes that occur in response to estrogen treatment (Table 1).

For TGD adolescents seeking masculinizing treatment, androgens are available as injectable preparations, transdermal formulations, and subcutaneous pellets. For pubertal induction, the use of testosterone-ester injection is generally recommended by most experts initially because of cost, availability and experience (Shumer et al., 2016). It is advised to continue GnRHa's at least until a maintenance level of testosterone is reached. In response to androgen treatment, virilization of the body occurs, including a lowering of the voice, more muscular development particularly in the upper body, growth of facial and body hair, and clitoral enlargement (Rosenthal et al., 2016) (Table 1).

In almost all situations, parental/caregiver consent should be obtained. Exceptions to this recommendation, in particular when caregiver or parental involvement is determined to be harmful to the adolescent, are described in more detail in the Adolescent Chapter (see Statement 11), where the rationale for involving parents/caregivers in the consent process is also described.

Statement 7:

We suggest health professionals prescribe progestogens or GnRH agonists to reduce dysphoria caused by their menstrual cycle for transgender adolescents with a uterus, when androgen therapy is not yet indicated.

Menstrual suppression is a treatment option commonly requested by TGD individuals who experience distress related to menses or the anticipation of menarche. Statement 7 in the Adolescent Assessment Chapter describes this in more detail. To achieve amenorrhea, menstrual suppression can be initiated as a solo option before initiating testosterone or alongside testosterone therapy (Carswell & Roberts, 2017). Some youth, who are not ready for testosterone therapy or are not yet at an appropriate pubertal/developmental stage to begin such treatment, express an interest in induction of amenorrhea (Olson-Kennedy et al., 2018). Adolescents who experience an exacerbation of dysphoria related to the onset of puberty may elect to be treated with GnRHAs for pubertal suppression (also see the Adolescent Chapter).

Progestogens may be effective in adolescents whose goal is solely menstrual suppression. Continuous administration of progestin-only oral pills (including the contraceptive and noncontraceptive options), medroxyprogesterone injections, or levonorgestrel intrauterine device can be used for induction of amenorrhea (Pradhan & Gomez-Lobo, 2019). TGD individuals with functioning ovaries who start testosterone therapy may have 1-5 menstrual cycles before amenorrhea is achieved (Taub et al., 2020). Once amenorrhea is achieved, some TGD individuals with functioning ovaries may also choose to continue progestin treatment for birth control if relevant to their sexual practices.

TGD individuals with functioning ovaries and a uterus should be counseled about the potential for breakthrough menstrual bleeding in the first few months after initiating menstrual suppression. With GnRHa therapy, breakthrough bleeding may occur 2-3 weeks after initiation of the medication. For individuals seeking contraception or for those who continue to experience menstrual bleeding on progestin therapy, an estrogen combination with progestin may be considered for the maintenance of amenorrhea (Schwartz et al., 2019).

Statement 8:

We suggest healthcare providers involve professionals from multiple disciplines who are experts in transgender health and the management of the care of transgender and gender diverse adolescents.

As with the care of adolescents, we suggest where possible a multidisciplinary expert team of medical and mental health professionals be assembled to manage this treatment. In adolescents who request sex steroid hormone treatment (given this is a partly irreversible treatment), we suggest initiating treatment using a schedule of gradually increasing doses after a multidisciplinary team of medical and mental health professionals has confirmed the persistence of GD/gender incongruence and has established the individual possesses the mental capacity to give informed consent (Hembree et al., 2017). Specific aspects concerning the assessment of adolescents and the involvement of their caregivers and a multidisciplinary team are described in more detail in the Adolescent Assessment Chapter (statements 3, 8, 11, and 12).

If possible, TGD adolescents should have access to experts in pediatric transgender health from multiple disciplines including primary care, endocrinology, fertility, mental health, voice, social work, spiritual support, and surgery (Chen et al., 2016; Eisenberg et al., 2020; Keo-Meier & Ehrensaft, 2018). Individual providers are encouraged to form collaborative working

relationships with providers from other disciplines to facilitate referrals as needed for the individual youth and their family (Tishelman et al., 2015). However, the lack of available experts and resources should not constitute a barrier to care (Rider et al., 2019). Helpful support for adolescents includes access to accurate, culturally informed information related to gender and sexual identities, transition options, the impact of family support, and connections to others with similar experiences and with TGD adults through online and in person support groups for adolescents and their family members (Rider et al., 2019)

Many TGD adolescents have been found to experience mental health disparities, initial mental health screening (e.g., PHQ-2, GAD) can be employed as indicated (Rider et al., 2019). Providers should keep in mind that being transgender or questioning one's gender does not constitute pathology or a disorder. Therefore, individuals should not be referred for mental health treatment exclusively on the basis of a transgender identity. HPs and mental health professionals (MHPs) who treat these youths and make referrals should, at a minimum, be familiar with the impact of trauma, gender dysphoria, and gender minority stressors on any potential mental health symptomatology, such as disordered eating, suicidal ideation, social anxiety, etc. These healthcare providers should also be knowledgeable about the level of readiness of inpatient mental health services in their region to provide competent, gender-affirming care to TGD youth (Barrow & Apostle, 2018; Kuper et al., 2018; Kuper et al., 2019; Tishelman & Neumann-Mascis, 2018). The Adolescent Chapter Statements 3, 4, and 12 D address this in more detail. Because parents of these youth commonly experience high levels of anxiety immediately after learning their youth is TGD, and their response to their child predicts that child's long-term physical and mental health outcomes, appropriate referrals for mental health support of the parents can be of great utility (Coolhart et al., 2017; Pullen Sansfaçon et al., 2015; Taliaferro et al., 2018).

Statement 9:

We recommend health professionals organize regular clinical evaluations for physical changes and potential adverse reactions to sex steroid hormones, including laboratory monitoring of sex steroid hormone every 3 months during the first year of hormone therapy or with dose changes until a stable adult dosing is reached followed by clinical and laboratory testing once or twice a year once an adult maintenance dose is attained.

Sex steroid hormone therapy is associated with a broad array of physical and psychological changes (Irwig, 2017; Tangpricha & den Heijer, 2017) (**Table 1**). After sex steroid hormone therapy has been initiated, the HP should regularly assess the progress and response of the individual to the treatment (also see Adolescent Chapter). This evaluation should assess the presence of any physical changes as well as the impact of treatment on gender dysphoria (if present) and psychological well-being (**Table 1**). Clinical visits provide important opportunities for HPs to educate patients about the typical time course required for physical changes to manifest and encourage realistic expectations. During the first year of hormone therapy, sex steroid hormone doses are often increased. A major factor guiding the dose is the serum levels of the corresponding sex steroid hormone. In general, the goal is to target serum levels of the sex steroids to match the levels associated with the individual's gender identity, although optimal target ranges have not been established (Hembree et al., 2017).

In addition to assessing the positive changes associated with sex steroid hormone therapy, the HP should regularly assess whether the treatment has caused any adverse effects (**Table 2**). Examples of adverse signs and symptoms include androgenic acne or bothersome sexual dysfunction (Braun et al., 2021, Kerckhof et al., 2019). Gender-affirming hormone treatment also

has the potential to adversely influence several laboratory tests. For example, spironolactone may cause hyperkalemia, although it is an uncommon and transient phenomenon (Millington et al., 2019). Testosterone increases the red blood cell count (hematocrit), which may occasionally cause erythrocytosis (Antun et al., 2020) (see Recommendation on Monitoring Transgender Individuals Receiving Testosterone Therapy) (Hembree et al., 2017). Both estrogen and testosterone can alter lipid parameters, such as high-density protein lipoprotein (HDL) cholesterol and triglycerides (Maraka et al., 2017). See tablets 3 and 4 for more information regarding Gender-affirming hormone treatment).

The frequency of clinical evaluations should be individualized and guided by the individual's response to treatment. We suggest clinical assessments be performed approximately every 3 months during the first year of hormone therapy in patients who are stable and are not experiencing significant adverse effects (**Table 5**). We suggest rather than recommend testing be carried out every 3 months in the first year to allow some flexibility on the timing of these tests as there is no strong evidence or evidence from published studies supporting specific testing intervals. If an individual does experience an adverse effect, more frequent laboratory testing and/or clinical visits are often needed. Given the potential harm associated with sex hormone levels that exceed expected ranges in humans, we strongly recommend regular testing be performed as a standard practice when initiating GAHT in TGD individuals. Once a person has reached a stable adult dose of sex steroid hormone with no significant adverse effects, the frequency of clinic visits can be reduced to one to two per year (Hembree et al., 2017).

Statement 10:

We recommend health professionals inform and counsel all individuals seeking gender-affirming medical treatment about options for fertility preservation prior to initiating puberty suppression and prior to administering hormone therapy.

Pubertal suppression and hormone treatment with sex steroid hormones may have potential adverse effects on a person's future fertility (Cheng et al., 2019) (see Adolescent and Reproductive Chapters). Although some TGD people may not have given much thought to their future reproductive potential at the time of their initial assessment to begin medical therapy, the potential implications of the treatment and fertility preservation options should be reviewed by the hormone prescriber and discussed with the person seeking these therapies (Ethics Committee of the American Society for Reproductive Medicine et al., 2015; De Roo et al., 2016).

Individuals with testes should be advised that prolonged treatment with estrogen often causes testicular atrophy and a reduction in sperm count and other semen parameters (Adeleye et al., 2019). Nonetheless, there are major gaps in knowledge, and findings regarding the fertility of trans feminine people who take estrogen and antiandrogens are inconsistent (Cheng et al., 2019). In one study, heterogeneity in testicular histology was evident whether patients discontinued or continued therapy prior to elective orchiectomies (Schneider et al., 2015). For example, the discontinuation of estrogen and antiandrogens for six weeks resulted in complete spermatogenesis in 45% of individuals with the remainder showing meiotic arrest or spermatogonial arrest (Schneider et al., 2015). However, serum testosterone levels confirmed to be within female reference ranges leads to complete suppression of spermatogenesis in most transgender women (Verecke et al., 2020). The principal fertility preservation option for patients with functioning testes is sperm cryopreservation, also known as sperm banking

(Mattawanon et al., 2018). For prepubertal patients, suppression of puberty with GnRHAs pauses the maturation of sperm (Finlayson et al., 2016).

Individuals with functioning ovaries should be advised that testosterone therapy usually results in cessation of menses and ovulation, often within a few months of initiation (Taub et al., 2020). There are also major gaps in knowledge regarding the potential effects of testosterone on oocytes and subsequent fertility of TGD patients (Eisenberg et al., 2020, Stuyver et al., 2020). One study found that testosterone treatment may be associated with polycystic ovarian morphology, whereas other studies reported no metabolic (Chan et al., 2018) or histologic (De Roo et al., 2017; Grynberg et al., 2010) evidence of polycystic ovary syndrome (PCOS) following treatment with testosterone. TGD patients with an intact uterus and ovaries often regain their fertility potential if testosterone therapy is discontinued (Light et al., 2014). Indeed, a live birth after assisted reproductive technology has been reported following hormone-stimulated egg retrieval from a TGD individual who did not discontinue testosterone therapy (Greenwald et al., 2021; Safer and Tangpricha, 2019). Other fertility preservation options for TGD patients with ovaries are oocyte cryopreservation and embryo cryopreservation with sperm from a partner or donor. The above options require hormonal stimulation for egg retrieval and the use of assisted reproductive technology. For early pubertal transgender youth, suppression of puberty with GnRHAs pauses the maturation of germ cells, though a recent report noted ovarian stimulation of a TGD adolescent treated with a GnRHAs in early puberty (and continued during ovarian stimulation) resulted in a small number of mature oocytes that were cryopreserved (Rothenberg et al., 2019). Treating an TGD adolescent with functioning testes in the early stages of puberty with a GnRHAs not only pauses maturation of germ cells but will also keep the penis at a prepubertal size. This will likely impact surgical considerations if that person eventually desires a penile-inversion vaginoplasty as there will be less penile tissue to work with. In these cases there is an increased likelihood that a vaginoplasty will require a more complex surgical procedure--e.g. intestinal vaginoplasty (Dy et al., 2021; van de Grift et al., 2020). Such considerations should be included in any discussions with patients and families considering use of pubertal blockers in early pubertal with functioning testes.

Statement 11:

We recommend health professionals evaluate and address medical conditions that can be exacerbated by lowered endogenous sex hormone concentrations and treatment with exogenous sex hormones before beginning treatment in transgender and gender diverse people.

TGD people seeking virilization must be informed about the possibilities, consequences, limitations, and risks associated with testosterone treatment. Testosterone therapy is contraindicated during pregnancy or while attempting to become pregnant given its potential iatrogenic effects on the fetus. Relative contraindications to testosterone therapy include severe hypertension, sleep apnea, and polycythemia since these conditions can be exacerbated by testosterone. Monitoring blood pressure and lipid profiles should be performed before and after the onset of testosterone therapy. The increase in blood pressure typically occurs within 2 to 4 months following the initiation of testosterone therapy (Banks et al., 2021). Patients who develop hypercholesterolemia and/or hypertriglyceridemia may require treatment with dietary modifications and/or medication. TGD people seeking feminizing treatment with a history of thromboembolic events, such as deep vein thrombosis and pulmonary embolism, should undergo evaluation and treatment prior to the initiation of hormone therapy. This is because estrogen therapy is strongly associated with an increased risk of thromboembolism, a potentially life-threatening complication. In addition, risk factors that can increase the risk of

thromboembolic conditions, such as smoking, obesity, and sedentary lifestyle, should be modified. In patients with nonmodifiable risk factors such as known thrombophilia, a past history of thrombosis, or a strong family history of thromboembolism, treatment with transdermal estrogen and/or concomitant with anticoagulants may decrease the risk of thromboembolism. However, there are limited data to guide treatment decisions. The presence of a disease at baseline such as a hormone sensitive cancer, coronary artery disease, cerebrovascular disease, hyperprolactinemia, hypertriglyceridemia, and cholelithiasis should be evaluated prior to the initiation of gender affirming hormone therapy as relative risks may be shifted in association with exogenous hormone treatment. (Hembree et al., 2017; Safer, 2021)

Statement 12:

We recommend health professionals educate transgender and gender diverse patients undergoing gender-affirming treatment about the onset and time course of physical changes induced by sex hormone treatment.

The effects of testosterone treatment are multiple and may include the appearance of increased body and facial hair, male pattern baldness, increased muscle mass and strength, decreased fat mass, deepening of the voice, interruption of menses (if still present), increased prevalence and severity of acne, clitoral enlargement, and increased sexual desire (Defreyne et al., 2020; Fisher et al., 2016; Giltay & Gooren, 2000; G. T'Sjoen et al., 2019; Yeung et al., 2020) (**Table 1**). Other testosterone-associated changes include increased lean body mass, skin oiliness, (de Blok et al., 2020; Hembree et al., 2017; Kuper et al., 2018; Kuper et al., 2019; Taliaferro et al., 2018; Tishelman & Neumann-Mascis, 2018) (**Table 1**).

Estrogen treatment induces breast development. However, fewer than 20% of individuals reach Tanner breast stage 4-5 after 2 years of treatment (de Blok et al., 2021). Additional changes include decreases in testicular volume, lean body mass, skin oiliness, sexual desire, spontaneous erections, facial hair, and body hair along with increased subcutaneous body fat (**Table 1**). In adult patients, estrogen does not alter a person's voice or height (Iwamoto et al., 2019; Wiepes et al., 2019).

The time course and extent of physical changes vary among individuals and are related to factors such as genetics, age of initiation, and overall state of health (Deutsch et al., 2015; van Dijk et al., 2019). Knowledge of the extent and timing of sex hormone-induced changes, if available, may prevent the potential harm and expense of unnecessary treatment changes, dosage increases, and premature surgical procedures (Dekker et al., 2016).

Statement 13:

We recommend against the use of ethinyl estradiol and conjugated estrogens in transgender women as part of a gender-affirming hormone regimen.

Statement 14:

We recommend the use of transdermal estrogen in transgender women who are at higher risk of venous thromboembolism based on age >45 years or a previous history of venous thromboembolism.

Statement 15:

We suggest health professionals not prescribe conjugated estrogens in transgender youth and adults when estradiol is available as part of a gender-affirming hormone treatment.

Determining the safest and most efficacious estrogen compound and route of administration for TGD people is an important topic. The recommended estrogen-based regimens are presented in **Table 4**. The Free University Hospital in Amsterdam first reported 45 events of VTE occurring in 816 transgender women, notably an expected incidence ratio of VTE 20-fold higher than that reported in a reference population (van Kesteren et al., 1997). Following this report, the Free University Gender Clinic recommended the use of transdermal estradiol for transgender women older than 40 years of age, which subsequently lowered the incidence of VTE (Nota et al., 2019; Toorians et al., 2003). Other studies suggested ethinyl estradiol was associated with a higher risk of blood clotting due to an increased resistance to the anticoagulating effects of activated protein C (APC) and elevated concentrations of the clotting factors protein C and protein S (Toorians et al., 2013). Other studies published within the past 15 years from other clinics reported transgender women taking other forms of estrogen had lower rates of VTE than transgender women taking ethinyl estradiol (Asscheman et al., 2013). Furthermore a 2019 systematic review concluded that ethinyl estradiol administration was associated with the highest risk of VTE in transgender women, while an association between progesterone use and VTE was also identified (Goldstein et al., 2019).

The 2017 Endocrine Society guidelines did not recommend conjugated equine estrogens (CEEs) as a treatment option because blood levels of conjugated estrogens cannot be measured in transgender women, making it difficult to prevent supraphysiologic dosing of estrogen thereby increasing the potential risk of VTE (Hembree et al., 2017). A retrospective study from the UK examined the risks of oral CEE versus oral estradiol valerate versus oral ethinyl estradiol and found up to a 7-fold increase in the percentage of transgender women in the oral CEE group who developed VTE compared with transgender women using other forms of estrogen (Seal et al., 2012). In a nested, case-control study, over 80,000 cisgender women aged 40-79 who developed a VTE were matched to approximately 390,000 cisgender women without VTE; the results showed oral estradiol use had a lower risk of VTE than conjugated estrogens, and transdermal estrogen was not associated with an increased risk of VTE (Vinogradova et al., 2019).

Our commissioned systematic review evaluated several formulations of estrogen and identified a retrospective and a cross-sectional study that made head-to-head comparisons of the risks associated with different formulations (Wierckx et al., 2013; Wierckx et al., 2012). There were no identified studies that evaluated the risk of different formulations of estrogen that employed a prospective interventional design. The retrospective study examined 214 transgender women taking transdermal estradiol (17 β -estradiol gel 1.5 mg/d or estradiol patch 50 mcg/d) or a daily intake of oral estrogens (estradiol 2 mg/d, estriol 2 mg/d, ethinyl estradiol 50 mcg/day, or ethinyl estradiol 30-50 mcg in an oral contraceptive) (Wierckx et al., 2013). Within a 10-year observation period, 5% of the cohort developed a VTE, 1.4% (3 out of 214) experienced a myocardial infarction (MI), and 2.3% (5 out of 214) a transient ischemic attack or cerebrovascular accident (TIA/CVA). The prevalence of VTE, MI and TIA/CVA was increased following the initiation of estrogen therapy. However, the authors did not report differences between regimens of estrogen in terms of these endpoints.

The same group of investigators conducted the cross-sectional study that examined 50 transgender women (mean age 43 \pm 10) taking oral estrogen (estradiol valerate 2mg/d, estriol 2 mg/d or ethinyl estradiol 50-120 mcg/day) or using transdermal estradiol (17 β -estradiol 1.5

mg/day or estradiol 50 mcg/day) over a follow-up duration of 9.2 years (Wierckx et al., 2012). Twelve percent (n=6) developed either a VTE, MI, or a TIA/CVA. Two of the participants were taking conjugated estrogen 0.625 mg/d (one person in combination with cyproterone acetate), 2 participants were taking ethinyl estradiol 20-50 mcg/d, 1 was taking cyproterone acetate 50 mg/d, while the estrogen regimen used by the sixth participant was not defined. None of the subjects taking oral estradiol or transdermal estradiol developed a VTE, MI, or TIA/CVA.

One prospective study examined the route of estrogen administration in 53 transgender women in a multicenter study carried out throughout Europe. Transgender women younger than 45 years of age (n=40) received estradiol valerate 4 mg/d in combination with cyproterone acetate (CPA) 50 mg/d and transgender women older than 45 years of age (n=13) received transdermal 17 β -estradiol, also with CPA. No VTE, MI, or TIA/CVA was reported after a 1 year of follow-up in either the oral or transdermal estrogen group. An additional retrospective study from Vienna found no occurrences of VTE among 162 transgender women using transdermal estradiol who were followed for a mean of 5 years (Ott et al., 2010).

We are strongly confident in our recommendation against the use of ethinyl estradiol based on historical data from the Amsterdam clinic demonstrating a reduction in the incidence of VTE after discontinuing the use of ethinyl estradiol and the recent systematic review demonstrating an increased risk of VTE in transgender women taking ethinyl estradiol (Weinand & Safer, 2015). We are confident in our recommendation against the use of CEE based on the 2012 study by Seal et al. demonstrating an increased risk of VTE in transgender women taking CEE compared with other formulations of estrogen and with data from cisgender women on hormone replacement therapy (Canonico et al., 2007; Seal et al., 2012). Prospective and retrospective studies in transgender women have reported occurrences of VTE/MI/CVA only in those taking CEE or ethinyl estradiol. Since estradiol is inexpensive, more widely available, and appears safer than CEE in limited studies, the committee recommends against using CEE when estradiol is an available treatment option. The quality of studies may be limited to prospective, cohort or cross-sectional study designs; however, the stronger level of recommendation is based on the consistent evidence supporting the association between the use of ethinyl estradiol and CEE and a greater risk of VTE/MI/CVA in transgender women.

We are also confident in our recommendation for the administration of transdermal preparations of estrogen in older transgender women (age >45 years) or those with previous history of VTE. The confidence in our recommendation is based on the decreased incidence of VTE reported from the Amsterdam clinic when transgender women are switched to using transdermal preparations after age 40 (van Kesteren PJ, et al., 1997). Furthermore, the prospective, multicenter cohort study ENIGI found no incidence of VTE/MI/CVA in transgender women who are routinely switched to transdermal estrogen at age 45 (Dekker et al., 2016). In addition, a study by Ott et al. demonstrated no incidence of VTE in 162 transgender women treated with estradiol patches (Ott et al., 2010).

Statement 16:

We recommend health professionals prescribe testosterone-lowering medications (either cyproterone acetate, spironolactone, or GnRH agonists) for transgender youth and adults with testes taking estrogen as part of a hormone treatment plan if their individual goal is to approximate levels of circulating sex hormone of cisgender women.

Most gender clinics in the United States and Europe prescribe estrogen combined with a testosterone-lowering medication (Mamoojee et al., 2017) (Table 5). In the United States,

spironolactone is the most commonly prescribed testosterone lowering medication, GnRHAs are commonly used in the UK, and cyproterone acetate are most often prescribed in the rest of Europe (Angus et al., 2021; Kuijpers et al., 2021). The rationale for adding a testosterone-lowering medication is two-fold: (1) to lower testosterone levels to within the reference range of cisgender females, and (2) to reduce the amount of estrogen needed to achieve adequate physical effects. Each testosterone-lowering medication has a different side effect profile. Spironolactone is an antihypertensive and potassium-sparing diuretic, and thus may lead to hyperkalemia, increased frequency of urination, and a reduction in blood pressure (Lin et al., 2021). Cyproterone acetate has been associated with the development of meningioma and hyperprolactinemia (Nota et al., 2018). GnRHAs, while very effective in lowering testosterone levels, can result in osteoporosis if doses of estrogen given concurrently are insufficient (Klink et al., 2014).

One systematic review identified one study that reported findings from a head-to-head comparison of the testosterone-lowering medications cyproterone acetate and leuprolide (Gava et al., 2016). Two studies compared a group of transgender women taking estrogen plus testosterone-lowering medications with a group who received only estrogen. The systematic review did not provide sufficient evidence to suggest any of the three testosterone-lowering medications had a better safety profile in terms of improved outcomes in bone health, testosterone levels, potassium levels, or in the incidence of hyperprolactinemia or meningiomas (Wilson et al., 2020). Therefore, no recommendation can be given. The review did report spironolactone-based regimens were associated with a 45% increase in prolactin levels, whereas cyproterone-based regimens increased prolactin levels by more than 100%. However, the clinical significance of elevated prolactin levels is not clear because the rates of prolactinomas were not significantly elevated in either the spironolactone- or CPA-treated groups (Wilson et al., 2020). One retrospective, cohort study from a single center in the United States reported no clinically significant increases in prolactin levels in 100 transgender women treated with estrogen plus spironolactone (Bisson et al., 2018). A retrospective study from the Netherlands of 2,555 transgender women taking primarily CPA with various formulations of estrogen reported an increased standardized incidence ratio of meningiomas in patients who used cyproterone acetate after gonadectomy for many years when compared with the general Dutch population (Nota et al., 2018). Furthermore, in a shorter study in Belgium, 107 transgender women had transient elevations in prolactin levels following treatment with cyproterone acetate, which declined to normal after discontinuation (Defreyne et al., 2017). A recent publication, not included in the systematic review, examined 126 transgender women taking spironolactone, GnRHAs, or cyproterone and concluded cyproterone was associated with higher prolactin levels and a worse lipid profile than spironolactone or GnRHAs (Sofer et al., 2020). After balancing the costs and accessibility of measuring prolactin levels against the clinical significance of an elevated level, a decision was made not to make a recommendation for or against monitoring prolactin levels at this time. HPs should therefore make individualized clinical decisions about the necessity to measure prolactin levels based on the type of hormone regimen and/or the presence of symptoms of hyperprolactinemia or a pituitary tumor (e.g., galactorrhea, visual field changes).

Cyproterone has also been linked to meningiomas. Nine cases of meningioma have been reported in the literature among transgender women primarily taking cyproterone acetate (Mancini et al., 2018). This increased risk has also been identified in cisgender populations. In 2020, the European Medicines Agency published a report recommending cyproterone products with daily doses of 10 mg or more should be restricted because of the risk of developing meningioma (European Medicines Agency). Most likely this association is a specific effect of cyproterone acetate and has not been extrapolated to include other testosterone-lowering

drugs. In the United States, where cyproterone acetate is not available, the North American Association of Central Cancer Registries (NAACCRs) database did not identify an increased risk of brain tumors (not specific to meningiomas) among transgender women (Nash et al., 2018). Furthermore, there was not an increase in the hazard ratio of brain tumors in the Kaiser cohort of 2,791 transgender women compared with cisgender controls (Silverberg et al., 2017). No long-term studies have reported on the risk of meningiomas and prolactinomas in transgender women taking GnRHa's.

Our strong recommendation for the use of testosterone-lowering medications as part of a hormone regimen for transgender individuals with testes is based on the global practice of using these medications in addition to estrogen therapies as well as the relatively minimal risk associated these therapies. However, we are not able to make a recommendation favoring one testosterone-lowering medication over another at this time. The published data thus far raises some concerns about the risk of meningiomas with the prolonged use (>2 years) and higher doses (>10mg daily) of cyproterone acetate (Weill et al, 2021, Nota et al, 2018, Ter Wengel et al, 2016).

Statement 17:

We recommend health professionals monitor hematocrit (or hemoglobin) levels in transgender youth and adults treated with testosterone.

There are good quality data suggesting a rise in hematocrit (or hemoglobin) is associated with transgender persons treated with testosterone (Defreyne et al., 2018). The testosterone regimens in the systematic review included testosterone esters ranging from the equivalent of 25- 250 mg SC/IM weekly, testosterone undecanoate 1000 mg every 12 weeks, or testosterone gel 50 mg applied daily to the skin (Defreyne et al., 2018; Gava et al., 2018; Giltay et al., 2000; Meriggiola et al., 2008; Pelusi et al., 2014; T'Sjoen et al., 2005; Wierckx et al., 2014; Wierckx et al., 2014). The expected rise should be consistent with reference ranges in cisgender males.

Statement 18:

We suggest health professionals collaborate with surgeons regarding hormone use before and after gender affirmation surgery.

Statement 19:

We suggest health professionals counsel patients about the various options for genital gender affirmation surgery for transgender and gender diverse patients, unless surgery is either not desired or is medically contraindicated.

Despite the absence of evidence, perioperative clinical standards for gender affirmation surgeries have included cessation of hormone therapy for 1-4 weeks before and after surgery, most commonly genital surgeries (Hembree et al., 2009). Such practice was meant to mitigate the risk of VTE associated with exogenous estrogen administration (Hembree et al., 2009). Estrogen and testosterone could then be resumed at some point postoperatively.

After careful examination, investigators have found no perioperative increase in the rate of VTE among transgender individuals undergoing surgery while being maintained on sex steroid treatment throughout when compared with that among patients whose sex steroid treatment was discontinued preoperatively (Gaither et al., 2018; Hembree et al., 2009; Prince & Safer,

2020, Kozato et al 2021). Sex steroid treatment is especially important after gonadectomy to avoid the sequelae of hypogonadism, the risk of developing osteoporosis, and for the maintenance of mental health and quality of life (Fisher et al., 2016; Rosen et al., 2019). Thus, hormone providers and surgeons should educate patients about the necessity for continuous exogenous hormone therapy after gonadectomy.

To be able to educate patients and serve as clinical advocates, HPs should be knowledgeable about the risks/benefits of gender affirmation surgeries and should also be cognizant of the performance measures and surgical outcomes of the surgeons to whom they might refer patients (Beek, Kreukels et al., 2015; Colebunders et al., 2017; Wiepjes et al., 2018). In general, most surgeries can be thought of as involving three regions: the face, chest/breasts, and genitalia (internal and external). Additional procedures include body contouring and voice surgery.

Multiple options are available for facial gender-affirming surgery for trans feminine individuals including, but not limited to, chondrolaryngoplasty, rhinoplasty, contouring or augmentation of the jaw, chin, and forehead, facelift, and hair transplantation. Options available for chest/breast surgery include breast augmentation, double mastectomy with nipple grafts, periareolar mastectomy, and liposuction. The most common gender affirmation surgery for TGD individuals with endogenous breast development is masculinizing chest surgery (mastectomy) (Horbach et al., 2015; Kailas et al., 2017).

Internal genital surgery options include orchiectomy, hysterectomy, salpingo-oophorectomy, vaginoplasty, and colectomy/vaginectomy (Horbach et al., 2015; Jiang et al., 2018). The inner lining in vaginoplasty is typically constructed from penile skin, skin grafts, a combination of both, or a bowel segment. Removal of the uterus/ovaries can be performed individually or all at once (hysterectomy, salpingo-oophorectomy, and colectomy). If colectomy is performed, a hysterectomy must also be performed. The ovaries may remain in situ, upon patient request. A potential benefit of leaving one or both ovaries is fertility preservation, while the downside is the potential for the development of ovarian pathology, including cancer (De Roo et al., 2017)

External genital surgery options include vulvoplasty, metoidioplasty, and phalloplasty (Djordjevic et al., 2008; Frey et al., 2016). Hair removal may be necessary before performing external genital procedures (Marks et al., 2019). Vulvoplasty can include the creation of the mons, labia, clitoris, and urethral opening. Urethral lengthening is an option for both metoidioplasty and phalloplasty but is associated with a greatly increased complication rate (Schechter & Safa, 2018). Wound care and physical therapy are necessary for managing wounds resulting from the donor sites for phalloplasty (van Caenegem et al., 2013). Pelvic physical therapy can also be an important adjunct intervention after surgery for managing voiding and sexual function (Jiang et al., 2019). Dialogue, mutual understanding, and clear communication in a common language between patients, HPs, and surgeons will contribute to well-considered choices about the available surgical options.

Statement 20:

We recommend health professionals initiate and continue gender-affirming hormone therapy in transgender youth and adults who wish this treatment due to demonstrated improvement in psychosocial functioning and quality of life.

Statement 21:

We recommend health professionals maintain existing hormone therapy if TGD individual's mental health deteriorates and assess the reason for the deterioration, unless contraindicated.

Several mental health disparities have been documented in the transgender population including depression, suicidality, anxiety, decreased self-esteem, and post-traumatic stress disorder (Arcelus et al., 2016; Becerra-Culqui et al., 2018; Bouman et al., 2017; Eisenberg et al., 2017; Heylens et al., 2014; Witcomb et al., 2018). The gender minority stress model provides evidence of several mediators and moderators of these disparities (Hendricks & Testa, 2012). Mediators and moderators of mental health disparities unique to transgender people include experiences of discrimination, victimization, misgendering, family rejection, and internalized transphobia (Hendricks & Testa, 2012). Factors that have a positive effect on mental health include family acceptance, supportive social and romantic relationships, transgender community connectedness, protection by affirming and inclusive policies, policies of affirmation and inclusion, possession of updated legal name/gender documentation, and achievement of physical gender transition based on individualized embodiment goals (Bauer et al., 2015; Bockting et al., 2013; Bouman et al., 2016; de Vries et al., 2014; Du Bois et al., 2018; Gower et al., 2018; Hendricks & Testa, 2012; Keo-Meier et al., 2015; Meier et al., 2013; Pflum et al., 2015; Smith et al., 2018; Ryan et al., 2010).

Hormone therapy has been found to positively impact the mental health and quality of life of TGD youth and adults who embark this treatment (Aldridge et al., 2020; Allen et al., 2019; Bauer et al., 2015; Nobili et al., 2018; Russell et al., 2018; Ryan, 2009). In many cases, hormone therapy is considered a lifesaving intervention (Allen et al., 2019; Grossman & d'Augelli, 2006; Moody et al., 2015). Several studies have found associations between the initiation of hormone therapy and improved mental health in youth and adults (Aldridge et al., 2020; Costa et al., 2016; de Vries et al., 2014; Kuper et al., 2020; Nguyen et al., 2018; White Hughto & Reisner, 2016), including improvements in quality of life (Gorin-Lazard et al., 2012; Gorin-Lazard et al., 2013; Murad et al., 2010; Newfield et al., 2006; Nobili et al., 2018; White et al., 2016), a reduction in anxiety and depression (Aldridge et al., 2020; Colizzi et al., 2014; Davis & Meier, 2014; de Vries et al., 2011; Gómez-Gil et al., 2012; Rowniak et al., 2019), decreased stress (Meier et al., 2011), and decreased paranoia (Keo-Meier & Fitzgerald, 2017). A prospective, controlled trial using the Minnesota Multiphasic Personality Inventory-2 (MMPI-2) demonstrated significant improvement in multiple domains of psychological functioning in transgender men after only 3 months of testosterone treatment (Keo-Meier et al., 2015). Although there are higher rates of autism symptoms in the transgender population, these symptoms have not been found to increase after the initiation of hormone therapy (Nobili et al., 2020).

Because a reduction in depressive symptoms may correlate with a decrease in the risk of suicide, withholding hormone therapy based on the presence of depression or suicidality may cause harm (Keo-Meier et al., 2015; Levy et al., 2003). Turban (2020) found a decrease in the odds of lifetime suicidal ideation in adolescents who desired pubertal suppression and had access to this treatment compared with those with a similar desire with no such access (Turban et al., 2020). A recent systematic review found pubertal suppression in TGD adolescents was associated with an improved social life, decreased suicidality in adulthood, improved psychological functioning, and quality of life (Rew et al., 2020). Because evidence suggests hormone therapy is directly linked to decreased symptoms of depression and anxiety, the practice of withholding hormone therapy until these symptoms are treated with traditional psychiatry is considered to have iatrogenic effects (Keo-Meier et al., 2015). If psychiatric treatment is indicated, it can be started or adjusted concurrently without discontinuing hormone therapy.

Table 1 Expected Time Course of Physical Changes in Response to Gender- Affirming Hormone Therapy**Testosterone Based Regimen**

Effect	Onset	Maximum
Skin Oiliness/acne	1-6 months	1-2 years
Facial/body hair growth	6-12 months	>5 years
Scalp hair loss	6-12 months	>5 years
Increased muscle mass/strength	6-12 months	2-5 years
Fat redistribution	1-6 months	2-5 years
Cessation of menses	1-6 months	1-2 years
Clitoral enlargement	1-6 months	1-2 years
Vaginal atrophy	1-6 months	1-2 years
Deepening of voice	1-6 months	1-2 years

Estrogen and Testosterone-Lowering Based Regimens

Effect	Onset	Maximum
Redistribution of body fat	3-6 months	2-5 years
Decrease in muscle mass and strength	3-6 months	1-2 years
Softening of skin/decreased oiliness	3-6 months	Unknown
Decreased sexual desire	1-3 months	Unknown
Decreased spontaneous erections	1-3 months	3-6 months
Decreased sperm production	Unknown	2 years
Breast growth	3-6 months	2-5 years
Decreased testicular volume	3-6 months	Variable
Decreased terminal hair growth	6-12 months	>3 years
Increased scalp hair	Variable	Variable
Voice changes	None	

Data for testosterone-based regimens from (Ahmad & Leinung, 2017; Irwig, Childs, & Hancock, 2017; Klaver et al., 2018; Park, Carter, & Larson, 2019; Schönauer et al., 2020; Stoffers, de Vries, & Hannema, 2019; Taub et al., 2020; Van Caenegem et al., 2015; Yeung et al., 2020)
 Data for estrogen and testosterone-lowering based regimens from (de Blok et al., 2018; Matoso et al., 2018; Reisman, Goldstein, & Safer, 2019; Stevenson, Wixon, & Safer, 2016)

TABLE 2 RISKS ASSOCIATED WITH SEX STEROID HORMONE THERAPY, BOLDED ITEMS ARE CLINICALLY SIGNIFICANT (Updated from SOC-7)

RISK LEVEL	Estrogen-based regimens	Testosterone-based regimens
Likely increased risk	Venous Thromboembolism Infertility Hyperkalemia^s Hypertriglyceridemia Weight Gain	Polycythemia Infertility Acne Androgenic Alopecia Hypertension Sleep Apnea Weight Gain Decreased HDL Cholesterol and increased LDL Cholesterol
Likely increased risk with presence of additional risk factors	Cardiovascular Disease Cerebrovascular Disease Meningioma ^c Polyuria/Dehydration ^s Cholelithiasis	Cardiovascular Disease Hypertriglyceridemia
Possible increased risk	Hypertension Erectile Dysfunction	
Possible increased risk with presence of additional risk factors	Type 2 Diabetes Low Bone Mass/Osteoporosis Hyperprolactinemia	Type 2 Diabetes Cardiovascular Disease
No increased risk or inconclusive	Breast and Prostate Cancer	Low Bone Mass/Osteoporosis Breast, Cervical, Ovarian, Uterine Cancer

^c cyproterone-based regimen

^s spironolactone-based regimen

TABLE 3 GENDER-AFFIRMING HORMONE REGIMENS IN TRANSGENDER AND GENDER DIVERSE YOUTH (Adapted from the Endocrine Society Guidelines)

Induction of female puberty (estrogen based regimen) with oral 17 β -estradiol

Initiate at 5 μ g/kg/d and increase every 6 months by 5 μ g/kg/d up to 20 μ g/kg/d according to estradiol levels

Adult dose = 2-6 mg/day

In postpubertal transgender adolescents, the dose of 17 β -estradiol can be increased more rapidly:

1 mg/d for 6 months followed by 2 mg/d and up according to estradiol levels

Induction of female puberty (estrogen based regimen) with transdermal 17 β -estradiol

Initial dose 6.25-12.5 μ g/24 h (cutting 24 g patch to $\frac{1}{4}$ then $\frac{1}{2}$)

Titrate up by every 6 months by 12.5 μ g/24 h according to estradiol levels

Adult dose = 50-200 μ g/24 hours

For alternatives once at adult dose (Table 4)

Induction of male puberty (testosterone based regimen) with testosterone esters

25 mg/m²/2 weeks (or alternatively half this dose weekly)

Increase by 25 mg/m²/2 weeks every 6 months until adult dose and target testosterone levels achieved. See alternatives for testosterone esters (Table 4)

TABLE 4 HORMONE REGIMENS IN TRANSGENDER AND GENDER DIVERSE ADULTS***Estrogen Based Regimen (Transfeminine)**

Estrogen

Oral or sublingual

Estradiol 2.0-6.0 mg/day

Transdermal

Estradiol transdermal patch 0.025-0.2 mg/day

Estradiol gel various ‡ daily to skin

Parenteral

Estradiol valerate or cypionate 5-30 mg IM every 2 weeks

2-10 IM every week

Anti-Androgens

Spironolactone 100 – 400 mg/day

Cyproterone acetate 10 mg/day

GnRH agonist 3.75- 7.50 mg SQ monthly

GnRH agonist depot formulation 11.25/22.5 mg SQ 3/6 monthly

‡ Amount applied varies to formulation and strength

Testosterone Based Regimen (Transmasculine)**Transgender males**

Testosterone

Parenteral

Testosterone enanthate/cypionate 50 - 100 IM/SQ weekly or

100 – 200 IM every 2 weeks

Testosterone undecanoate 1000 mg IM every 12 weeks

Transdermal testosterone

Testosterone gel 1.6% 50-100 mg/day

Testosterone transdermal patch 2.5 – 7.5 mg/day

**Doses are titrated up or down until sex steroid hormone levels are in the therapeutic range*

Table 5 Hormone Monitoring of Transgender and Gender Diverse People Receiving Gender Affirming Hormone Therapy (adapted from the Endocrine Society Guidelines)

Transgender male or transmasculine embodiment goals

1. Evaluate patient approximately every 3 months (with dose changes) in the first year and 1 to 2 times per year to monitor for appropriate physical changes in response to testosterone.
2. Measure serum total testosterone every 3 months (with dose changes) until levels are at goal
 - a. For parenteral testosterone, the serum total testosterone should be measured midway between injections. The target level is 400-700 ng/dL. Alternatively, measure peak and trough peaks to ensure levels remain in the range of reference men.
 - b. For parenteral testosterone undecanoate, testosterone should be measured just before injection. If the level is <400 ng/dL, adjust the dosing interval.
 - c. For transdermal testosterone, the testosterone level can be measured no sooner than after 1 week of daily application (at least 2 hours after application of product).
3. Measure hematocrit or hemoglobin concentrations at baseline and approximately 3 months (with dose changes) for the first year and then one to two times a year.

Transgender Female or transfeminine embodiment goals

1. Evaluate patient approximately every 3 months (with dose changes) in the first year and one to two times per year to monitor for appropriate physical changes in response to estrogen.
 - a. Serum testosterone levels should be less than 50 ng/dL.
 - b. Serum estradiol should be in the range of 100-200 pg/mL.
2. For individuals receiving spironolactone, serum electrolytes, in particular potassium, and kidney function, in particular creatinine, should be monitored.
3. Follow primary care screening per primary care chapter recommendations

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Sexual Health

Background/Introduction

Sexual health has a profound impact on physical and psychological well-being, regardless of one's sex, gender, or sexual orientation. However, sex, gender and sexual orientation shape people's opportunities to live out their sexuality and to receive appropriate sexual health care. Specifically, in most societies, cisnormativity and heteronormativity lead to the assumption that all people are cisgender and heterosexual (Bauer, et al., 2009) and that this combination is superior to all other genders and sexual orientations (Nieder et al., 2020; Rider et al., 2019). Heteronormativity negates the complexity of gender, sexual orientation, and sexuality and disregards the diversity and fluid understanding of these concepts. This is all the more important since both the sexual identities and orientations of transgender and gender diverse (TGD) people and their sexual practices are characterized by an enormous diversity (Galupo et al., 2016; T'Sjoen et al., 2020). Therefore, the World Health Organization (WHO, 2010) emphasizes that sexual health depends essentially on whether the sexual rights of all people are respected, including the right to express diverse sexualities and to be treated respectfully, safely, and free from discrimination and violence. Sexual health discourses have focused on agency and body autonomy, which include consent, sexual pleasure, partnerships, and family life (Cornwall & Jolly, 2006).

In light of this, the WHO defines sexual health as "a state of physical, emotional, mental, and social well-being in relation to sexuality and not merely the absence of disease, dysfunction, or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination, and violence. For sexual health to be attained and maintained, the sexual rights of all persons must be respected, protected, and fulfilled" (WHO, 2006, p. 5).

Focusing on the promotion of sexual health, the World Association for Sexual Health (WAS) asserts the importance of sexual pleasure and considers self-determination, consent, safety, privacy, confidence and the ability to communicate and negotiate sexual relations as major facilitators (Kismödi et al., 2017). To contribute to the sexual health of TGD people, health care professionals (HCPs) need both trans-related expertise and sensitivity (Nieder et al., 2020). With the goal of improving sexual health for TGD people to a comparable, ethically-sound, evidence-based and high-quality level, HCPs must provide their health services with the same care (i.e., with trans-related expertise) and respect (i.e., with trans-related sensitivity) they provide for cisgender people (Holmberg et al., 2018).

Performances of TGD people, such as gender atypical expressions, can have strong reactions in many people. Thus, when initiating a health-related contact or establishing a therapeutic relationship, being sensitive here means first of all not to let oneself be guided by the fact that the person seeking care is TGD. A nonjudgmental, open, and welcoming manner is most likely ensured when HCPs reflect on their emotional, cognitive, and interactional reactions to the person (Nieder et al., 2020). In addition, trans-related expertise refers to identifying the biographical impact of growing up as transgender or gender diverse on the person being cared for (Rider et al., 2019). To adequately address the specific physical, psychological, and social conditions of TGD people, HCPs must be aware these conditions are generally overlooked for reasons of heteronormativity, lack of knowledge and lack of skills (Rees, et al., 2021). In addition, HCPs must be sensitive to the history of (mis)use of sexual identity and orientation as a gatekeeping function to exclude transgender people from transition-related care (Nieder & Richter-Appelt, 2011; Richards et al., 2014). The following recommendations aim to improve sexual health care for TGD people.

Summary of Recommendations

Statement 1: We recommend health care professionals who provide care to transgender and gender diverse patients acquire the knowledge and skills needed to address sexual health issues (relevant to their care provision).

Statement 2: We recommend health care professionals who provide care to transgender and gender diverse patients offer the possibility of including partner(s) in sexuality-related care, if appropriate.

Statement 3: We recommend health care professionals counsel transgender and gender diverse patients about the potential impact of stigma and trauma on sexual risk behavior, sexual avoidance, and sexual functioning.

Statement 4: We recommend any health care professional who offers care that may impact sexual health provide information, ask about the patient's expectations, and assess their level of understanding of possible changes.

Statement 5: We recommend health care professionals who provide care to transgender and gender diverse patients counsel adolescents and adults regarding prevention of sexually transmitted infections.

Statement 6: We recommend health care professionals who provide care to transgender and gender diverse patients follow local and World Health Organization guidelines for human immunodeficiency virus/sexual transmitted infections (HIV/STIs) screening, prevention, and treatment.

Statement 7: We recommend health care professionals who provide care to transgender and gender diverse patients address concerns about potential interactions between antiretroviral medications and hormones.

All of these statements have been recommended based on the large amount of background literature and a favorable risk-benefit ratio of providing sexual health counseling to patients, partners, and loved ones. We recognize in some areas evidence is limited, sexual health services may not be accessible or desirable, or both situations may exist.

Statement 1:

We recommend health care professionals who provide care to transgender and gender diverse patients acquire the knowledge and skills to address sexual health issues (relevant to their care provision).

It is important HCPs addressing the sexual health of TGD people be familiar with commonly used terminology (see terminology chapter) and invite those seeking care to explain terms with which the provider may not be familiar. In this context, it is also important HCPs (are prepared to) take a sexual history and offer treatment (according to their competencies) in a trans-affirming way (Centers for Disease Control, 2020). To achieve this, it is crucial HCPs providing transition-related medical interventions be sufficiently informed about possible effects on sexual function and pleasure (T'Sjoen et al., 2020). Considering that clinical data indicate that TGD people score significantly lower in sexual pleasure compared to cisgender

individuals, this is even more important (Gieles et al., submitted). If the HCP cannot provide information about the effects of their treatment on sexual function and pleasure, they are at least expected to refer the individual to someone qualified to do so. If the sexuality-related effects of their treatment are not known, HCPs should inform their patients accordingly. As introduced above, the sexuality of TGD people often challenges heteronormative views. Nevertheless, there is a large amount of literature (e.g., Bauer, 2018; Laube et al., 2020; Hamm & Nieder, 2021; Stephenson et al., 2017) highlighting the spectrum character of sexuality that does not fit into expectations of what male and female sexuality entails (neither cis- nor transgender), let alone gender diverse people (e. g., nonbinary, agender, genderqueer). Thus, these aspects should be carefully considered by HCPs as cisnormativity, heteronormativity, and transition-related medical interventions, all have a strong impact on sexual health.

Statement 2:

We recommend health care professionals who provide care to transgender and gender diverse clients offer the possibility of including partner(s) in sexuality-related care, if appropriate.

When appropriate and relevant to clinical concerns, inclusion of a sexual partner, romantic partner(s), or both in sexual health care decision-making can increase TGD patients' sexual well-being and satisfaction outcomes (Kleinplatz, 2012). TGD patients may choose a range of transition-related medical interventions, and these interventions may have mixed results in shifting experiences of anatomical dysphoria (Bauer & Hammond, 2015). When discussing the impact of medical interventions on sexual functioning and pleasure, inclusion of partner(s) can increase knowledge of potential changes and encourage communication between partners (Dierckx et al., 2019). Because the process of transitioning is not a completely solitary endeavor, including a sexual partner, romantic partner, or both in transition-related health care can facilitate the process of 'co-transitioning' (Lindley et al., 2020; Siboni et al., 2021; Theron & Collier, 2013) and can also support sexual growth and adjustment both in the individual as well as in the relationship. Social and psychological barriers to sexual functioning and pleasure, including experiences of gender dysphoria, stigmatization, lack of sexual and relationship role models, and limited skills, can have negative impacts on overall sexual health (Kerckhof et al., 2019). Supportive, gender-affirming sexual communication between partners improves sexual satisfaction outcomes for TGD patients (Stephenson et al., 2017; Wierckx et al., 2011). Inclusion of partners, when appropriate and as desired by patients, offers an opportunity to set realistic expectations, disseminate helpful and accurate information, and facilitate gender-affirming positive communication related to sexual health.

Statement 3:

We recommend health care professionals counsel transgender and gender diverse patients about the potential impact of stigma and trauma on sexual risk behavior, sexual avoidance, and sexual functioning.

The TGD community is disproportionately impacted by stigma, discrimination, and violence (de Vries et al., 2020; EU FRA, 2020; McLachlan, 2019). These experiences are often traumatic in nature (Burnes et al., 2016; Mizock & Lewis, 2008) and can create barriers to sexual health, functioning, and pleasure (Bauer & Hammond, 2015). For example, stigmatizing narratives about trans sexualities can increase dysphoria and sexual shame, increasing potential avoidance of the sexual communication needed for safety and optimizing pleasure (Stephenson et al., 2017). Research demonstrates that stigma, a history of sexual violence, and body image concerns can negatively impact sexual self-esteem and

agency, for example the ability to assert what is pleasurable or to negotiate condom use (Clements-Nolle et al., 2008; Dharma et al., 2019). Additionally, gender dysphoria can be exacerbated by past trauma experiences and ongoing trauma-related symptoms (Giovanardi et al., 2018) as well as that childhood adversities are associated with adult depression and suicidality even after gender affirming treatment (Biedermann et al., 2021). For example, it may be difficult for some TGD individuals to engage sexually using the genitals with which they were born, and they may choose to avoid such stimulation altogether, disrupting arousal, orgasmic processes, or both (Anzani et al., 2021; Bauer & Hammond, 2015; Iantaffi & Bockting, 2011). Some level of disconnect or dissociation may also be present, particularly in the case of acute trauma symptoms (Colizzi et al., 2015). It is important for HCPs to be aware of these potential impacts on sexual health, functioning, and pleasure so they may refer patients, as needed, to trauma-informed sexual counselors, mental health providers, or both, who may be of further assistance.

Statement 4:

We recommend any health care professional who offers care that may impact sexual health provide information, ask about the patient's expectations, and assess their level of understanding of possible changes.

HCPs should inform their TGD patients about treatments among the ones being offered that can affect sexual function and pleasure and, specifically, how these will be impacted (Garcia, 2021; Holmberg et al., 2018). Transition-related care can affect sexual function and pleasure, both in positive and negative ways (Holmberg et al., 2018; Kerckhof et al., 2019; Tirapegui et al., 2020). Sexual desire and arousal, the ability to have an erection and ejaculation, a satisfying orgasm, and general sexual satisfaction may be affected by the use of psychotropic drugs (Montejo et al., 2015). As some TGD people are prescribed similar medication to treat depression (Heylens et al., 2014), anxiety (Millet, Longworth & Arcelus, 2017) or other mental health concerns (Dhejne et al., 2016), their potential side effects on sexual health should be considered. Furthermore, transition-related hormones may have similar effects on sexual function and pleasure, among others that are not yet fully understood (Garcia & Zaliznyak, 2020; Kerckhof et al., 2019; Wierckx et al., 2011). Transition-related hormones may affect mood, sexual desire, and sexual arousal processes, which in turn can affect sexual function and pleasure as well as sexual self-expression (Defreyne et al., 2020; Klein & Gorzalka, 2009).

Many gender affirming surgeries can have significant effects on erogenous sensation, sexual desire and arousal as well as sexual function and pleasure. The impact of these changes for patients may be mixed (Holmberg et al., 2018). Chest surgeries (breast reduction, mastectomy, and breast augmentation) and body contouring surgeries, for example, may offer desired changes in form and appearance thereby reducing psychological distress that can disrupt sexual functioning, but may adversely affect erogenous sensation (Bekeny et al., 2020; Claes et al., 2018; Rochlin et al., 2020). Genital surgeries in particular can potentially affect sexual function and pleasure in adverse ways, although they are likely to be experienced positively as the patient's body becomes more aligned with their gender, potentially opening new avenues for sexual exploration, pleasure, and satisfaction (Hess et al., 2018; Holmberg et al., 2018; Kerckhof et al., 2019).

There are numerous examples of this in the extant literature:

- Surgery may result in a decrease, a total loss, or a possible increase in erogenous stimulation and/or experienced sensation as compared to the patient's presurgery anatomy (Garcia, 2018; Sigurjónsson et al., 2017).

- A particular surgical option may be associated with specific limitations to sexual function that may manifest immediately, in the future, or at both timepoints, and which patients should consider before finalizing their choice when considering different surgical options (Frey et al., 2016; Garcia, 2018; Isaacson et al., 2017).
- Postsurgical complications can adversely affect sexual function by either decreasing the quality of sexual function (e.g., discomfort or pain with sexual activity) or by precluding satisfactory intercourse (Kerckhof et al., 2019; Schardein et al., 2019).

In general, satisfaction with any medical treatment is heavily influenced by the patient's expectations (Padilla et al., 2019). Furthermore, when patients have unrealistic expectations before treatment, they are much more likely to be dissatisfied with the outcome, their care, and with their HCP (Padilla et al., 2019). Therefore, it is important to both provide patients with adequate information about their treatment options and to understand and consider what is important to the patient with regard to outcomes (Garcia, 2021). Finally, it is important that the HCP ensure patients understand the potential adverse effects of a treatment on their sexual function and pleasure so that a well-informed decision can be made. This is relevant for both meeting the standard of informed consent (i.e., discussion and understanding) and for providing an opportunity to offer further clarification to patients and, if desired, to their partners (Glaser et al., 2020).

Statement 5:

We recommend health care professionals who provide care to transgender and gender diverse patients counsel adolescents and adults regarding prevention of sexually transmitted infections.

TGD persons are disproportionately impacted by human immunodeficiency virus (HIV) and other sexually transmitted infections (STIs) relative to cisgender persons (Baral et al., 2013; Becasen, Denard, Mullins, Higa, & Sipe, 2018; Poteat, Scheim, Xavier, Reisner, & Baral, 2016). The United Nations Joint Programme on HIV/AIDS estimates that transgender women are 12 times more likely than other adults to be living with HIV (UNAIDS, 2019). A meta-analysis estimated a pooled global HIV prevalence of 19% among transgender women who have sex with men (Baral et al., 2013). HIV/STI risk is concentrated among TGD subgroups at the confluence of multiple biological, psychological, interpersonal, and structural vulnerabilities. In particular, transfeminine persons who have sex with cisgender men, belong to minoritized racial/ethnic groups, live in poverty, and engage in survival sex work are at elevated HIV/STI risk (Becasen et al., 2018; Poteat et al., 2016; Poteat et al., 2015). Less is known about HIV/STI risk among transgender men or gender diverse persons assigned female at birth. Small studies in high-income countries indicate a laboratory-confirmed HIV prevalence of 0-4% among transmasculine people (Becasen et al., 2018; Reisner & Murchison, 2016). However, research on sexual risk indicates that transmasculine persons who have sex with cisgender men should be a priority for HIV/STI prevention (Golub, Fikslin, Starbuck, & Klein, 2019; Reisner et al., 2019; Scheim, Bauer, & Travers, 2017).

Therefore, TGD persons who are sexually active or considering sexual activity may benefit from sexuality-related communication or counseling for the purpose of HIV/STI prevention. In primary care settings for all patients, the WHO (2015a) strongly recommends that HCPs implement brief sexuality-related communication with adolescents and adults and provides guidelines for such communication. HCPs will need to supplement these guidelines by developing knowledge and skills for discussing sexual health issues with TGD patients, such as the use of gender-affirming language (see Statement 1 in this chapter). Well-prepared HCPs (including but not limited to mental health providers) may also engage in in-depth counseling with their patients to address the underlying drivers of HIV/STI risk (see

Statement 3 in this chapter). In all cases, HCPs should be sensitive to the collective and individual histories of TGD patients (e.g., stereotypes and stigma about trans sexualities and gender dysphoria) and should explain to patients the reasons for sexuality-related enquiries and the voluntary nature of such enquiries, all the while avoiding assumptions about HIV/STI risk based solely on a patient's gender identity.

Statement 6:

We recommend health care professionals who provide care to transgender and gender diverse patients follow local and World Health Organization guidelines for human immunodeficiency virus/sexual transmitted infections (HIV/STIs) screening, prevention, and treatment.

Like cisgender patients, TGD adolescents and adults should be offered screening for HIV/STIs in accordance with existing guidelines and based on their individual risk of HIV/STI acquisition, considering anatomy rather than gender identity. Where local or national guidelines are unavailable, WHO (2015b) offers global recommendations. However, gender-affirming genital surgeries and surgical techniques have implications for STI risks and screening needs, as outlined in recent guidelines from the U.S. Centers for Disease Control (Workowski et al., 2021). For instance, transfeminine persons who have had penile inversion vaginoplasty using only penile and scrotal skin to line the vaginal canal are likely at lower risk of urogenital *Chlamydia trachomatis* and *Neisseria gonorrhoeae*, but newer surgical techniques that employ buccal or urethral mucosa or peritoneum flaps could in theory, increase susceptibility to bacterial STIs relative to use of penile/scrotal skin alone (Van Gerwen et al., 2021), though evidence of this is limited. Routine STI screening of the neovagina (if exposed) is recommended for all transfeminine persons who have had vaginoplasty (Workowski et al., 2021). For transmasculine persons who have had metoidioplasty with urethral lengthening, but not vaginectomy, testing for bacterial urogenital STIs should include a cervical swab because infections may not be detected in urine (Workowski et al., 2021).

Further, it is important for HCPs to offer testing at multiple anatomical sites as STIs in transgender patients are often extragenital (Hiransuthikul et al., 2019; Pitasi et al., 2019). Consistent with WHO (2020) recommendations, self-collection of samples for STI testing should be offered as an option, particularly if patients are uncomfortable or unwilling to undergo provider-collected sampling due to gender dysphoria, trauma histories, or both. Where relevant, integration of HIV/STI testing with regular serology used to monitor hormone therapy may better facilitate access to care (Reisner, Radix, & Deutsch, 2016; Scheim & Travers, 2017).

Statement 7:

We recommend health care professionals who provide care to transgender and gender diverse patients address concerns about potential interactions between antiretroviral medications and hormones.

For TGD adolescents and adults at substantial risk of HIV infection (generally defined as an ongoing serodiscordant relationship or condomless sex outside of a mutually monogamous relationship with a known HIV-negative partner; WHO, 2017), pre-exposure prophylaxis (PrEP) is an important HIV prevention option (Golub et al., 2019; Sevelius, Deutsch, & Grant, 2016). For treatment among people living with HIV, transgender-specific guidelines are available in some settings (e.g., PAGAA, 2019). For both HIV prevention and treatment, there are antiretroviral dosing and administration considerations specific to TGD persons. For example, only daily dosing of PrEP is currently recommended for TGD patients, as studies demonstrating the effectiveness of event-driven PrEP with tenofovir disoproxil

fumarate/emtricitabine have been limited to cisgender men (WHO, 2019). As long-acting injectable antiretroviral formulations of PrEP and HIV treatment become available, indicated injection sites (i.e., the gluteal muscle) may be unsuitable for patients who have used soft tissue fillers (Rael et al., 2020).

There is little evidence supporting the occurrence of drug-drug interactions between gender-affirming hormones and PrEP medications. A few small studies, primarily relying on self-reported PrEP use, have shown reduced PrEP drug concentrations in transgender women undergoing hormone therapy, although concentrations remained in the protective range (Yager & Anderson, 2020). A subsequent drug-drug interaction study using directly observed PrEP therapy failed to detect an impact of hormone therapy on PrEP drug concentrations in transgender women and found that transgender women and men on hormone therapy achieved high levels of protection against HIV infection (Grant et al., 2020). Most importantly, for many TGD patients, no impact of PrEP on hormone concentrations have been detected. With regard to HIV treatment, specific antiretroviral medications may impact hormone concentrations; however, these can be managed by selecting alternative agents, monitoring and adjusting hormone dosing, or both (Cirrincione, Senneker, Scarsi, & Tseng, 2020) as detailed in guidelines from the US Department of Health and Human Services (PAGAA, 2019). Nevertheless, concerns about drug-drug interactions, and particularly interactions that may limit hormone concentrations, represent a key barrier to the implementation and adherence to antiretroviral therapy for HIV prevention or treatment (Radix, Harris, & Goldstein, 2020; Sevelius, Deutsch, & Grant, 2016). Therefore, it is advisable for HCPs to proactively address such concerns with patients who are candidates for PrEP or HIV treatment. Integration of PrEP or HIV treatment with hormone therapy may further reduce barriers to implementation and adherence (Reisner et al., 2016). Integration may be achieved through colocation or through coordination with an HIV specialist if the primary care provider does not have the necessary expertise.

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Reproductive Health

Background/Introduction

All humans, including transgender individuals, have the reproductive right to decide whether to have children (United Nations Population Fund, 2014). Gender-affirming hormonal treatments and surgical interventions that alter reproductive anatomy or function may limit future reproductive options to varying degrees (Hembree et al., 2017; Nahata et al., 2019). It is thus critical to discuss infertility risk and fertility preservation (FP) options with transgender individuals and their families prior to initiating any of these treatments and to continue these conversations on an ongoing basis thereafter (Hembree et al., 2017). Established FP options, such as embryo, oocyte, and sperm cryopreservation, may be available for postpubertal transgender individuals (Nahata et al., 2019). Research protocols for ovarian and testicular tissue cryopreservation have also been developed and studied (Borgström et al., 2020; Nahata et al., 2019; Rodriguez-Wallberg et al., 2019). Whereas the use of embryos, mature oocytes, and sperm have all proven to be efficacious when employed within clinical treatments, cryopreserved gonadal tissues would require either future retransplantation aimed at obtaining fully functional gametes or the application of laboratory methods for culture, which are still under development in basic science research settings. Of note, recent American Society for Reproductive Medicine guidelines have lifted the experimental label on ovarian tissue cryopreservation, but evidence remains limited in prepubertal children (Practice Committee of the American Society for Reproductive Medicine, 2019).

Some research suggests transgender and gender diverse (TGD) people may be less likely to desire genetically related children or children at all when compared with cisgender peers (Defreyne et al., 2020; Russell et al., 2016; von Doussa et al., 2015). Yet, several other studies have shown that many TGD individuals 1) desire genetically related children; 2) regret missed opportunities for FP; and 3) are willing to delay or interrupt hormone therapy to preserve fertility and/or conceive (Armuañd, Dhejne, et al., 2017; Auer et al., 2018; De Sutter et al., 2002; Defreyne et al., 2020; Tornello & Bos, 2017).

Many barriers to FP have been reported, such as cost, urgency to start treatment, inability to make future-oriented decisions, and inadequate provider knowledge/provider biases that affect offering FP (Baram et al., 2019; Defreyne et al., 2020). Additionally, transgender individuals may have worsening dysphoria due to various steps in the FP process that are inseparably connected with the gender assigned at birth (Armuañd, Dhejne, et al., 2017; Baram et al., 2019). An interdisciplinary team approach, where both medical and mental health providers collaborate with gender-affirming fertility specialists, can help overcome some of these barriers (Tishelman et al., 2019). In addition to fertility considerations, efforts to ensure equitable high-quality care for all forms of family building throughout the full reproductive continuum must be maintained. This includes perinatal care, pregnancy, delivery, and postpartum, as well as contraceptive options to prevent unplanned pregnancies, and pregnancy termination if sanctioned (Bonnington et al., 2020b; Cipres et al., 2017; Krempasky et al., 2020; Light et al., 2018; H Moseson, L Fix, et al., 2020). TGD people who wish to carry a pregnancy should undergo standard of care preconception care and prenatal counseling and should receive counseling about breast/chest feeding in environments supportive of people with diverse gender identities and experiences (MacDonald et al., 2016; Obedin-Maliver & Makadon, 2016).

Summary of Recommendations

Statement 1: We recommend that health care providers who are treating TGD people and prescribing or referring patients for hormone therapies/surgeries should advise their patients about:

- A. known effects of hormone therapies/surgery on future fertility;
- B. potential effects of therapies that are not well studied and are of unknown reversibility;
- C. fertility preservation (FP) options (both established and experimental);
- D. psychosocial implications of infertility.

Statement 2: We recommend that clinicians refer TGD individuals interested in fertility preservation to providers with expertise in fertility preservation for further discussion.

Statement 3: We recommend that transgender care teams partner with local reproductive specialists and facilities to provide specific and timely information and fertility preservation services prior to offering medical and surgical interventions that may impact fertility.

Statement 4: We recommend that clinicians counsel pre- or early pubertal TGD youth seeking gender-affirming therapy and their families that established fertility preservation options are limited.

Statement 5: We recommend that TGD people with a uterus who wish to carry a pregnancy should undergo preconception care, prenatal counseling regarding use and cessation of gender-affirming hormones, pregnancy care, labor and delivery, chest/breast feeding supportive services, and post-partum support according to local standards of care in a gender-affirming way.

Statement 6: We recommend that medical providers discuss contraception methods with TGD people who engage in sexual activity that can result in pregnancy.

Statement 7: We recommend that providers who offer pregnancy termination services ensure procedural options are gender-affirming and serve transgender people and those of diverse genders.

All these statements have been recommended based on the large amount of background literature that supports a favorable risk-benefit ratio to providing reproductive health counseling to patients and families. We recognize that, in some cases, evidence is limited and/or reproductive services may not be accessible or desirable.

Statement 1:

We recommend that health care providers who are treating TGD individuals and prescribing or referring patients for hormone therapies/surgeries should advise their patients about:

- A. known effects of hormone therapies/surgeries on future fertility;**
- B. potential effects of therapies that are not well studied and are of unknown reversibility;.**

- C. fertility preservation (FP) options (both established and experimental);
- D. psychosocial implications of infertility.

Individuals assigned female at birth

Gender-affirming hormone therapy may negatively impact future reproductive capacity (Hembree et al., 2017). Based on current evidence in transgender men and gender diverse people assigned female at birth, these risks are as follows:

Gonadotropin-releasing hormone agonists (GnRHAs) may be used for pubertal suppression to prevent further pubertal progression until adolescents are ready for masculinizing treatment. GnRHAs may also be used for menstrual suppression. GnRHAs impact the maturation of gametes but do not cause permanent damage to gonadal function. Thus, if GnRHAs are discontinued, oocyte maturation would be expected to resume.

There are few studies detailing the effects of testosterone therapy on reproductive function in transgender men (Moravek et al., 2020). Restoration of normal ovarian function with oocyte maturation after testosterone interruption has been demonstrated in transgender men who have achieved natural conception. A retrospective study on oocyte cryopreservation showed no differences in total number of oocytes retrieved or in the number of mature oocytes between transgender men and age- and BMI-matched cisgender women (Adeleye, Cedars, et al., 2019; Adeleye, Reid, et al., 2019). The first results have recently been published evaluating live birth rates after controlled ovarian stimulation in transgender men compared with cisgender women (Leung et al., 2019). Testosterone was discontinued prior to ovarian stimulation. Overall, the results concerning the influence of testosterone on reproductive organs and their function appear to be reassuring. However, there have been no prospective studies to date evaluating the effect of long-term hormone therapy on fertility (*i.e.*, started in adolescence) or in those treated with GnRHAs in early puberty followed by testosterone therapy. Consideration should be given to the fact that the required medications and procedures for cryopreserving oocytes (a pelvic examination, vaginal ultrasound monitoring, and oocyte retrievals) may lead to increasing gender dysphoria in transgender men (Armuan, Dhejne, et al., 2017).

Surgical interventions among transgender men will have obvious implications for reproductive capacity. If patients desire a hysterectomy, there is the option of preserving the ovaries to retain the possibility of having a genetically related child. Alternatively, if the ovaries are removed either separately or concurrently with the hysterectomy, there may also be the option of concurrent ovarian tissue cryopreservation at the time of oophorectomy. Although this procedure is no longer considered experimental, many transgender men may desire *in vitro* maturation of primordial follicles, which is still investigational. Studies evaluating oocyte function have shown oocytes isolated from transgender men with testosterone exposure at the time of oophorectomy can be matured *in vitro* to develop normal metaphase II meiotic spindle structure (De Roo et al., 2017; Lierman et al., 2017).

Individuals assigned male at birth

Based on current evidence in transgender women and gender diverse people assigned male at birth, the influence of medical treatment is as follows:

GnRHAs inhibit spermatogenesis. Data suggest that discontinuation of treatment results in a re-initiation of spermatogenesis, though this may take at least 3 months and most likely longer (Bertelloni et al., 2000). Furthermore, the psychological burden of re-exposure to testosterone should be considered.

Anti-androgens and estrogens result in an impaired sperm production (de Nie et al., 2020; Jindarak et al., 2018; Kent et al., 2018). Spermatogenesis might resume after discontinuation of prolonged treatment with anti-androgens and estrogens, but data are limited (Adeleye, Reid, et al., 2019; Alford et al., 2020; Schneider et al., 2017). Testicular volumes diminish under the influence of gender-affirming hormone treatment (Matoso et al., 2018). Semen quality in transgender women may also be negatively affected by specific life-style factors, such as a low frequency of masturbation, wearing the genitals tight against the body (e.g. with use of tight undergarments for tucking) (Jung & Schuppe, 2007; Mieusset et al., 1987; Mieusset et al., 1985).

Statement 2:

We recommend that clinicians refer TGD individuals interested in fertility preservation to providers with expertise in fertility preservation for further discussion.

Research shows many transgender adults desire biological children (De Sutter et al., 2002; Defreyne et al., 2020; Wierckx, Van Caenegem, et al., 2012), yet FP rates remain widely variable, particularly in youth (< 5%-40%) (Brik et al., 2019; Chen et al., 2017; Chiniara et al., 2019; Nahata et al., 2017; Segev-Becker et al., 2020). In a recent survey, many youth acknowledged their feelings about having a biological child might change in the future (Strang et al., 2017). Sterilization is a violation of human rights (Ethics Committee of the American Society for Reproductive Medicine, 2015; European Court of Human Rights, 2021; Meyer III et al., 2002), and due to advances in social attitudes, fertility medicine, and affirmative transgender healthcare, biological parenthood during transition is a viable option for transgender people. Due to the influence clinical opinion may have on transgender or non-binary people's FP and on parenting decisions, FP options should be explored by health care providers alongside options such as fostering, adoption, coparenting, and other parenting alternatives (Bartholomaeus & Riggs, 2019). Transgender patients who have been offered this type of discussion and have been given the choice to undergo procedures for FP have reported the experience to be an overall positive one (Armuan, Dhejne, et al., 2017; De Sutter et al., 2002; James-Abra et al., 2015).

In other patient populations, fertility referrals and formal fertility programs have been shown to increase FP rates and improve patient satisfaction (Kelvin et al., 2016; Klosky, Anderson, et al., 2017; Klosky, Wang, et al., 2017; Shnorhavorian et al., 2012) Physicians' attitudes have been investigated, and recent studies indicate both an awareness and a desire to provide fertility-related information to children and their families. However, barriers have also been identified, including lack of knowledge, comfort, and resources (Armuan, Nilsson, et al., 2017; Frederick et al., 2018). Thus, the need for appropriate training of health care providers has been highlighted, with emphasis placed on fertility counseling and offering FP options to all at-risk individuals in an unbiased way (Armuan, Nilsson, et al., 2017). Parents' recommendations have also been shown to significantly influence FP rates in adolescent and young adult males with cancer (Klosky, Flynn, et al., 2017). These findings can help inform best practices for fertility counseling and FP referrals for transgender individuals.

Statement 3:

We recommend that transgender care teams partner with local reproductive specialists and facilities to provide specific and timely information and fertility preservation services prior to offering medical and surgical interventions that may impact fertility.

Cryopreservation of sperm and oocytes are established FP techniques and can be offered to pubertal, late pubertal, and adult birth assigned males and birth assigned females, respectively, preferably prior to the initiation of gender-affirming hormone (GAH) treatment (Hembree et al., 2017; Practice Committee of the American Society for Reproductive Medicine, 2019). Cryopreservation of embryos can be offered to adult (post-pubertal) TGD people who wish to have a child and have an available partner. The future use of cryopreserved gametes is also dependent on the gametes and reproductive organs of the future partner (Fischer, 2021; Maxwell et al., 2017)

Although semen parameters have been shown to be compromised when FP is performed after initiation of GAH medication (Adeleye, Reid, et al., 2019), one small study showed that when the treatment was discontinued, semen parameters were comparable to those in TGD patients who had never undergone GAH treatment. With regard to ovarian stimulation, oocyte vitrification yield, and subsequent use of the oocytes in in-vitro fertilization (IVF), there is no reason to anticipate a different outcome in assisted reproductive technology (ART) treatments for TGD patients than that obtained in cisgender patients undergoing ART—other than individual confounding factors related to (in)fertility—when gametes are banked prior to any medical treatment (Adeleye, Cedars, et al., 2019). The use of oocytes in ART treatment resulted in similarly successful outcomes in TGD compared with controlled, matched cisgender patients (Adeleye, Cedars, et al., 2019; Leung et al., 2019; Maxwell et al., 2017). Although these are established options, few pubertal, late pubertal or adult TGD people undergo FP (Nahata et al., 2017), and many experience challenges while undergoing FP interventions. Not only is the cost of these methods a barrier, but these procedures are often physically and emotionally uncomfortable, and many express concerns about postponing the transitioning process (Chen et al., 2017; De Sutter et al., 2002; Nahata et al., 2017; Wierckx, Stuyver, et al., 2012). Especially for the birth assigned females, the invasiveness of endovaginal ultrasound follow-up of the ovarian stimulation and oocyte retrieval procedures (and associated psychological distress) have been cited as a barrier (Armuand, Dhejne, et al., 2017; Chen et al., 2017). There is also the concern that young adults going through transitioning may not have a clear vision of parenting and are therefore likely to decline the opportunity to use FP at that time— while as adults, they may have different opinions about parenthood (Cauffman & Steinberg, 2000). The reduction of gender dysphoria during transitioning could also influence the decision-making process surrounding FP (Nahata et al., 2017). Based on research showing TGD youths' fertility perspectives may change over time (Nahata et al., 2020; Strang et al., 2017), FP options should be discussed on an ongoing basis.

Statement 4:

We recommend that clinicians counsel pre- or early TGD youth seeking gender- affirming therapy and their families that established fertility preservation options are limited.

For prepubertal and early pubertal children, FP options are limited to the storage of gonadal tissue. Although this option is available for TGD children in the same way that it is available for cisgender prepubertal and early pubertal oncological patients, there is no literature describing the utilization of this approach in the transgender population. Ovarian tissue autotransplantation has resulted in over 130 live births in cisgender women. Most of these patients conceived naturally without ART (Donnez & Dolmans, 2015; Jadoul et al., 2017), and the majority stored their ovarian tissue either as adults or during puberty. Although the recent American Society for Reproductive Medicine guideline has lifted the experimental label from ovarian tissue cryopreservation (Practice Committee of the American Society for Reproductive Medicine,

2019), there are very few case reports describing a successful pregnancy in a woman following the transplantation of ovarian tissue cryopreserved before puberty. Demeestere *et al.* (Demeestere *et al.*, 2015) described the case of a successful pregnancy following transplantation of tissue procured at the age of 14, and recently Matthews *et al.* (Matthews *et al.*, 2018) described the case of a girl diagnosed with thalassemia who had ovarian tissue stored at the age of 9 and transplantation 14 years later. She subsequently conceived through IVF and delivered a healthy baby.

Currently, the only future clinical application for storing ovarian tissue is autotransplantation, which might be undesirable in a transgender man (due to the potentially undesirable effects of estrogen). A laboratory procedure that would make it possible to mature oocytes *in vitro* starting with ovarian tissue would be the ideal future application of stored ovarian tissue for transgender people, but this technique is currently only being investigated and optimized in basic science research settings (Ladanyi *et al.*, 2017; Rodriguez-Wallberg. & Oktay, 2010).

Procurement of testicular tissue in prepubertal boys has been documented as a low-risk procedure (Ming *et al.*, 2018). Some authors have also described this approach as a theoretical option in transgender people (De Roo *et al.*, 2016; Martinez *et al.*, 2017; Nahata *et al.*, 2018). However, there are no reports in the literature describing the clinical or investigational utilization of this FP option for transgender patients. Moreover, the viability of the clinical application of autotransplantation of testicular tissue remains unknown in humans, and *in vitro* maturation techniques are still in the realm of basic science research. Thus, specialists involved in FP for prepubertal boys consider this technique experimental (Picton *et al.*, 2015). The possibility of storing gonadal tissue should be discussed prior to any genital surgery that would result in sterilization, although the probability of being able to use this tissue must be clearly addressed.

Statement 5:

We recommend that TGD people with a uterus who wish to carry a pregnancy should undergo preconception care and prenatal counseling regarding the use and cessation of gender-affirming hormones, pregnancy care, labor and delivery, and chest/breast feeding supportive services, and postpartum support according to local standards of care in a gender-affirming way.

Most transgender men and gender diverse people assigned female at birth retain their uterus and ovaries and thus can conceive and carry a pregnancy even after long-term testosterone use (Light *et al.*, 2014). Many transgender men desire children (Light *et al.*, 2018; Wierckx, Van Caenegem, *et al.*, 2012) and are willing to carry a pregnancy (Moseson *et al.*, 2021). ART has expanded the opportunity for many transgender men to conceive and fulfill their family planning wishes (De Roo *et al.*, 2017; Ellis *et al.*, 2015; Maxwell *et al.*, 2017). Some transgender men report psychological isolation, dysphoria related to the gravid uterus and chest changes, and depression (Charter, 2018; Ellis *et al.*, 2015; Hoffkling *et al.*, 2017; Obedin-Maliver & Makadon, 2016). Conversely, other studies have reported some positive experiences during pregnancy as well (Fischer, 2021; Light *et al.*, 2014). Mental health providers should be involved to provide support and counseling should be provided addressing when to stop and when to resume gender-affirming hormones, what options are available for the mode of delivery and for chest/breast feeding (Hoffkling *et al.*, 2017). Finally, system-level and interpersonal-level interventions should be implemented to ensure person-centered reproductive health care for all people (Hahn *et al.*, 2019; Hoffkling *et al.*, 2017; H. Moseson *et al.*, 2020; Snowden JM, 2018).

Given the potential harmful effects of testosterone on the developing embryo, discontinuing testosterone or masculinizing hormone therapy prior to conception and during the entire pregnancy is recommended. However, the optimal time for both the discontinuation of testosterone prior to pregnancy and its resumption after pregnancy is unknown. Since stopping gender-affirming hormones may cause distress and exacerbate dysphoria in transgender men, when and how to stop this therapy should be discussed during prenatal counseling (Hahn et al., 2019). Because information about the duration of testosterone exposure and the risk of teratogenicity is lacking, testosterone use should be discontinued prior to attempting pregnancy and/or before stopping contraception. Moreover, there is limited information regarding health outcomes of infants born to transgender men. Small case series attempting to evaluate this question have revealed no adverse physical or psychosocial differences between infants born to transgender men and infants in the general population (Chiland et al., 2013).

Chest/Breast Feeding

In the limited studies evaluating lactation and chest/breast feeding, the majority of transgender men who chose to chest/breast feed postpartum were successful, with research suggesting induction of lactation is in part dependent on preconception counseling and experienced lactation nursing support (MacDonald et al., 2016; Wolfe-Roubatis & Spatz, 2015). Specifically, transgender men and TGD people who use testosterone should be informed 1) although quantities are small, testosterone does pass through chest/breast milk, and 2) the impact on the developing neonate/child is unknown, suggesting gender-affirming testosterone use is not recommended during lactation but may be resumed after discontinuation of chest/breast feeding (Glaser et al., 2009). Transgender men should be made aware that some patients who carry a pregnancy may experience undesired chest growth and/or lactation even after chest reconstruction and should therefore be supported if they desire to suppress lactation (MacDonald et al., 2016).

There is limited information concerning lactation in transgender women, but many also express the desire to chest/breast feed. While there is a case report of a transgender woman successfully lactating and chest/breast feeding her infant after hormonal support using a combination of estrogen, progesterone, domperidone, and breast pumping (Reisman & Goldstein, 2018), the nutritional and immunological profile of chest/breast milk under these conditions has not been studied. Therefore, patients need to be informed about the risks and benefits of this approach to child feeding (Reisman & Goldstein, 2018).

Statement 6:

We recommend that medical providers discuss contraception methods with TGD people who engage in sexual activity that can result in pregnancy.

Many transgender individuals may retain reproductive capacity, and they personally (if they retain a uterus, ovaries, and tubes) or their sexual partners (for sperm producing individuals) may experience unplanned pregnancies (James et al., 2016; Light et al., 2014; H Moseson, L Fix, et al., 2020). Therefore, intentional family planning counseling, including contraception and abortion conducted in gender-expansive ways is needed (Klein et al., 2018; Obedin-Maliver, 2015; Stroumsa & Wu, 2018). TGD people may not use contraception due to an erroneous assumption that testosterone is a reliable form of contraception (Abern & Maguire, 2018; Ingraham et al., 2018; K. Jones et al., 2017; Potter et al., 2015). However, based on current understanding, testosterone should not be considered a reliable form of contraception because of its incomplete suppression of the hypothalamic-pituitary-adrenal axis (Krempasky et al.,

2020). Furthermore, pregnancies have occurred while individuals are amenorrheic due to testosterone use, which may outlast active periods of administration (Light et al., 2014). Pregnancy can also occur after long-term testosterone use (at least up to 10 years) though the effect on oocytes and baseline fertility is still unknown (Light et al., 2014).

TGD people assigned female sex at birth may use a variety of contraceptive methods (Abern & Maguire, 2018; Bentsianov et al., 2018; Bonnington et al., 2020a; Chrisler et al., 2016; Cipres et al., 2017; K. Jones et al., 2017; Krempasky et al., 2020; Light et al., 2018). These methods may be used explicitly for pregnancy prevention, menstrual suppression, abnormal bleeding, or other gynecological needs (Bonnington et al., 2020a; Chrisler et al., 2016; Krempasky et al., 2020; Schwartz et al., 2019). Contraceptive research gaps within this population are profound. No studies have examined how the use of exogenous androgens (*e.g.*, testosterone) may modify the efficacy or safety profile of hormonal contraceptive methods (*e.g.*, combined estrogen and progestin hormonal contraceptives, progestin only based contraceptives) or non-hormonal and barrier contraceptive methods (*e.g.*, internal and external condoms, non-hormonal intrauterine devices, diaphragms, sponges, *etc.*).

Gender diverse individuals who currently have a penis and testicles may engage in sexual activity with individuals who have a uterus, ovaries, and tubes of any gender. Gender diverse people who have a penis and testicles can produce sperm even while on gender-affirming hormones (*i.e.*, estrogen), and although semen parameters are diminished among those who are currently using or who have previously used gender-affirming hormones, azoospermia is not complete and sperm inactivity is not totally suppressed (Adeleye, Reid, et al., 2019; Jindarak et al., 2018; Kent et al., 2018). Therefore, contraception needs to be considered if pregnancy is to be avoided in penis-in-vagina sexual activity between a person with a uterus, ovaries, and tubes and one with a penis and testicles, irrespective of the use of gender-affirming hormones by either partner. Currently, contraceptive methods available for use by the sperm-producing partner are primarily mechanical barriers (*i.e.*, external condoms, internal condoms), permanent sterilization (*i.e.*, vasectomy), and gender-affirming surgery (*e.g.*, orchiectomy, which also results in sterilization). Gender expansive contraceptive counseling that considers sperm producing, egg producing, and gestating partners (as relevant) is recommended.

Statement 7:

We recommend that providers who offer pregnancy termination services should ensure procedural approaches are gender-affirming and serve transgender people and those of diverse genders.

Unplanned pregnancies and abortions have been reported among transgender individuals (Abern & Maguire, 2018; Light et al., 2014; Light et al., 2018; H Moseson, L Fix, et al., 2020) and documented through surveys of abortion-providing facilities (R. K. Jones et al., 2020). However, the population-based epidemiology of abortion provision and the experiences and preferences of TGD individuals undergoing abortion still represents a critical gap in research (Fix et al., 2020; H Moseson, L Fix, et al., 2020; H Moseson, MR Lunn, et al., 2020). Nonetheless, given that pregnancy capacity exists among many TGD people and pregnancies may not always be planned or desired, access to safe, legal, and gender-affirming pregnancy medical and surgical termination services is necessary.

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Voice

Background

Speech, specifically the sound qualities of one's voice, is often a factor that influences how people present themselves and their identifications, but it is only one of many considerations for communicating gender (Azul, 2015; Azul & Hancock, 2020). Throughout this chapter "voice and communication" is used as a phrase encompassing the transmission of any message in any modality (e.g., speech, gesture, electronic mail). While a binary understanding of gender has dominated the research literature in this area, the person-centered approach recommended in this chapter implies a broadly inclusive view of gender identification (e.g., transfeminine, transmasculine, gender-fluid, nonbinary).

This chapter is intended to provide guidance for healthcare professionals (HP) to support all transgender and gender diverse (TGD) individuals who are experiencing challenges or distress regarding their communication practices. Not every TGD individual has this experience or wants professional support for their voice and communication, but those who do often encounter barriers in accessing care. A survey of TGD people in Germany reported 13% of gender diverse (GD) people assigned female at birth (AFAB) and 24% of people assigned male at birth (AMAB) plan to have voice therapy, while 37% of people AMAB plan to have voice surgery. The percentage of people who had already undergone the interventions is much lower, with the exception of 51% of GD people AMAB who had been able to access voice therapy (Eyssel et al., 2017). Similar patterns were reported by a survey of TGD people in Aotearoa/New Zealand where 31% of those surveyed wanted voice therapy but had not yet accessed it, and 13% wanted voice surgery. Only 6% had participated in voice therapy and less than 2% had undergone voice surgery (Veale et al., 2019). Access to voice training is usually higher than access to voice surgery, although a survey of a small sample of TGD people accessing gender-related health services in Turkey found 0% had voice therapy and 9% had undergone voice surgery (Oguz et al., 2021). In a large survey of TGD people in the United States, the majority of TGD people AMAB were considering or wanting voice therapy or surgery; only 11% had been in voice therapy, and 1% had undergone voice surgery (James et al., 2016). These low percentages of accessed care were even lower for the nonbinary people AMAB than for transgender women. Care for groups of TGD people further marginalized in their societies, such as people of marginalized race/ethnicity, experience discrimination and limited access to care at even greater rates (Cruz, 2014; Xavier et al., 2005). It is notable that in Sweden all individuals are offered support for their voice and communication when a diagnosis of gender dysphoria has been confirmed (Södersten et al., 2015). Although the percentages vary by country and TGD subpopulation, the statistics support the concern that TGD people are not able to access voice and communication services when and how they desire.

According to studies in the United States (Hancock & Downs, 2021; Kennedy & Thibeault, 2020), Turkey (Oguz et al., 2021), and Aotearoa/New Zealand (Veale et al., 2019), lack of accurate information about options for voice and communication services among TGD people is a significant and ubiquitous barrier to care. Additionally, cultural competence of providers is only slowly improving (Hancock & Haskin, 2015; Jakomin et al., 2020; Matthews et al., 2020; Sawyer et al., 2014). Research is needed to identify specific barriers to voice and communication services and to develop effective means for eliminating them. Preliminary work in this area (Hancock & Downs, 2021) has identified a potentially useful access-to-care theoretical framework that could be applied (Levesque, 2013).

The overall purposes of voice and communication support for GD people are:

- To educate clients about the factors (speaker, listener, professional practices, external material, biophysiological, and sociocultural) that influence functional voice and communication practices and the communication of the speaker's identity.
- To enable clients to communicate their sense of sociocultural belonging (e.g., in terms of gender) in everyday encounters in a manner that matches the client's desired self-presentation and that allows for functional voice production which does not harm the voice production mechanism.
- To support clients with developing the capacity to assertively negotiate desired forms of address and referral from others (e.g., names, pronouns, titles), and—in collaboration with mental health providers—to respond to misattributions in a skillful manner that contributes to increasing and maintaining the client's wellbeing.

Voice and communication services are offered as part of a complete and coordinated approach to health, including support for medical, psychological, and social needs (e.g., Södersten et al., 2015); however, there are no prerequisites (e.g., hormone use, pursuit of surgeries, or duration living in a gender role).

Intervention plans are developed as the person seeking the services and the voice and communication specialist (e.g., speech-language pathologist, speech therapist) discuss goals and intervention approaches by exploring reasonable expectations for benefits as well as potential risks or limitations (these are summarized below). Gender is constructed in communicative interactions and therefore not entirely under the speaker's or clinician's control. The client and clinician work together to develop goals that address practices and factors that a speaker can reasonably expect to influence (Azul & Hancock, 2020). Unalterable practices and forces (e.g., listener's beliefs about gender expression, Hancock & Pool, 2017) are acknowledged and helpful responses to these unalterable factors can be developed (e.g., the client changing their responses to misattributions).

Regarding surgery, two types of laryngeal surgeries are relevant for TGD populations: those for raising voice pitch (e.g., Glottoplasty, cricothyroid approximation (CTA); techniques for vocal fold shortening) (Anderson, 2007, 2014; Brown, 2000, Casado, 2017; Geneid, 2015; Gross, 1999; Kelly, 2018; Kanagalingam, 2005; Kim, 2017; Kocak, 2010; Kunachak, 2000; Mastronikolis, 2013; Matai, 2003; Meister, 2017; Mora, 2018, Neumann, 2004; Orloff, 2006; Pickuth, 2000; Remacle, 2011; Thomas, 2013; Tschan, 2016; Van Borsel, 2008; Wagner, 2003; Yang, 2002; Mastronikolis et al., 2013; Wendler, 1990) and for lowering voice pitch (e.g., thyroplasty type III, vocal fold injection augmentation) (Bultynck et al, 2020; Isshiki et al., 1983; Kojima, et al. 2008; Webb et al., 2021). Reported acoustic benefits of pitch-raising surgery are limited to increased voice pitch (average frequency (f_0)) and increased Min f_0 (the lowest frequency in physiological voice range). Subjective ratings show general satisfaction with voice postsurgery although individuals who are interested in more comprehensive changes to vocal self-presentation may need to engage in behavioral interventions with a voice and communication specialist in addition to laryngeal surgery (Kelly et al., 2018.. Furthermore, potential harms of pitch-raising surgery would be assessed and treated in voice therapy by a voice and communication specialist. Reported harms of pitch-raising surgery include voice problems such as dysphonia, weak voice, restricted speaking voice range especially upper range (lowered Max f_0 , in the physiological voice range), hoarseness, vocal instability, and lowering of frequency values over time (see Kelly et al., 2018; Song & Jiang, 2017). Research on pitch-lowering surgeries is limited. However, studies including eight people AFAB who elected to undergo thyroplasty type III after continued dissatisfaction with hormone treatment

(Bultynck et al., 2020) and one person who received injection augmentation after testosterone therapy and voice training (Webb et al., 2020), reported statistically significant lowering of fundamental frequency, perceived as pitch.

Estrogen treatment in TGD people AMAB has not been associated with measurable voice changes (Mészáros et al., 2005), while testosterone treatment in TGD people AFAB has been found to result in both desired and undesired changes in gender- and function-related aspects of voice production (Azul, 2015; Azul et al., 2017; Azul et al., 2018; Azul & Neuschaefer-Rube, 2019; Azul et al., 2020; Cosyns et al., 2014; Damrose, 2008; Deuster et al., 2016a, Deuster, et al. 2016b, Hancock et al., 2017, Irwig et al., 2017; Nygren et al., 2015; Van Borsel et al., 2000; Yanagi et al., 2015; Ziegler et al., 2018). Desired changes associated with testosterone treatment include lowered voice pitch, increased male attributions to voice, and increased satisfaction with voice. Reported harms of testosterone treatment include lack of or insufficient lowering of voice pitch, dysphonia, weak voice, restricted singing pitch range, and vocal instability.

Summary of Recommendations

Statement 1: We recommend voice and communication specialists assess current and desired vocal and communication function of transgender and gender diverse people and develop appropriate intervention plans for those dissatisfied with their voice and communication.

Statement 2: We recommend voice and communication specialists working with transgender and gender diverse people receive specific education to develop expertise in supporting vocal functioning, communication, and wellbeing in this population.

Statement 3: We recommend health professionals in trans health working with transgender and gender diverse people who are dissatisfied with their voice or communication refer them to voice and communication specialists (e.g., speech-language pathologist, speech therapist) for assessment and training.

Statement 4: We recommend health professionals in trans health refer transgender and gender diverse people undergoing voice surgery to a specialist in voice and communication behavioral training prior to surgery.

Statement 5: We recommend health professionals in trans health inform transgender and gender diverse people commencing testosterone therapy of the potential and variable effects of this treatment on voice and communication.

All these recommendation statements are based on a background literature available in English, consensus of the writing group, and approval via the Delphi process, as well as a favorable risk-benefit ratio of providing professional support through changes in voice and communication.

Statement 1:

We recommend voice and communication specialists assess current and desired vocal

and communication function of transgender and gender diverse people and develop appropriate intervention plans for those dissatisfied with their voice and communication.

Voice specialists support the individual by assessing their voice and communication function in relation to vocal demand, presentation of sociocultural positionings including gender, attributions received from others, and how these relate to the individual's wishes and wellbeing.

Assessment measures and intervention targets may vary in nature (e.g., perceptual, acoustic, aerodynamic) according to their purpose (Davies et al., 2015, Leyns et al. 2021; Oates & Dacakis, 1983). For example, laryngeal visualization is used when individuals present with a concomitant voice complaint or voice disorder (e.g., muscle tension dysphonia) (Palmer et al., 2012) or experience voice difficulties secondary to medical gender-affirming interventions, such as hormones or laryngeal surgery to change voice pitch (Azul et al., 2017).

There is some empirical evidence that behavioral voice support for TGD people AMAB is effective with regard to achieving the targeted voice changes and client satisfaction with voice support from voice and communication specialists (e.g., speech-language pathologists, speech therapists) (Oates, 2019). Seven studies prior to 2020 provide empirical evidence for the effectiveness of voice training, though it is somewhat weak (Carew et al., 2007; Dacakis, 2000; Gelfer & Tice, 2013; Hancock & Garabedian, 2013; Hancock et al., 2011; McNeill et al., 2008; Mészáros et al., 2005). Voice training methods across these seven studies were similar and indicated voice training can be effective at increasing average fundamental frequency (average pitch), fundamental frequency range (pitch range), sound pressure level (vocal intensity), satisfaction with voice, self-perception and listener perception of vocal femininity, voice-related quality of life, and social and vocational participation. Weaknesses of the identified studies include lack of randomized controlled trials evaluating voice training, small sample sizes, inadequate long-term follow-up, and lack of control of confounding variables. In 2021, another systematic review of the effects of behavioral speech therapy for TGD people AMAB reached similar conclusions and called for studies using RCT designs, well-described therapy programs, and long-term follow-up data (Leyns et al. 2021).

Until recently, there was almost no evidence supporting the effectiveness of voice training with TGD people AFAB. There is, however, some promising though weak evidence of effectiveness from a case study (Buckley et al., 2020) and one uncontrolled prospective study of group voice training that included 10 participants (Mills et al., 2019). There is high quality evidence demonstrating that TGD people AFAB are not always satisfied with the vocal outcomes of testosterone therapy, and that many experience difficulties such as inadequate pitch lowering, compromised voice quality, vocal endurance, pitch range, and flexibility (Azul, 2015; Azul, 2016; Azul et al., 2017; Azul et al., 2018, Cosyns et al., 2014, Nygren et al., 2015, Ziegler et al., 2018).

Statement 2:

We recommend voice and communication specialists working with transgender and gender diverse people receive specific education to develop expertise in supporting vocal functioning, communication, and wellbeing in this population.

Academic and licensing credentials of specialists in voice or communication training (e.g., speech-language pathologists, speech therapists, singing voice teachers, voice coaches) vary by location but typically do not specify criteria for working with specific populations. Standard curricula for these professions often do not include specific or adequate training for working with TGD populations (Jakomin et al., 2020, Matthews et al., 2020). General knowledge and skills related to the vocal mechanism and interpersonal communication are foundational but

insufficient for conducting culturally-responsive, person-centered care for TGD people (Hancock, 2017, Russell & Abrams, 2019). Professionals in this area must be respectful of and attentive to gender diversity and other aspects of a client's identifications that can take a variety of forms and imply a range of different support needs (Azul, 2015). At minimum, voice and communication specialists working with TGD people will also have a basic understanding of transgender health, including hormonal and surgical treatments and trans-specific psychosocial issues. The specialist's understanding of contemporary, transdisciplinary theories of the practices and forces through which gender and other aspects of sociocultural positioning are produced in social encounters (see Azul & Hancock, 2020) can assist the client's decisions and progress toward communication goals.

Statement 3:

We recommend healthcare professionals in trans health working with transgender and gender diverse people who are dissatisfied with their voice or communication consider refer them to voice and communication specialists (e.g., speech-language pathologist, speech therapist) for assessment and training.

A voice and communication specialist is able to support the client's exploration of goals and intervention options, conduct the appropriate assessments to inform the client's choice, and provide direction for behavioral training or medical interventions. A HP may be considered a specialist in voice or communication intervention if they possess knowledge of evidence-based assessments and the currently available evidence regarding expected effects of behavioral voice training, hormone treatment, and the different types of laryngeal surgery on clients' voice organs (e.g., vocal folds) and voices. A HP knowledgeable of the relevant principles of voice physiology and acoustics can continuously evaluate and monitor vocal function during interventions and document outcomes. This knowledge also can be used to guide the client's use of instrumentation or software (e.g., pitch-measuring programs).

There is evidence specialists provide support in such a way that a client's satisfaction with voice and communication can be achieved, thereby reducing gender dysphoria and improving communication-related quality of life (Azul, 2016; Block, 2017; Deuster, Di Vincenzo, et al., 2016; Hancock, 2017; Hancock et al., 2011; Hardy et al., 2013; Kelly, 2018; McNamara, 2007; McNeill et al., 2008; Owen & Hancock, 2010; Pasricha et al., 2008; Söderpalm et al., 2004, Watt et al., 2018). There are a variety of ways to address a person's dissatisfaction with voice or communication, including direct interventions on the vocal mechanism via behavioral, surgical, or hormonal means as well as more indirect approaches related to interpersonal communication exchanges (e.g., requesting appropriate forms of address) and self-perception (e.g., mindfulness, self-compassion). The impact of direct interventions is relatively more established, while indirect approaches are increasingly recognized as integral to best clinical practice and are particularly important in cases in which client's initial auditory-perceptual or acoustic goals are not achievable via direct intervention (Azul & Hancock, 2020, Hancock & Siegfriedt, 2020).

Statement 4:

We recommend healthcare professionals in trans health refer transgender and gender diverse people undergoing voice surgery to a specialist in voice and communication behavioral training prior to surgery.

The number and quality of research studies evaluating pitch-lowering surgeries are currently insufficient, particularly with regard to outcomes with and without other interventions (i.e.,

testosterone) (Bultynck et al., 2020). There are more techniques and studies of pitch-raising surgeries, but the quality of the evidence is still low. Outcomes from pitch-raising surgeries have been compared to outcomes from having no surgery (Anderson, 2007; Anderson, 2014; Brown et al., 2000; Geneid et al., 2015; Gross, 1999; Kim, 2017; Kocak et al., 2010; Kunachak et al., 2000; Matai et al., 2003; Meister et al., 2017; Neumann & Welzel, 2004; Orloff et al., 2006; Pickuth et al., 2000; Remacle et al., 2011; Thomas & Macmillan, 2013; Tschan et al., 2016; Van Borsel et al., 2008; Yang et al., 2002), another type of surgical technique (Mora, 2018), voice therapy alone (Kanagalingam, 2005; Mastronikolis, 2013; Wagner, 2003), and surgery in conjunction with voice therapy (Casado, 2017; Kelly, 2018).

In the 11 studies reporting whether participants had voice training prior to pitch-raising surgery, most participants had prior voice training but remained dissatisfied with voice and sought surgical intervention. Thus, most studies of surgical outcomes reflect the combined effects of training and surgical intervention. Attributes predicting which clients will pursue surgery after training are unknown.

For most types of laryngeal surgery, voice therapy is recommended both prior to surgery to ensure preparation of the vocal mechanism for the surgical intervention and post-surgery to ensure a return to functional voice production (Branski et al., 2006, Park et al., 2021). A trial of voice therapy prior to surgery is also recommended because there are indications that certain measures improve with therapy but not with pitch-raising surgery (e.g., factors relevant to intonation and naturalness, such as maximum f_0 pitch in speech range, Kelly et al 2018).

Statement 5:

We recommend healthcare professionals in trans health inform transgender and gender diverse people commencing testosterone therapy of the potential and variable effects of this treatment on voice and communication.

The historical understanding that voice professionals do not need to lend their expertise to TGD people AFAB because testosterone treatment leads to desired voice changes for everyone has been disproven (e.g., Azul, 2015; Azul et al., 2017; Azul et al., 2018; Bultynck, et al. 2017; Van Borsel et al., 2000; Ziegler et al., 2018; Nygren et al., 2015). The research on the effects of testosterone treatment on voice and communication of TGD people AFAB points to diverse and unpredictable effects on individual clients. A recent meta-analysis of 19 studies examining effects of at least 1 year of testosterone therapy estimated 21% of participants did not achieve cisgender male normative frequencies, 21% reported incomplete voice-gender congruence and voice problems, and 16% were not completely satisfied with their voice (Ziegler, 2018). Healthcare professionals working in trans health need to provide TGD people who wish to be treated with testosterone with accurate informational counseling prior to commencing testosterone treatment to enable the development of realistic expectations and to avoid disappointment regarding the impact of hormone treatment on their voice and communication.

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Surgery

Introduction

Gender-affirming surgery (GAS) refers to a constellation of procedures designed to align one's body with their gender identity. Recognizing the diverse and heterogeneous community of individuals who identify as transgender and gender diverse (TGD), gender-affirming surgical interventions may be categorized along a spectrum of procedures for individuals assigned male at birth (AMAB) and assigned female at birth (AFAB).

In appropriately selected transgender and gender diverse individuals, the current literature supports the benefits of gender affirming surgery (GAS). While complications following GAS occur, many are minor and/or treated with local care on an outpatient basis (Gaither et al., 2018; Morrison et al., 2016). In addition, complication rates are consistent with those of similar procedures performed for different diagnoses (i.e. non gender-affirming procedures).

In individuals assigned female at birth (AFAB), **subcutaneous mastectomy** ('top surgery' or 'chest contouring surgery') has been studied by *prospective* (Agarwal et al., 2018; Frederick et al., 2017; Top & Balta, 2017; van de Grift, Elaut, et al., 2017; van de Grift et al., 2016), *retrospective* (Bertrand et al., 2017; Claes et al., 2018; Esmonde et al., 2019; Lo Russo et al., 2017; Marinkovic & Newfield, 2017; Poudrier et al., 2019; Wolter et al., 2015; Wolter et al., 2018), and *cross sectional* cohorts (Olson-Kennedy et al., 2018; Owen-Smith et al., 2018; van de Grift, Elaut, et al., 2018; van de Grift, Elfering, et al., 2018). The efficacy of top surgery has been demonstrated in multiple domains, including a consistent and direct increase in health-related quality of life, a significant decrease in gender dysphoria, and a consistent increase in satisfaction with body and appearance. Additionally, rates of regret remain very low, varying from 0-4%. While the effect of top surgery on additional outcome measures such as depression, anxiety, and sexual function also demonstrated a benefit, the studies were of insufficient strength to draw definitive conclusions. Though further investigation is needed to draw more robust conclusions, the evidence demonstrates that top surgery is a safe and effective intervention.

In individuals assigned male at birth (AMAB), fewer studies have been published regarding gender-affirming breast surgery ('**breast augmentation**'): 2 *prospective* studies (Weigert et al., 2013; Zavlin et al., 2018), one *retrospective* cohort (Fakin et al., 2019), and 3 *cross sectional* cohorts (Kanhai et al., 2000; Owen-Smith et al., 2018; van de Grift, Elaut, et al., 2018). All of the studies reported a consistent and direct improvement in patient satisfaction including general satisfaction, body image satisfaction, and body image following surgery. Owen-Smith demonstrated a positive trend towards improvement on the scores of both depression and anxiety with increasing levels of gender-affirming interventions. However, there was no statistical comparison between individuals who underwent top surgery with any other group.

Gender affirming vaginoplasty is the most frequently reported gender affirming surgical intervention; 8 *prospective* studies (Buncamper et al., 2017; Cardoso da Silva et al., 2016; Kanhai, 2016; Manero Vazquez et al., 2018; Papadopulos, Zavlin, et al., 2017; Tavakkoli Tabassi et al., 2015; Wei et al., 2018; Zavlin et al., 2018), 15 *retrospective* cohorts (Bouman et al., 2016; Buncamper et al., 2015; Hess et al., 2016; Jiang et al., 2018; LeBreton et al., 2017; Manrique et al., 2018; Massie et al., 2018; Morrison et al., 2015; Papadopulos, Lelle, et al., 2017; Raigosa et al., 2015; Salgado et al., 2018; Seyed-Foroontan et al., 2018; Sigurjonsson et

al., 2017; Simonsen et al., 2016; Thalaivirithan et al., 2018), and 3 *cross sectional* cohorts have recently been reported ((Castellano et al., 2015; Owen-Smith et al., 2018; van de Grift, Elaut, et al., 2018). Different assessment measurements were used, but the results of all studies consistently reported both a high level of patient satisfaction (78-100%) as well as satisfaction with sexual function (75-100%). This was especially evident when using more recent surgical techniques. Gender affirming vaginoplasty also demonstrates a low rate of complications and a low incidence of regret (0-8%).

Recent literature reflects the increased clinical interest in **metoidioplasty and phalloplasty**: 4 *prospective* cohorts (Garaffa et al., 2010; Stojanovic et al., 2017; Vukadinovic et al., 2014), 6 *retrospective* cohorts (Cohanzad, 2016; Garcia et al., 2014; Simonsen et al., 2016; van de Grift, Pigot, et al., 2017; van der Sluis et al., 2017; Zhang et al., 2015), and 4 *cross-sectional* studies (Castellano et al., 2015; Owen-Smith et al., 2018; van de Grift, Elaut, et al., 2018; Wierckx et al., 2011) review the risks and benefits of these procedures.

In terms of urinary function, between 75 and 100% of study participants were able to void while standing. In terms of sexual function, between 77 and 95% of study participants reported satisfaction with their sexual function. Most of these studies report high overall levels of postoperative satisfaction (range: 83-100%), with higher rates of satisfaction in studies involving newer surgical techniques. Two prospective and two retrospective cohorts specifically assessed regret following surgery: no transgender men experienced regret. While study limitations were identified, the reported results were consistent and direct.

In recent years, **facial GAS** (FGAS), primarily termed “facial feminization”, has received increased attention, and current literature supports its benefits. Eight recent publications include 1 *prospective* cohort (Bellinga et al., 2017), 2 *retrospective* cohorts (Capitan et al., 2014; Raffaini et al., 2016) and 2 *cross-sectional* studies (Ainsworth & Spiegel, 2010; van de Grift, Elaut, et al., 2018). All of the eight studies clearly demonstrated that individuals were very satisfied with their surgical results (between 72% and 100% of individuals) (Ainsworth & Spiegel, 2010; Bellinga et al., 2017; Capitan et al., 2014; Morrison et al., 2020; Noureai et al., 2007; Raffaini et al., 2016; van de Grift, Elaut, et al., 2018). Additionally, individuals were significantly more satisfied with the appearance of their face compared to individuals who had not undergone surgery. 1 prospective, international, multicenter, cohort study found that FFS significantly improves quality of life both mid- and long-term (Morrison et al., 2020). The results were direct and consistent, but somewhat imprecise because of certain study limitations. While gender-affirming facial surgery for AFAB individuals is an emerging field, current limited data points towards equal benefits in select patients. Future studies are recommended.

Representative surgical interventions include:

AMAB: facial feminization surgery, breast augmentation, body contouring procedures, orchiectomy, vaginoplasty (with/out depth), and aesthetic procedures, and procedures designed to prepare individuals for surgery (ie hair removal).

AFAB: facial masculinization surgery, chest surgery, hysterectomy/oophorectomy, metoidioplasty (including placement of testicular prosthesis), phalloplasty (including placement of testicular/penile prostheses), body contouring procedures, aesthetic procedures, and procedures designed to prepare individuals for surgery (ie hair removal).

It is important that surgeons understand the indication(s) and the timings for GAS. This is especially important when caring for adolescents (see adolescent chapter for more details).

It is important that the surgeon and the patient participate in an informed consent process based upon a shared decision-making approach which includes: 1) a multidisciplinary approach, 2) an understanding of the patient's goals and expectations, 3) a discussion regarding the surgical options, risks, and benefits, 4) an informed plan for aftercare. (See assessment chapter)

Appropriate after care is essential for optimizing outcomes (Buncamper et al., 2015; Lawrence, 2003), and is important that patients are informed as to the post-operative needs (including local wound care, activity restrictions, time off from work or school, etc...). In addition, it is important that the surgeon is available to provide and facilitate post-operative care and/or referral to specialty services. This may include the need for ongoing support (i.e., both caregiver as well as primary care and/or mental health professionals), as well as the need for routine primary care (i.e., breast/chest cancer screening urologic/gynecologic care, etc...).

With the increase in the number of gender-affirming surgical procedures (Ross, 2017; Shen et al., 2019), additional training, tracking outcomes, and continuing medical education for surgeons are necessary (Schechter et al., 2017).

Summary of Recommendations

Statement 1: We recommend that surgeons who perform gender affirming surgical (GAS) procedures should have the following credentials:

- A. Training and documented supervision in gender affirming procedures.
- B. Maintain an active practice in gender affirming surgical procedures.
- C. Knowledge about gender diverse identities and expressions.
- D. Continuing education in the field of gender affirming surgery
- E. Track surgical outcomes.

Statement 2: We recommend that surgeons, prior to breast augmentation or mastectomy, should assess trans and gender diverse people for risk factors associated with breast cancer.

Statement 3: We recommend that surgeons, during the preoperative process, should inform trans and gender diverse people undergoing gender-affirming surgical procedures as to aftercare requirements, travel and accommodations, and the importance of post-operative follow up.

Statement 4: We recommend that surgeons should consider gender affirming surgical interventions in trans and gender diverse people (adults and adolescents) seeking these interventions when there is evidence:

- A. Of well-documented (according to local contexts) persistent gender incongruence.
- B. That the individual fulfils diagnostic criteria prior to gender affirming surgical interventions in regions where a diagnosis is necessary to access health care.
- C. That other possible causes of apparent gender incongruence prior to gender affirming surgical interventions have excluded.
- D. That any mental health conditions which could negatively impact the outcome of gender affirming medical interventions have been assessed, with risks and benefits discussed, before a decision is made regarding the intervention.

- E. That any physical health conditions which could negatively impact the outcome of gender affirming surgical interventions have been assessed, with risks and benefits discussed, before a decision is made regarding the intervention.
- F. That the capacity to consent for the specific gender affirming surgical intervention has been assessed.
- G. That the capacity to understand the effect of gender affirming surgical interventions on reproduction has been assessed and reproductive options have been explored with the individual prior to the gender affirming surgical interventions.

Statement 5: We recommend that surgeons should, prior to gonadectomy in trans and gender diverse people, confirm that reproductive options have been discussed.

Statement 6: We suggest that surgeons should consider offering gonadectomy to trans and gender diverse adults when there is evidence that they have tolerated a minimum of 6 months of hormone therapy, unless HRT or gonadal suppression is clinically not indicated and inconsistent with the patient's desires, goals or expressions of individual gender identity.

Statement 7: We suggest that surgeons should consider genital gender-affirming procedures in trans and gender diverse adults seeking these interventions when there is evidence that the individual has been stable on their current treatment regime (which may include at least 6 months of hormone treatment, or a longer period if required to achieve the desired surgical result, unless hormone therapy is either not desired or is medically contraindicated).

Statement 8: We recommend that surgeons should consider gender affirming surgical interventions in trans and gender diverse adolescents when there is evidence that a multi-disciplinary approach, including mental health and medical professionals, have been involved in the decision-making process.

Statement 9: We recommend that surgeons should consult a comprehensive, interdisciplinary team of professionals in the field of trans gender health when trans and gender diverse people request individually customized (previously termed "non-standard") surgeries as part of gender affirming surgical intervention.

Statement 10: We suggest that surgeons caring for transgender men and gender diverse people who have undergone metoidioplasty/phalloplasty encourage lifelong urological follow-up.

Statement 11: We recommend that surgeons caring for transgender women and gender diverse people who have undergone vaginoplasty encourage follow-up with their primary surgeon, with a primary care physician, or with a gynaecologist. (Delphi Statement)

Statement 12: We recommend that patients who regret their gender related surgical intervention are managed by an expert multi-disciplinary team.

Statement 1:

We recommend that surgeons who perform gender affirming surgical (GAS) procedures should have the following credentials:

- A. Training and documented supervision in gender affirming procedures.**
- B. Maintain an active practice in gender affirming surgical procedures.**

- C. Knowledge about gender diverse identities and expressions.
- D. Continuing education in the field of gender affirming surgery
- E. Track surgical outcomes.

Surgeons offering gender affirming surgery may have a variety of surgical specialty training and backgrounds. The most common surgical specialties include plastic surgery, urology, gynecology, otolaryngology and oro-maxillo-facial surgery (Jazayeri et al., 2021). Consistent with other surgical domains, we recommend that only surgeons who are certified, or eligible to be certified, by their respective national professional boards are to offer GAS. Further it is recommended that surgeons offering care for transgender and gender diverse patients have received documented training in gender affirming procedures and principles of gender-affirming care (Schechter et al., 2017; Schechter & Schechter, 2019). The latter includes, but is not limited to, knowledge around gender diverse identities and expressions and how those affect patient goals, expectations, and outcomes. It is important that surgeons offering GAS are familiar with the available procedures and are able to provide informed consent. If surgeons do not offer a requested procedure, they may offer a referral for a second opinion. It is expected that surgeons offering GAS participate in continuing education activities in the field of GAS (i.e. meetings, conferences, seminars, etc..) so as to maintain current knowledge. We further recommend that surgical outcomes are tracked and communicated to the patients as part of the informed consent (Schechter et al., 2017).

In addition, hospitals, institutions, and physician offices who offer GAS need to be knowledgeable regarding cultural competencies (i.e. language, terminology, etc ...). This may require ongoing and regular staff education.

Statement 2:

We recommend that surgeons, prior to breast augmentation or mastectomy, should assess trans and gender diverse people for risk factors associated with breast cancer.

Prior to breast augmentation or mastectomy, individuals need to be informed about and assessed for breast cancer risk factors, including genetic mutations (such as BRCA1, BRCA2), family history, age, radiation, duration of exposure to estrogen, and the amount of remaining breast tissue anticipated to remain after surgery (Brown & Jones, 2015; Colebunders et al., 2014; Gooren et al., 2013; Salibian et al., 2021; Weyers et al., 2010). Breast cancer screening balances the identification of cancer with the selection of appropriate imaging, tests, and procedures. Currently, evidence-based screening guidelines specific for transgender and gender diverse individuals do not exist (Salibian et al., 2021). As the risk of cancer in individuals seeking gender-affirming breast augmentation or mastectomy is similar to the general population (even in the setting of hormone use), existing cancer screening guidelines need to be followed (Brown & Jones, 2015; Gooren et al., 2013; Salibian et al., 2021; Weyers et al., 2010). Professionals need to be familiar with updates to these guidelines as they are subject to change. Consideration needs to be given to the individual's previous surgical history (ie mastectomy and the amount of retained breast tissue, if any) and medical history (i.e. duration of estrogen use).

Statement 3:

We recommend that surgeons, during the preoperative process, should inform trans and gender diverse people undergoing gender-affirming surgical procedures as to aftercare

requirements, travel and accommodations, and the importance of post-operative follow up.

Details about the timing, technique, and duration of the aftercare requirements are shared with patients in the pre-operative period such that appropriate planning may be undertaken. This includes a discussion regarding anticipated staging of surgical procedures (and associated travel requirements). Given the small number of surgeons who specialize in gender affirming surgery, it is common for patients to travel for their procedures. Prior to surgery, surgeons provide patients with a clear post-operative follow-up schedule. The surgeon discusses the duration of the patient's travel dates, the anticipated inpatient versus outpatient stay, and the potential need for flexibility in travel arrangements (especially if complications occur). Given the complexity and cost of travel and lodging, changes in the care-plan are shared with the patient as early as possible. Surgeons need to ensure that patients have a local provider with whom to follow-up upon return home.

After care and post-surgical follow-up is important. Gender affirming surgical procedures often have specific aftercare requirements, such as: **post-surgery resources** (stable, safe housing; financial resources for travel for follow-up care); **instructions in health-positive habits** (e.g. personal hygiene, healthy-living, prevention of urinary tract infections -UTIs- and sexually-transmitted infections -STIs-) (Wierckx et al., 2011); **post-surgery precautions or limitations on activities of daily life** (e.g. bathing, physical activity, exercise, nutritional guidance, resumption of sexual activity)(Capitan et al., 2020); **post-surgery resumption of medications**, including anticoagulants; and detailed **post-surgery self-care activities** (e.g. post-vaginoplasty dilation and douching regimens, activation of a penile prosthesis, strategies to optimize post-phalloplasty urination, recommendations for hair transplant care)(Capitan et al., 2017; Garcia, 2018; Hoebeke et al., 2005). Some aspects of post-surgery self-care activities may be introduced prior to surgery, and are reinforced after surgery (Falcone et al., 2018). As issues such as wound disruptions, difficulty with dilation, or urinary tract infections may occur (Dy et al., 2019), the follow-up period provides an opportunity to intervene, mitigate, and/or prevent complications (Buncamper et al., 2016; Garcia, 2021).

Statement 4:

We recommend that surgeons should consider gender affirming surgical interventions in trans and gender diverse people (adults and adolescents) seeking these interventions when there is evidence:

- A. Of well-documented (according to local contexts) persistent gender incongruence.**
- B. That the individual fulfills diagnostic criteria prior to gender affirming surgical interventions in regions where a diagnosis is necessary to access health care.**
- C. That other possible causes of apparent gender incongruence prior to gender affirming surgical interventions have excluded.**
- D. That any mental health conditions which could negatively impact the outcome of gender affirming medical interventions have been assessed, with risks and benefits discussed, before a decision is made regarding the intervention.**
- E. That any physical health conditions which could negatively impact the outcome of gender affirming surgical interventions have been assessed, with risks and benefits discussed, before a decision is made regarding the intervention.**
- F. That the capacity to consent for the specific gender affirming surgical interventions has been assessed.**

G. That the capacity to understand the effect of gender affirming surgical interventions on reproduction has been assessed and reproductive options have been explored with the individual prior to the gender affirming surgical interventions.

As noted, gender affirming surgery reduces and/or alleviates gender incongruence, improves quality of life, improves body-image and sexual function (Capitan et al., 2020; Coleman et al., 2012; Hadj-Moussa et al., 2019; Hadj-Moussa et al., 2018), and reduces negative health outcomes such as depression and anxiety (Almazan & Keuroghlian, 2021). The surgeon collaborates with colleagues from other disciplines (e.g. mental health professional and primary care professionals) as needed, to help assess, counsel, and prepare the patient for surgery.

The surgeon, working in conjunction with other healthcare professionals involved in the care of TGD people, is available to provide support and/or counselling throughout the pre- and postoperative period.

For specific recommendations regarding pre-surgical assessment, refer to Chapter 6 (Assessment, Support and Therapeutic Approaches for Adolescents with Gender Variance/Dysphoria) and Chapter 7 (Assessment for Adults with Gender Variance/Dysphoria)

Statement 5:

We recommend that surgeons should, prior to gonadectomy in trans and gender diverse people, confirm that reproductive options have been discussed.

Infertility is often a consequence of both gender-affirming hormone therapy (temporary) and gender-affirming surgery (permanent), and fertility preservation is discussed prior to medical and/or surgical interventions (Defreyne et al., 2020; Jahromi et al., 2021; Jones et al., 2021).

Surgical interventions which alter reproductive anatomy or function may limit future reproductive options to varying degrees (Nahata et al., 2019) It is thus critical to discuss infertility risk and fertility preservation (FP) options with transgender individuals and their families prior to initiating any of these interventions, and on an ongoing basis thereafter (Hembree et al., 2017).

For specific recommendations regarding reproductive options, refer to Chapter 13 (Reproductive Health for Adolescents and Adults)

Statement 6:

We suggest that surgeons should consider offering gonadectomy to trans and gender diverse people when there is evidence that they have tolerated a minimum of 6 months of hormone therapy, unless HRT or gonadal suppression is clinically not indicated and inconsistent with the patient's desires, goals or expressions of individual gender identity. (For supporting text, see statement #7)

Statement 7:

We suggest that surgeons should consider genital gender-affirming procedures in trans and gender diverse adults and adolescents seeking these interventions when there is evidence that the individual has been stable on their current treatment regime (which may include at least 6 months of hormone treatment, or a longer period if required to

achieve the desired surgical result, unless hormone therapy is either not desired or is medically contraindicated).

Exogenous hormones lead to anatomical, physiological and psychological changes. The onset of the anatomic effects (e.g. clitoral growth, vaginal mucosal atrophy) may begin early after initiation of therapy; the peak effect is expected at 1-2 years (T'Sjoen et al., 2019). Depending upon the desired surgical result, a period of hormone treatment may be required (e.g. sufficient clitoral virilization prior to metoidioplasty/phalloplasty) or preferred for psychological and/or anatomical reasons (breast growth and skin expansion prior to breast augmentation, softening of skin and changes in facial fat distribution prior to facial gender-affirmation surgery) (de Blok et al., 2021).

It is important that for individuals who are not taking hormones prior to surgical interventions, surgeons review the potential benefits and/or limitations of hormones on the proposed surgery.

For individuals undergoing gonadectomy who are not taking hormones, a plan for hormone replacement can be developed with their prescribing professional prior to surgery.

Statement 8:

We recommend that surgeons should consider gender affirming surgical interventions in trans and gender diverse adolescents when there is evidence that a multi-disciplinary approach, including mental health and medical professionals, have been involved in the decision-making process.

Substantial evidence (i.e., observational studies (Monstrey et al., 2001; Stojanovic et al., 2017), literature reviews (Esteva de Antonio et al., 2013; Frey et al., 2017; Hadj-Moussa et al., 2019), expert opinions, established guidelines (Byne et al., 2018; Chen et al., 2016; Hembree et al., 2017; Karasic & Fraser, 2018; Klein et al., 2018; Pan & Honig, 2018; Weissler et al., 2018), and a thematic content analysis (Gerritse et al., 2018), support the importance of a multi-disciplinary (i.e. medical, mental health, and surgery) approach to transgender healthcare.

A multi-disciplinary approach is especially important in managing mental health issues if there are present in a TGD person undergoing gender-affirming surgery (de Freitas et al., 2020; Dhejne et al., 2016; Van Der Miesen et al., 2016). In addition, primary care providers and medical specialists can help to support decisions regarding timing of surgery, surgical outcomes and expectations, perioperative hormone management, and optimization of medical conditions (Elamin et al., 2010; Hembree et al., 2017).

For specific recommendations regarding pre-surgical assessment in adolescents, refer to Chapter 6 (Assessment, Support and Therapeutic Approaches for Adolescents with Gender Variance/Dysphoria)

Statement 9:

We suggest that surgeons should consult a comprehensive, interdisciplinary team of professionals in the field of trans gender health when trans and gender diverse people request individually customized (previously termed “non-standard”) surgeries as part of gender affirming surgical intervention.

Gender identities may present along a spectrum, and the expression of a person's identity may vary quite widely amongst individuals (Beek et al., 2015; Koehler et al., 2018). While the overall goal of a particular procedure usually includes reduction of gender dysphoria (van de Grift et al., 2017), gender diverse presentations may lead to individually customized surgical requests that some may consider "non-standard" (Beek et al., 2015; Bizic et al., 2018). Individually customized surgical requests can be defined as: 1) a procedure which alters an individual's gender expression without necessarily aiming to express an alternative, binary gender, and/or 2) the "non-standard" combination of well-established procedures. This is designed to help counsel and inform the patient as well as to ensure that their goals can be achieved.

The patient and their surgeon need to work together to ensure that the patient's expectations are realistic and achievable and that the proposed interventions are safe and technically feasible. The patient and their surgical team need to engage in a shared decision-making process (Cavanaugh et al., 2016). This informed consent process needs to address the irreversibility of some procedures, the newer nature of some procedures, and the limited information available about the long-term outcomes of some procedures.

Statement 10:

We suggest that surgeons caring for transgender men and gender diverse people who have undergone metoidioplasty/phalloplasty encourage lifelong urological follow-up.

Post-operative complications following metoidioplasty/phalloplasty relate to the urinary tract and sexual function (Kang et al., 2019; Monstrey et al., 2009; Santucci, 2018; Schardein et al., 2019). Reported urethral complications (related to urethral lengthening) include: urethral strictures 35-41% , urethral fistulas 15-70% (Monstrey et al., 2009; Santucci, 2018; Schardein et al., 2019), diverticula, vaginal-remnant mucocele, hair growth within the neourethra. (Berli et al., 2021; Veerman et al., 2020). Complications related to sexual function include: limited to absent tactile and/or erogenous sensation, difficulties with orgasm function, and complications with penile prosthetics (Kang et al., 2019; Santucci, 2018). Penile prosthesis-related complications are estimated at: infection (incidence 8-12%), malfunction, urethral erosion, skin extrusion and dislocation of its bone fixation (Falcone et al., 2018; Kang et al., 2019; Morrison et al., 2016). Though a majority of urethral and/or prosthetic complications occur in the immediate and intermediate post-operative period, complications can occur at any time. Early detection may reduce morbidity (e.g. urethral strictures that result in fistulae; pending erosion of a penile prosthetic that would lead to infection and require total explant) (Blecher et al., 2019).

Routine follow-up to assess for early evidence of urethral stricture (or other urinary issues) includes bladder ultrasound measurement of post-void residual volume (to screen for and stage neourethral stricture), fluoroscopic urethrography (to identify and stage neourethral strictures, fistulae and diverticulae), and cystourethroscopy to examine the urethra and bladder.

Transgender and gender diverse men may also have routine urologic issues and needs not related to gender transition (urinary calculi, hematuria, and genitourinary malignancies; fertility preservation) (Sterling & Garcia, 2020a, 2020b).

Statement 11:

We recommend that surgeons caring for transgender women and gender diverse people who have undergone vaginoplasty encourage follow-up with their primary surgeon, with a primary care physician, or with a gynaecologist

Vaginoplasty is a safe procedure (Hontscharuk et al., 2021). While complications may occur, most are self-limited and/or treated with minor interventions (Hontscharuk et al., 2021). Minor complications include issues such as granulation tissue, intravaginal hair growth, delayed wound healing and/or wound disruption, aesthetic concerns, and/or introital stenosis (Ferrando, 2020; Kloer et al., 2021). While these complications are usually self-limited, they may impact patient wellbeing after surgery. Additionally, these issues may go un- or mis- diagnosed if patients are not able to access care provided by transgender health knowledgeable professionals. We recommend that patients be followed by their primary surgeon in person at regular intervals such as two weeks, three months, six months and one year after surgery, though more follow up may be indicated for some individuals.

Additional gynecologic care is conducted throughout the lifetime, and can be managed in many settings. A speculum exam to check for granulation tissue, hair, and lesions can be performed by primary care, gynecologist, or the gender affirming surgeon, and may be necessary outside of the immediate post-operative period (Grimstad et al., 2021; Suchak et al., 2015; van der Sluis et al., 2020). Urinary tract infections, sexually transmitted infections, and other fluctuations in the vaginal microbiome may be treated following relevant guidelines formulated for cisgender populations after confirmation by laboratory testing (Hooton, 2012; Sherrard et al., 2018). Manual prostate checks are performed per relevant guidelines formulated for cisgender populations via the vaginal canal, as the prostate is located on the anterior wall of the vagina (Carter et al., 2013).

Other complications include issues such as stenosis of the neovaginal canal, rectovaginal fistula, and/or inflammation (intestinal vaginoplasty) (Bustos et al., 2021). These require a combination of nonsurgical and surgical treatment with consultation and possible referral back to the primary surgeon and/or other surgical consultants (ie colorectal surgeon). In addition, pelvic floor dysfunction may affect 30-40% of patients both prior to and following vaginoplasty. As such, availability of pelvic floor physical therapists is an important adjunct in the post-operative period (Jiang et al., 2019).

Statement 12:

We recommend that patients who regret their gender related surgical intervention are managed by an expert multi-disciplinary team

The percentage of individuals who regret their gender-affirming surgery is very low (between 0.3% and 3.8%)(De Cuypere & Vercauysse, 2009; Defreyne et al., 2017; Hadj-Moussa et al., 2019; Hadj-Moussa et al., 2018; Landen et al., 1998; Narayan et al., 2021; van de Griff et al., 2018; Wiepjes et al., 2018). The highest incidence of regret was reported in a time where surgical techniques were less refined, the role of multi-disciplinary care was less established, and *The Standards of Care* did not exist or well not widely known (Landen et al., 1998). Regret can be temporarily or permanent and may be classified as the following (Narayan et al., 2021): social regret (caused by difficulties in familial, religious, social or professional life), medical regret (due to long-term medical complications, disappointment in surgical results or inadequate preoperative decision-making), and true gender-related regret (mostly based on patient experienced misdiagnosis and/or insufficient exploration of gender identity). This classification is in accordance with previously discussed negative/positive predictive factors (De Cuypere & Vercauysse, 2009; Gils & Brewaeys, 2007; Pfäfflin & Junge, 1998).

A multi-disciplinary team could identify the etiology of regret as well as the temporal stability of the surgical request (Narayan et al., 2021). Following this evaluation and in consideration of the

individual's circumstances, medical and/or surgical interventions with the intent of continued transition or surgical procedures to return anatomy to that of the sex assigned at birth may be indicated. (See the assessment chapter for further information).

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Institutions

Background

This chapter addresses care for transgender and gender diverse (TGD) individuals who reside in institutions. By definition, institutions are facilities or establishments in which people live and receive care in a congregate or large group setting, where individuals may or may not have freedom of movement, individual consent or agency. Carceral facilities (correctional facilities, immigration detention centers, jails, juvenile detention centers) and noncarceral facilities (long-term care facilities, in-patient psychiatric facilities, domiciliaries, hospice/palliative care, assisted living facilities) are residential institutions where health care access for transgender persons may be provided.

Much of the evidence in support of proper care of TGD persons comes from carceral settings. However, the recommendations put forth here apply to all institutions that house TGD individuals, both carceral and noncarceral (Porter et al 2016). All of the recommendations of the Standards of Care apply equally to people living in both types of institutions. People should have access to these medically necessary treatments irrespective of their housing situation within an institution (Brown, 2009). Gender affirming care for institutionalized people should mirror that which is available in the relevant community or region for the non-institutionalized public.

TGD residents in carceral facilities report that the lack of access to transgender-specific health care is ranked as their number one concern while incarcerated (Brown, 2014; Emmer et al, 2011). Controlled studies show clinically significant health and mental health disparities for justice-involved transgender people compared to matched groups of transgender people who have not been incarcerated or jailed (Brown and Jones, 2015). Too often the agencies, structures, and personnel that provide care are lacking in knowledge, training, and capacity to care for gender diverse people (Clark, White & Pachankis, 2017). Discrimination against TGD residents in palliative care settings, including hospice, is common and the needs of TGD patients or their surrogates have been ignored in these settings (Stein, et al, 2020). This is one reason why lesbian, gay, bisexual and transgender (LGBT) patients choose to hide their sexual and/or gender identity when they enter a nursing home despite the fact that prior to their admission to the facility they had been living publicly as a LGBT-identified person (Carroll, 2017; Serifin, Smith, & Keltz, 2013; Pulney, Keary, Hebert, Krinsky & Halmo, 2018).

Summary of Recommendations

Statement 1: We recommend that healthcare professionals responsible for providing gender affirming care to individuals residing in institutions (or associated with institutions or agencies) recognize that the entire recommendations of the SOC-8, apply equally to people living in institutions.

Statement 2: We suggest that institutions provide all staff with training on gender diversity.

Statement 3: We recommend that medical professionals charged with prescribing and monitoring hormones for TGD individuals living in institutions who are in need of gender affirming hormone therapy do so without undue delay and in accordance with the SOC-8.

Statement 4: We recommend that staff and professionals charged with providing healthcare to TGD individuals living in institutions recommend and support gender affirming surgical treatments in accordance with the SOC-8, when sought by the individual, without undue delay.

Statement 5: We recommend that administrators, healthcare professionals, and all others working in institutions charged with the responsibility of caring for TGD individuals allow those individuals who request appropriate clothing and grooming items to obtain such items concordant with their gender expression.

Statement 6: We recommend all institutional staff address TGD individuals by their chosen names and pronouns at all times.

Statement 7: We recommend that institutional administrators, healthcare professionals, and other officials responsible for making housing decisions for TGD residents consider the individual's housing preference, gender identity and expression, and safety considerations, rather than solely on their anatomy or sex of assignment at birth.

Statement 8: We recommend that institutional personnel establish housing policies that ensure the safety of TGD residents without segregating or isolating these individuals.

Statement 9: We recommend that institutional personnel allow TGD residents the private use of shower and toilet facilities, upon request.

All of these statements have been recommended, based on a thorough review of the literature, and a favorable risk-benefit ratio of following the above recommendations. We recognize that in some cases evidence is limited, and the majority of the available literature related to institutions focuses on those who are incarcerated in jails, prisons, or other penal environments. Literature on other institutional types were also considered and referenced where available. The recommendations summarized above are generalizable to a variety of institutional settings that have characteristics in common, including extended periods of stay, loss of, or limited agency, and reliance on institutional staff for some or all of the basic necessities of life.

All of these statements have been recommended, based on a thorough review of the literature, and a favorable risk-benefit ratio of following the above recommendations. We recognize that in some cases evidence is limited, and the majority of the available literature related to institutions focuses on carceral settings. Literature on noncarceral facilities, although less numerous, were also considered and referenced where available. The recommendations summarized above are generalizable to a variety of institutional settings that have characteristics in common, including extended periods of stay, loss of, or limited agency, and reliance on institutional staff for some or all of the basic necessities of life.

Statement 1:

We recommend that healthcare professionals responsible for providing gender affirming care to individuals residing in institutions (or associated with institutions or agencies) recognize that the entire recommendations of the SOC-8, apply equally to TGD people living in institutions.

Just as people living in institutions require and deserve mental and medical healthcare in general and in specialty areas, we recognize TGD people are in these institutions and thus need care specific to TGD concerns. We recommend the application of the SOC to people living in institutions as basic principles of healthcare and ethics (Beauchamp & Childress, 2019; Pope & Vasquez, 2016). Additionally, numerous courts have long upheld the need to provide TGD-informed care based in the WPATH SOC to people living in institutions as well (e.g., Koselik v. Massachusetts, 2002; Edmo v. Idaho Department of Corrections, 2020).

Statement 2:

We suggest that institutions provide all staff with training on gender diversity.

Because TGD care is a complex interdisciplinary specialty, it requires specialized training as outlined in this SOC Version 8. While the level of training will vary based on the staff member's role within the institutional setting, all staff will need training in addressing residents appropriately while other clinical staff may need more intensive training and/or consultation. Misgendering institutionalized residents, not allowing for gender appropriate clothing, shower facilities, or housing, and not using preferred names communicate a lack of respect for TGD residents who may experience repeated indignities as emotionally traumatic, depressing, and anxiety-producing. By providing all institutional staff with training on gender diversity and basic competence in transgender-related health care issues, these harms can be prevented (Hafford-Letchfield, et al, 2017). Surveys indicate significant knowledge gaps in those working with incarcerated individuals as well as in noncarceral settings like palliative care (Stein, et al, 2020; White, et al, 2016). Hafford-Letchfield, et al, (2017) showed benefit to training residential long term care staff when such training began with "Recognising LGBT issues" exist in "care homes". If the assigned healthcare providers lack the expertise to assess and/or treat gender diverse persons under their charge, outside consultation should be sought from professionals with expertise in the provision of gender affirming healthcare (Bromdal, et al, 2019; Sevelius and Jenness, 2017).

Statement 3:

We recommend that medical professionals charged with prescribing and monitoring hormones for TGD individuals living in institutions who are in need of gender affirming hormone therapy do so without undue delay and in accordance with the SOC-8.

TGD persons may be admitted to institutions in need of evaluation for gender affirming hormonal care or may develop this need after they have resided in an institutional setting for varying degrees of time. It is not uncommon for TGD persons to be denied access to hormonal care for months or years after making such needs known (Kosilek v. Massachusetts, 2002; Keohane, 2018; Monroe v. Baldwin, et al, 2019), resulting in significant negative mental health outcomes to include depression, anxiety, suicidality, and surgical self-treatment risks (Brown, 2010). As with all medically necessary health care, access to gender affirming hormone therapies should be provided in a timely fashion when indicated for a TGD resident, in both carceral and noncarceral institutional environments.

TGD elderly people living in long-term care facilities have unique needs (Boyd, 2019; Carroll, 2017; Porter, 2016). When elderly individuals request hormonal treatment, physicians should assess pre-existing conditions, but rarely do such conditions absolutely contraindicate administering hormones in this population (Ettner, 2013). People with gender incongruence in institutions may also have coexisting mental health conditions (Cole et al., 1997; Brown and Jones, 2015). These conditions should be evaluated and treated appropriately as part of the overall assessment. Those on hormones must be closely medically monitored to avoid potential drug interactions and polypharmacy (Hembree, et al, 2017).

TGD persons who enter an institution on an appropriate regimen of gender-affirming hormone therapy should be continued on the same, or similar, therapies and monitored according to the SOC-8. A “freeze frame” approach is not considered appropriate care in most situations (Kosilek v Massachusetts, 2002). A “freeze frame” approach is the outmoded practice of keeping TGD persons on the same dose of hormones throughout their institutionalization as they were receiving upon admission, even if that dose was an initiation (low) dose. TGD persons who are deemed appropriate for de novo gender affirming hormone therapy (following the SOC-8) should be started on such therapy just as they would outside of an institution (Brown 2009; Adams v. Federal Bureau of Prisons, No. 09-10272 [D. MO June 7, 2010]). The consequences of abrupt withdrawal of hormones or lack of initiation of hormone therapy when medically necessary include a significant likelihood of negative outcomes (Brown, 2010; Sundstrom and Fields v. Frank, 2011) such as surgical self-treatment by autocastration, depressed mood, increased gender dysphoria, and/or suicidality (Brown, 2010; Maruri, 2011).

If an individual in an institution does receive gender affirming hormones and/or surgeries, decisions regarding housing in sex-segregated facilities may need to be reassessed for the safety and well-being of the TGD person (Ministry of Justice [UK], 2016).

Statement 4:

We recommend that staff and professionals charged with providing healthcare to TGD individuals living in institutions recommend and support gender affirming surgical treatments in accordance with SOC-8, when sought by the individual, without undue delay.

TGD people with Gender Dysphoria should have an appropriate treatment plan to provide medically necessary surgical treatments with similar elements to those who reside outside institutions (Brown 2009; Adams v. Federal Bureau of Prisons, No. 09-10272 [D. MO June 7, 2010]; Edmo v. Idaho Department of Corrections, 2020). The consequences of denial or lack of access to gender affirming surgeries for residents of institutions who cannot access such care outside of their institutions may be serious, including substantial worsening of gender dysphoria symptoms, depression, anxiety, suicidality, and the possibility of surgical self-treatment (e.g., autocastration or autopenectomy; Brown, 2010, Maruri, 2011; Edmo v. Idaho Department of Corrections, 2020). It is not uncommon for residents of institutions to be denied access to evaluation for gender affirming surgery as well as denial of the treatment itself, even when medically necessary (Kosilek v. Massachusetts/Dennehy, 2012; Edmo v. Idaho Department of Corrections, 2020). The denial of medically necessary evaluations for, and the provision of, gender affirming surgical treatments is inappropriate and inconsistent with these Standards of Care.

Statement 5:

We recommend that administrators, healthcare professionals, and all others working in institutions charged with the responsibility of caring for TGD individuals allow those individuals who request appropriate clothing and grooming items to obtain such items concordant with their gender expression.

Gender expression refers to people having hairstyles, grooming products, clothing, names, and pronouns associated with their gender identity in their culture and/or community (American Psychological Association, 2015; Hembree et al., 2017). Gender expression is the norm among most people within a culture or a community. Social transition is the process of T/GD persons beginning and continuing to express their gender identity in ways that are socially perceptible. Often, social transition involves behavior and public presentation differing from what is usually expected for people assigned a given legal gender marker at birth. A gender marker is the legal label for a person's sex which is typically assigned or designated at birth on official documents (American Psychological Association, 2015). This is most commonly recorded as male or female, but also intersex or "X" in some municipalities. TGD individuals need the same rights to gender expression afforded cisgender people living both outside and inside institutional settings. Staff acceptance of social transition also sets a tone of respect and affirmation that may enhance respect and affirmation with others residing in the institution, thereby increasing safety and reducing some aspects of gender incongruence

Research indicates that social transition and congruent gender expression have a significant beneficial effect on the mental health of TGD people. (Boedecker, 2018; Devor, 2004; Bocking and Coleman, 2007; Glynn et al., 2016; Russell et al., 2018). For a concordant gender expression, these recommendations include being allowed to wear gender congruent clothing and hairstyles, to obtain and use gender-appropriate hygiene and grooming products, to be addressed by a chosen name or legal last name (even if unable to change the assigned name legally yet), and to be addressed by a pronoun consistent with one's identity. These elements of gender expression and social transition, individually or collectively as indicated by the individual's needs, reduce gender dysphoria/incongruence, depression, anxiety, self-harm ideation and behavior, suicidal ideation and attempts (Russell et al., 2018). Furthermore, these elements of congruent gender expression enhance well-being and functioning (Glynn et al., 2016).

Statement 6:

We recommend all institutional staff address TGD individuals by their chosen names and pronouns at all times.

Given that an increasing percentage of people openly identify as gender diverse, there is a need to develop and implement practices and policies that meet the needs of these people irrespective of where they live (McCauley et al 2017). In approaching these recommendations, there was recognition that gender expansiveness can challenge some institutional norms where TGD people live. However, all institutions have the responsibility to provide for the safety and well-being of all persons living therein (Kosilek v Massachusetts 2002; Edmo v. Idaho Department of Corrections, 2020; NCCHC, 2015; Corrective Services NSW, Australia, 2015). Sevelius and colleagues (2020) demonstrated that correct pronoun usage is gender affirming for trans women and correlates with positive mental health and HIV-related health outcomes.

Statement 7:

We recommend that institutional administrators, healthcare professionals, and other officials responsible for making housing decisions for TGD residents consider the individual's housing preference, gender identity and expression, and safety considerations, rather than solely on their anatomy or sex of assignment at birth.

The separation of people based on sex assigned at birth, a policy almost universally implemented in institutional settings (Brown and McDuffie, 2009; Routh et al, 2017), can create an inherently dangerous environment (Ledesma & Ford, 2020). Gender diverse people are extremely vulnerable to stigmatization, victimization, neglect, violence and sexual abuse (Banbury, 2004; Beck, 2014; Jenness and Fenstermaker, 2016; Malkin & DeJong, 2018; Oparah, 2012; Stein, et al, 2020). This systemic sex-segregated rigidity often fails to keep TGD people safe and may impede access to gender affirming healthcare (Stohr, 2015). As a result, major institutions, e.g. the Federal Bureau of Prisons in the USA, follow procedures that routinely evaluate the housing needs and preferences of TGD inmates (Federal Bureau of Prisons, 2016). Likewise the Prison Rape Elimination Act specifically cites TGD individuals as a vulnerable population and directs prisons nationwide in the USA to consider the housing preferences of these inmates (Bureau of Justice Assistance, 2017).

Statement 8:

We recommend that institutional personnel establish housing policies that ensure the safety of transgender and gender diverse residents without segregating or isolating these individuals.

Assigning placement for a TGD resident solely on the basis of their genital anatomy or sex assigned at birth, is misguided and places people at risk for physical and/or psychological harm (Simopoulos and Khin, 2014; Yona & Katri, 2020; Scott, 2013). It is well established that within carceral settings, transgender individuals are far more likely than other prisoners to be sexually harassed and/or assaulted (James et al., 2016; Jenness, 2016; Malkin & DeJong, 2019). While placement decisions need to address security concerns, shared decision-making, including the input of the individual, should be made on a case-by-case basis (Federal Bureau of Prisons, 2016; Jenness and Smyth, 2011). Some trans women prefer to reside in a male facility while others feel safer in a female facility. Given that the range of gender identities, expression and transition status is so heterogeneous among gender diverse people, keeping residents safe requires flexible decision-making processes (Yona & Katri, 2020). One of the fears that older LGBT individuals have living in long-term care is mistreatment by roommates (Jablonski, Vance, & Beattie, 2013). Consequently, housing in nursing homes and assisted living facilities should consider assigning rooms to elders based on their self-identified gender without regard to birth assignment or surgical history, and in collaboration with the TGD patient.

Solitary confinement, sometimes referred to as administrative segregation in carceral facilities, refers to physical isolation of individuals in which they are confined in their cells for around twenty-three hours each day. The use of isolation is employed in some carceral facilities as a disciplinary measure as well as a means of protecting prisoners who are considered a risk to themselves or others, at risk of sexual assault by other inmates, or to the orderly functioning of the facility. TGD prisoners often choose voluntary isolation to avoid harm from other prisoners. However, isolating prisoners for safety concerns, if necessary, should be brief, as isolation can cause severe psychological harm and gross disturbances of functioning (Ahalt, et al, 2017; Scharff Smith, 2006). National prison standards organizations as well as The United Nations considers isolation longer than 15 days to be torture. (NCCHC, 2016; United Nations, 2015).

Statement 9:

We recommend that institutional personnel allow transgender and gender diverse residents the private use of shower and toilet facilities, upon request.

The necessity and importance of privacy is universal irrespective of gender identity. TGD individuals report avoiding public restrooms, limiting the amount they eat and drink so as not to have to use a public facility, often leading to urinary tract infections and kidney related problems (James et al., 2016). TGD individuals in institutions are often deprived of privacy in bathroom and shower use, which can result in psychological harm and/or physical and sexual abuse (Bartels and Lynch, 2017; Brown, 2014; Cook-Daniels, 2016; Mann, 2006). Similarly, in carceral environments, pat downs, strip searches and body cavity searches should be conducted by staff members of the same sex with the understanding that this may not be possible in extreme emergencies. The incidental viewing of searches by other employees should be avoided (Bureau of Justice Assistance, 2017).

The population of aging/older TGD persons who need to be served by institutions is increasing (Carroll, 2017; Witten and Eyler, 2016). Many long term care and other facilities catering to the needs of the aging need to take into consideration the needs of their non-cisgender residents (Ettner, 2016; Ettner & Wiley, 2016). Surveys of clinicians working with elders in hospice and palliative care settings as well as other long-term care facilities report that patients who identify as TGD often do not get their basic needs met, are discriminated against in their medical care access, or are physically and/or emotionally abused (Stein, et al, 2020; Pulney, Keary, Hebert, Krinsky & Halmo, 2018) A survey of retirement and residential care providers in Australia found little experience with, or understanding of, the issues facing this population. Indeed, many elderly TGD residents admitted to concealing their gender identity, bowing to the fear of insensitive treatment or frank discrimination (Cartwright, et al, 2012; Cook-Daniels; 2016; Grant, et al, 2012; Horner, et al, 2012; Orel & Fruhauf, 2015).

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