


# Barriers and facilitators to publicly-funded gender-affirming surgery: the perspectives amongst a cohort of Australian clinicians

Katie E. Piñón-O'Connor<sup>1</sup> · Amy B. Mullens<sup>1</sup>  · Joseph Debattista<sup>2</sup>  · Tait Sanders<sup>1</sup>  · Annette Brömdal<sup>3</sup> 

Received: 26 September 2023 / Accepted: 5 November 2023

Published online: 23 November 2023

© The Author(s) 2023 

## Abstract

**Introduction** Barriers to publicly-funded gender-affirming surgery (GAS) in Australia have been identified as costly with limited availability of qualified providers and lack of public hospital systems performing/offering these services. Our study explores barriers, facilitators, and potential implications for expanding, and improving publicly-funded GAS in Australia from the perspectives of an Australian cohort of gender-affirming clinicians.

**Methods** We conducted semi-structured interviews with eight clinicians in 2021 who currently work within gender-affirming health services in Australia. Through ecological systems theory, gender minority stress framework, and reflexive thematic analysis, themes and subthemes were developed.

**Results** Our study identified three themes and five sub-themes exploring the barriers and facilitators to publicly-funded GAS in Australia. Gender-affirming clinicians indicated establishing a surgical center for excellence in trans and non-binary healthcare is an essential facilitator needed to implement publicly-funded GAS. This would allow for a best-practice decentralized model of gender-affirming care to be realized in future to optimize health and wellbeing among trans and non-binary persons.

**Conclusions** There remain substantial barriers, specifically at exosystem and macrosystem levels, within the public health service needing urgent attention. Implications of findings are relevant to funding, clinical practice, research, and policy within and beyond Australia.

**Policy Implications** The substantial barriers within the public health service sector could be improved through a growing support, and a changing socio-political-cultural milieu; ultimately informing publicly-funded GAS as the most sustainable course of action and policy reform.

**Keywords** Trans and non-binary · Clinicians · Gender-affirming surgery · Ecological systems theory · Gender minority stress · Australia

## 1 Introduction

'Trans and non-binary' is an inclusive term for people whose gender is different from that presumed at birth [1]. There are many self-identifiers that people may use over time: trans, non-binary, genderqueer, genderfluid, hijra, kathoey, waria, Sistergirl and Brotherboy (within the Australian Indigenous context where the authors are located; [2, 3]). Estimates of trans

✉ Annette Brömdal, Annette.Bromdal@unisq.edu.au | <sup>1</sup>School of Psychology and Wellbeing, Centre for Health Research, Institute for Resilient Regions, University of Southern Queensland, Ipswich, QLD, Australia. <sup>2</sup>Metro North Public Health Unit, Metro North Hospital & Health Service, Brisbane, QLD, Australia. <sup>3</sup>School of Education, Centre for Health Research, Institute for Resilient Regions, University of Southern Queensland, Toowoomba, QLD 4350, Australia.



and non-binary persons within the wider population vary, with Goodman et al. [4] estimating worldwide ranges from 0.1 to 2.7%, depending on location and criteria. Trans and non-binary people experience disproportionately high mistreatment, discrimination, and harassment compared to the general population [1, 5, 6]. As a result, members of trans and non-binary communities experience greater suicidality, psychological distress, anxiety, depression, and trauma [5, 7, 8].

Additionally, some trans and non-binary persons experience gender dysphoria (GD), which is clinically significant distress resulting from non-congruent physical characteristics or a general sense of non-congruence [9, 10]. Gender-Affirming Surgery (GAS) is an empirically supported intervention for adults experiencing GD and constitutes many varied procedures [8, 11, 12]. In 2019 the Australian Queensland Human Rights Act asserted the right to trans and non-binary healthcare to be provided free of discrimination [13]. The United Nations and World Health Organization have both called for publicly-funded GAS as a human right due to psychological harms caused by GD [14, 15].

Within the aforementioned context, this research builds upon research exploring access to GAS [8, 16, 17]. Barriers to publicly-funded GAS in Australia have been identified as cost, limited availability of qualified providers, and lack of public hospital systems performing/offering these services [8]. This study explores identified barriers and examines facilitators through the perspectives of clinicians currently working in gender-affirming healthcare against the overarching research question: "What are the barriers to GAS provision for trans and non-binary persons within the Australian hospital system, and what determines the viability of making such surgeries available in the future?"

Given the bureaucracy of healthcare, studying gender-affirming care from the trans and non-binary perspectives constitutes a small (yet invaluable) part of the overall landscape given most clinicians have policies/procedures, and medicolegal responsibilities to navigate [18]. Trans and non-binary people are not always empowered to make decisions nor clearly informed of healthcare implications [1]. Instituting publicly-funded GAS within the existing healthcare bureaucracy requires relativism (neutral evaluation within context) to understand where changes could be most effectively implemented. The impacts of current structures upon trans and non-binary people can be understood as a systemic issue that has dire consequences for individuals. Thus, this research seeks to be considered in concert with research that centralizes trans and non-binary perspectives, with a thorough understanding of structural limitations from clinicians' perspectives to allow for more targeted advocacy to institute publicly-funded GAS in Australia.

## 1.1 Gender minority stress and structural stigma

The gender minority stress (GMS) model, adapted from Meyer's Minority Stress Model [19] is a cognitive frame used to evaluate psychological and physiological health needs of trans and non-binary people and the effects of discrimination and demonstrable structural stigma [20]. The GMS model including distal stress specifically, provides a useful method to conceptualize events/actions (e.g., rejection, discrimination, prejudice) external to the trans and non-binary individual that adversely influence physiological and psychological health outcomes. The ensuing cognitive adaptations resulting from distal stressors, are proximal stress (e.g., internalized transphobia, fear of rejection, concealment). Proximal stress is used here to conceptualize individual experiences of structural issues.

When assessing barriers to gender-affirming healthcare, consideration of structural stigma is essential as it is found to decrease access [1]. An intersectional framework must be considered for trans and non-binary people with multifaceted identities, such as ethnicity, sexuality, or disability, which may further stigmatize and render individuals vulnerable to additional discrimination [6, 21–25]. Moreover, structural stigma leverages a history of the psychiatric discipline pathologizing trans and non-binary peoples' experiences, a distal stress, which results in expected and perceived discrimination, a proximal stress [26].

## 1.2 Medical gender-affirmation and gender-affirming surgery

Medical affirmation of one's gender, referred to in the DSM-5 as physical intervention, is individual, personalized and can change over time. As the trans and non-binary community is heterogeneous, medical affirmation including hormone therapy (HT) and/or GAS are not always desired [12].

The 2018 Australian Trans and Gender Diverse Sexual Health Survey reported that 66.3% of respondents (out of 1,613 participants) were either currently accessing HT or planned to in the future [27]. Medical affirmation may encompass additional factors such as fertility preservation, permanent hair removal, ongoing hormone prescriptions, and managing related health concerns, such as cancer screenings, and pregnancy post-transition [28, 29].

GAS is defined as the surgical alteration of non-congruent physical characteristics that contribute to/are the source of GD [30]. GAS may include a series of surgeries that encompass but are not limited to chest, genital, facial feminization,

**Table 1** Estimated cost of GAS procedures

Procedure	Estimated cost
Vaginoplasty	\$30,000 AUD
Mastectomy	\$12,000 AUD
Phalloplasty	\$80,000 AUD

vocal cords, and thyroid cartilage [12, 30]. There are a wide variety of surgeries and techniques. Accurate estimates of cost in Australia, are lacking with concentration of services within the private sector [31], with estimates provided in Table 1.

The 2021 Health and Well-Being of Transgender Australians report has provided estimates for a range of GAS procedures amongst trans and non-binary Australians [32]. For those presumed male at birth: facial feminization (6% have had, 63% want someday, 31% don't want; n = 372), genital surgery/vaginoplasty (18% have had, 64% want someday, 18% don't want; n = 384), and breast augmentation (9% have had, 54% want someday, 37% don't want; n = 362) had the largest gap between demand for services and the number of services rendered [32]. For those presumed female at birth: genital surgery/phalloplasty (2% have had, 44% want someday, 54% don't want; n = 481) and chest surgery/mastectomy (31% have had, 58% want someday, 11% don't want; n = 511) had the largest gap between demand for services and the number of services rendered [32].

Most trans and non-binary people who require surgery to alleviate GD cannot access GAS in Australia, and elsewhere, due to barriers, such as costs of private services, lack of public services, and structural stigma [1, 17, 33]. Individuals need to consider GAS free of barriers to ensure best possible outcomes for mental health and quality of life [8].

## 2 Theoretical framework

Structural stigma is encountered by trans and non-binary people when accessing medical treatment and obtaining medical gender-affirmation, due to many implicit and explicit sociocultural forces [1]. The procedures/surgeries constituting GAS are subject to sociocultural forces embodied by clinicians and mechanisms within the internal bureaucracy of healthcare.

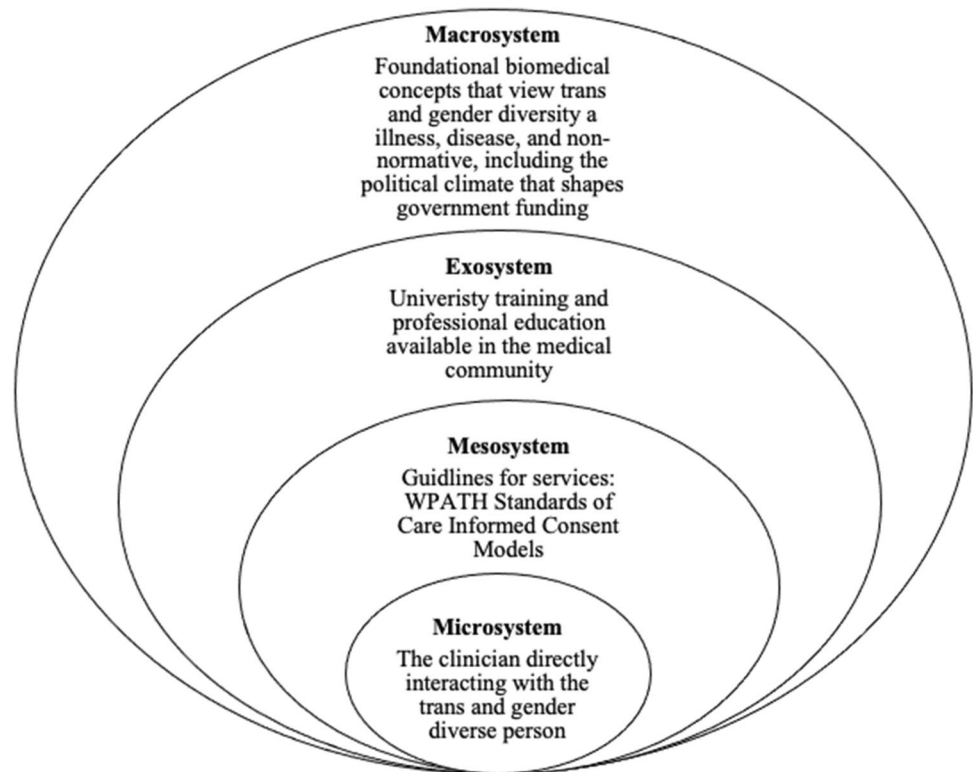
Bronfenbrenner's [34] Ecological Systems Theory (EST) that considers individual, interpersonal, community, and societal levels, is a widely accepted model that can be used to explore social influences impacting public health [35]. EST provides a framework to examine operationalized stigma and impacts upon GAS, as relevant to publicly-funded in GAS in Australia [1].

The first four levels of EST are mapped onto the Australian public health system (with specific focus on the state of Queensland where the Authors are located) (see Fig. 1). The microsystem is representative of clinicians who directly administer gender-affirming care. The mesosystem represents current models for care, the World Professional Association for Transgender Health Standards of Care Version 8 which many consider 'gold standard', and Informed Consent Models. The exosystem represents trans and gender diversity education provided to clinicians throughout training/continuing professional development. The macrosystem represents the biomedical system (BMS) as the foundation of public health, and how this situates trans and non-binary people within existing medical systems ontology, and government funding hierarchy. The fifth level of EST, the chronosystem, has been omitted as it was beyond the current study scope.

### 2.1 Microsystem: the individual

The microsystem is characterized by direct interaction with a clinician. However, it is essential to note that access to clinicians in Australia, such as Queensland, who are confident and experienced in gender-affirming care is often restricted due to long waitlists. Additionally, some trans and non-binary people avoid healthcare to avert perceived discrimination, receiving psychologically damaging care, or being denied services [1, 29]. Cost of private healthcare is another considerable barrier [33], also contributing to long waitlists within public healthcare.

**Fig. 1** The first four levels of Bronfenbrenner's EST mapped onto the Australian public health system, with specific focus on Queensland (Adapted from Noursi et al. [35])



## 2.2 Mesosystem: the interpersonal

Guidelines for accessing GAS within Australia are often interpreted within a linear model of gender-affirming medical care, with GAS situated at the end of the process and hormone treatment situated as the first step. The two current guidelines are the Standards of Care for the Health of Transgender and Gender Diverse People (SOC) Version 8, and the Informed Consent Model (ICM) [12, 36]. The SOC-8, developed by the World Professional Association for Transgender Health (WPATH), provides specific criteria for initiation of HT, chest surgery and genital surgery and utilizes the diagnosis of GD as a requirement for accessing GAS [12].

The ICM is put forward as an alternative to the SOC, operationalized through facilitating patient's decisional autonomy instead of requiring 'proof of assessment' (i.e., diagnosis of GD; [36]). While the medical community recognizes ICMs generally as part of patient-centered care, implicit bias, and dominant social norms impact gender medical-affirmation processes, particularly clinician competency, medico-legal concerns, and attitudinal views regarding trans and non-binary people [18, 37–39].

## 2.3 Exosystem: the community

The exosystem is characterized by the traditional education (i.e., university curriculum and continuing professional development) clinicians receive regarding gender-affirming healthcare, and trans and non-binary people. Clinicians, who are not immune to social norms and implicit biases may react to negative public sentiment, instances of detransition, and surgical regret if they have not previously received relevant education, by hesitating to offer GAS [40, 41]. As such, clinician education is vital due to perceived or actual discrimination, which may discourage trans and non-binary people from accessing medical care [18, 42]. However, as highlighted by Stroumsa et al. [43], without addressing distal stress factors and social norms, increasing the number of education hours alone will not be sufficient.

**Table 2** Demographic characteristics of all participants

Pseudonym	Discipline	Location
Avery	Sexual Health Physician	Non-metropolitan
Charlie	Sexual Health Physician	Non-metropolitan
Hayden	Sexual Health Physician	Metropolitan
Morgan	General Practitioner (Physician)	Metropolitan
Kim	Social Worker	Metropolitan
Alex	Psychologist	Metropolitan
Sam	Psychologist	Metropolitan
Bailey	Psychologist	Non-metropolitan

## 2.4 Macrosystem: the societal

The Macrosystem is characterized by locating GAS within a biomedical system (BMS). The BMS assumes health as a default based upon a normative, cisgendered body. This system diagnoses disease/disorders in order to return the body to health, or an 'absence of disease' [44]. Therefore, the BMS is primarily concerned with measurable deviation from the normative as illness.

In this model, non-cisnormative gender is recognized as a malady requiring repair and contributes to cisgenderist ideology [45]. Within the public health system, cisgenderism describes delegitimization of a trans and non-binary person's knowledge of their gender and body and constitutes a distal stress factor contributing to poorer psychological/physiological outcomes [20, 45].

## 3 Methods

This study set out to understand the barriers/facilitators to publicly-funded GAS provision for trans and non-binary persons within Australian public health. The theories and methods chosen, and how they are used to explore GAS are influenced by the research team's subjective interpretation, perspective, and positioning; and affect research outcomes [46]. The authors of this article comprise a research team collectively committed to documenting the individual, interpersonal, community and societal barriers, for a group of gender-affirming healthcare providers, to provide publicly-funded GAS in Australia, and better understanding the economic, clinical and professional viability of making GAS publicly-available in the near future. Our scholarship spans disciplines of gender and trans studies, sociology, clinical and health psychology, and sexual health. The authors have been intimately engaged in trans rights, health research and practice, and advocacy within and beyond the Australian primary care environment for up to 27 years, and collectively we have more than 50 years of experience in the field. Our authorship team includes researchers of trans and cisgender lived and embodied experiences spanning sexual orientations (pansexual, heterosexual, homosexual), immigrant statuses (immigrant, first generation, Native-born), and ethnic and cultural backgrounds (Hispanic-American, North African, White Australian, and White European descent). Importantly, the research team have at different junctures of their lives felt the structural barriers to accessing medical care in Australia and elsewhere because of their gender identity, sexuality, ethnicity, accessibility, and cost.

As GAS is situated within broader public health system bureaucracy, and research domain where competing narratives and conflicting perceptions exist, research regarding GAS needs to be cognizant of this context and its impacts on research about GAS [47]. EST is used here as a method to account for differences within levels of bureaucracy, including multiple motivations/perspectives within and between systems [34]. Critical realism is used to unpack ontological assumptions according to the overall aim of instituting publicly-funded GAS in the Australian public health system [47].

To address the overarching research question eight participants, all of whom currently work within gender-affirming healthcare services in Queensland, Australia were purposively recruited (see Participants in Table 2 below). The average length of career is 18 years and ranged from 6–30 years. Three participants were in non-metropolitan Queensland, and five located in metropolitan Queensland.

Central to ethics considerations for this project was confidentiality, the participants were situated in the public eye, drawn from a small and overlapping cohort, and exposed to the possibility of referencing sensitive, and potentially

identifying patient information. Prior to recruitment and data collection, the project was approved by the authors' university ethics board—University of Southern Queensland's Human Research Ethics Committee (Approval No: H20REA289). Participant briefing was provided both verbally and through a formal participant information sheet, written informed consent sought, and no incentives offered for their time. All interviews were conducted by the lead author via Zoom between May–September, 2021 with the help of an interview guide specifically developed for this study, and validated through piloting. Interviews ranged between 33–56 min ( $M=43$  min). Transcription was completed via automatic caption within Panopto, and the original interview was then reviewed, and transcript edited to ensure verbatim capture. Participants were provided the interview transcript and were able to request changes. No participant requested changes.

To make meaning of the interview data, this paper uses thematic analysis in “generating” and “defining” themes [46]. More specifically, Braun and Clark [46] encourage scholars making use of thematic analysis to do so with the help of their revised six-step guide. This six-phased guide of thematic analysis consists of familiarizing yourself with your data; generating initial codes; generating (initial) themes; reviewing themes; defining and naming themes; and producing the report [46]. While the six phases were “applied flexibly” and informed by our theoretical frameworks, the steps were chronologically applied with the end goal of capturing the “uniting idea” of a theme [46]. As a result, the thematic analysis yielded three major themes, which together unpack the barriers/facilitators concerning publicly-funded GAS through the perspectives of clinicians who work within/around the bureaucracy of accessing GAS: (1) “*I don't know how its ever going to happen*”; (2) “*Hope against hope*”; and (3) “*Not if, when.*” Identification of individual participant extracts was through a discrete gender-neutral *first-name* pseudonym as it better represented the informal, and person-centered approach within the interview encounters.

## 4 Results

### 4.1 “I don't know how it's ever going to happen”

This first theme depicts the damage of public misconceptions in relation to the prospect of publicly-funded GAS. Kim shared their thoughts on the matter:

I don't know how it's ever going to happen... It's still such a controversial area ... because I still think there's such a lack of understanding about ... how it's surgery, it isn't a choice or an elective kind of option... until the majority can see that perspective... until they can understand that it is just as serious and life threatening as someone who's got cancer or ... other 'acceptable' medical conditions, then it's not going to change.

This theme captures participant concerns that GAS is a misunderstood intervention within the wider medical community and this perception impedes progress of publicly-funded GAS. Two subthemes expound these concerns as operationalized barriers: “[Resistance of the wider medical community](#)” and “[Zero-sum bias](#).”

#### 4.1.1 Resistance of the wider medical community

Seven participants expressed the general medical community are largely uninformed about gender-affirming care in relation to GAS. Morgan provided an example: “Sometimes they will have been to another GP first who has either referred them on or just said, ‘no, I can't help you.’” Another participant, Sam, also described an example: “Some GPs sometimes say ‘no’ ... or ‘I don't think I have the expertise for that,’ even if they've received a comprehensive letter from the prescribing physician.” These represent the exosystem impacting the microsystem within the EST mapped on to Queensland public health system.

When attempting to identify the attitudinal component of the resistance in the broader medical community, two participants attributed this to “unwillingness to unlearn and re-learn” and “a lack of identifying one's own responsibility in upskilling.” This can significantly impact access to medical affirmation in non-metropolitan areas as one participant, Charlie, alluded to “GPs are not going to [provide medical affirmation for trans and non-binary patients]. Doesn't matter how much education you do; these patients are high maintenance. GPs on the whole are not going to see them.”

Three participants described trying to avoid referring trans and non-binary persons to clinicians who would refuse treatment by utilizing lists of providers recommended by trans and non-binary patients. Participant Kim described this: “We keep a list of all gender-friendly clinicians... allied health, psychiatry, medical, and surgical... That list is growing,



but it's still pretty abysmal." These lists are then used as unofficial referral pathways and are a pragmatic way of bypassing clinicians that lack knowledge/confidence in gender-affirming care.

Participants also mentioned other clinicians who express their willingness to treat trans and non-binary people as the only necessary component, resulting in psychologically-damaging care as illustrated in Alex's retelling of a client's experience as a trans man receiving obstetric care:

They become the show pony of the ward, all of those sorts of awful stories that you hear... Their obstetrician, when they were doing an examination said, "Oh, I half expected a penis to be here!" ... [and] "Oh, we've got a seahorse! Right, medical students, nursing students, every student in the whole hospital system come along!"

This instance described by Alex illustrates psychologically damaging care trans and non-binary people can experience when attempting to access healthcare. It also demonstrates the willingness of clinicians to provide gender-affirming care is not the sole factor influencing the quality of care.

Clinicians inadvertently harming trans and non-binary people were also mentioned as a potential reason for clinicians refusing treatment. As articulated by Alex: "They are scared of doing the wrong things." This fear can also act as further justification for requiring a psychiatric diagnosis to ensure they do not 'harm' their patient. However, participants also noted some disciplines were lacking competency, specifically psychiatry. Morgan stated, "It can be really challenging to find mental health professionals, especially psychiatrists, who have got knowledge and understanding and empathy for trans people." In explanation and elaboration, Charlie noted psychiatrists were "overwhelmed at the moment with other things and they just don't want to take on gender." Charlie's assessment frames the lack of psychiatric care for trans and non-binary persons as a tension between "gender" and "other things," and "gender" as something that would draw resources away from an already established need.

Additionally, participants reported some trans and non-binary persons communicated to their clinician they felt the psychiatrist was engaged in misattribution. Alex commented, "So I inevitably hear from clients that the psychiatrist thinks I'm trans because I have a trauma history, or they think I'm trans because I'm autistic or I can't be trans because I'm autistic." One participant reported anecdotal observation of higher autism spectrum disorder and attention-deficit hyperactivity disorder in the cohort. Misattribution was also interpreted as a reluctance of psychiatry to provide a GD diagnosis out of a desire to minimize medicolegal risk. Avery described this fear when talking to colleagues:

They're almost horrified when I say, "Oh yeah I just start people on hormones when they want them." It's like, "Oh, my God, how can you do that? That's so brave. Aren't you afraid of being sued?" I was like "For 30 years, I've been doing it. No problems yet. Maybe one day, but I haven't had a problem with it." ... I think some people ... think I'm a bit of a cowboy with this, but it's the way it's always done before the gatekeeper model came in.

Avery's use of the term "gatekeeper model" references the formal diagnosis of GD as needing to be obtained before any treatment.

This macrosystem impact of medicolegal risk extends into gatekeeping within gender-affirming care more broadly, which Morgan spoke intimately about:

I've always used an informed consent model. I didn't call it that at the beginning. I just called it people telling me what they wanted to do with their body and me helping them. And then I discovered that there were lots of people who thought that was a bad thing and that we should be getting everyone to go see psychiatrists and get this diagnosis... back then it was called gender identity disorder, it was even more uncomfortable. But you had to do that to refer people to surgery, and you still do.

That informed consent has not extended to surgery, illustrates the ongoing impact of the mesosystem and macrosystem.

One consequence constitutes a particularly cruel double-bind that subjects trans and non-binary persons who travel overseas for GAS vulnerable to potentially life-threatening complications, as discussed by Hayden:

Someone who comes back from Thailand with vaginoplasty, who then, for example, develops infections or strictures, I can understand why a local surgeon would be very reluctant to take on the medicolegal risk of trying to repair the damage ... That's tiger country for a local surgeon.

All participants knew of or cared for trans and non-binary people who had travelled overseas to access GAS. Some reported their patients saw it as a "holiday." Travelling for surgery is a practical workaround when considering few options available in Queensland. There is little to no public GAS; and only three procedures were identified as publicly-funded in

some capacity, though it was restricted and specific to non-metropolitan areas: hysterectomy, gonadectomy, and mastectomy. Facial feminization surgery was said by most participants to be completely unavailable, though one participant, Morgan, stated otherwise: “we really only got one [person] that does stuff up here and it’s not been a big part of [their] practice.” This informality is unsurprising, given there is no referral pathway to public GAS, hence the overemphasis on private services and confusion around service availability.

#### 4.1.2 Zero-sum bias

Also illustrated within the theme is the comparison of GAS with more “acceptable medical treatments.” Participants often framed the zero-sum<sup>1</sup> bias when speaking about funding and politics within the macrosystem. This was clearly illustrated by Avery when discussing chest surgery for trans women:

But at the moment, female cancer survivors can’t get chest surgery to have breasts. So how do you politically sell transgender women getting breasts when cancer survivors can’t even get breasts? No politician is going to go down that path and not unreasonably. The answer is, everyone who wants breast should be able to have breasts but that requires a lot more funding being put into the system, which governments will not do.

Avery frames GAS within a hierarchical macrosystem that positions GAS at the bottom of the governmental funding model. However, the quote also implies a lack of funding for the purpose of this surgery, thus the funding model itself operates in artificial scarcity.

Participants also explained this hierarchical positioning, where trans and non-binary people are seen to be using surgical resources meant for other purposes, when describing a double standard for surgeries. For example, Alex explained, “You’ve got breast cancer. Yes, you can access this on public funding, but no, you can’t have it for any other reason if you are trans.” In this quote, Alex is describing the procedure of mastectomy, which is a routinely performed procedure that Medicare reimburses (Medicare is the publicly-funded universal healthcare insurance scheme in Australia). However, in a rare point of consensus, all participants agreed that Medicare, as a federal apparatus, was not sufficient to fund GAS. Instead, most participants suggested that GAS would require funding directly through state hospitals.

Embedded within the discussion of Medicare’s limitations, participants stressed funding needed to be protected from political intransigence, and moral panic, a potential impact of the macrosystem. Hayden felt the best way to prevent “arbitrary closure” of a gender service was to position it within a hospital instead of sexual health services, and referenced the history of HIV services in Queensland as a lesson learned:

The Newman government wanted to shut it down completely... They did get rid of about 70 percent of the staff for that service (sexual health service). That was a pretty extreme maneuver... I thought there’s no way you would put a service as vulnerable as a gender service in that service (sexual health service) and expect it to survive.

Participants understood their work was subject to zero-sum bias due to political pressure exerted by the macrosystem. However, the participants themselves were not operating under this fallacy but attempted to navigate around it. Hayden illustrated this by comparing GAS to other high-cost surgeries:

It’s also about priorities... just think of what goes on in the burns unit... the renal unit, the coronary care unit, intensive care itself, they’re all very, very expensive services. It wouldn’t take much management if there was political will.

The participants expressed a detailed understanding of substantial structural and attitudinal barriers within the EST mapped on to the Queensland public health system. While the particular emphasis on the barriers did not necessarily translate to individual pessimism, participants active in advocacy and regular engagement with the trans and non-binary community, outside of a medical context, expressed a greater degree of hope.

## 4.2 Hoping against hope

This second theme depicts the double-edged dilemma of maintaining hope of accessing surgery even if it is “unrealistic.” Most participants used hope of accessing GAS to motivate themselves and the trans and non-binary people in their care

<sup>1</sup> Zero-sum bias is described as a situation where resources gained by one party are matched by corresponding losses to another party when the situation is non-zero-sum (56).



against dysphoria while also acknowledging the current reality that most who require GAS will not be able to access it. Bailey provided this description "It's sort of like the door is there somewhere, but they can't find the door, and if you do find the door, it's permanently locked."

#### 4.2.1 The mirage of private surgery in Queensland, Australia

Clinicians described "no pathway" for surgery. Participants talked about clients or patients who do not have sufficient funds for private surgery as "stuck." Participants also described the idea of trans and non-binary persons self-funding their private surgeries as a "pipe dream" and "unrealistic." Additionally, Alex characterized the \$80,000 genital surgery price tag as "...absolutely beyond a joke" and stressed that surgical costs are not straightforward:

It's not just one surgery, often it'll be two or three surgeries. And each time there's associated costs of hospitalization and recovery, let alone the cost of not going to work and not earning that income and things like that, running out leave.

Despite this cost barrier, most participants saw several strategies to raise funds for surgery, with varying degrees of viability: accessing superannuation on compassionate grounds, support from parents/familial inheritance, and working multiple jobs. Crowdfunding, winning the lottery, and selling one's home were also discussed as less popular options. Morgan also discussed concerns about the potential long-term ramifications of accessing superannuation: "\$20,000 out of your super now could be worth \$200,000 in 30 years' time. That's the whole idea of super."

Bailey also described the sequelae experienced by trans and non-binary people who suffer with GD but are unable to envision ever being able to pay for surgery:

I think most people rule it out before their minds will even consider it... and have already ruled it out as impossible ... and have tried to accommodate that into their psyches. Which may be further depressing, distressing, and contribute to hopelessness, helplessness, social isolation, and a range of other things.

For participants who provided psychological support during this period of waiting for surgery with no means of obtaining it, their approach was managing GD and a feeling of "stamp[ing] time." Morgan described the delineation individuals are often forced to make in order to function in their daily lives:

It's a massive cause of ongoing depression and dysphoria for many people. Absolutely. It's huge... they certainly see that as being a goal that's unachievable for them. It gives them ongoing daily pain and anguish... Some people are able to compartmentalize that and just get on with their lives, accepting that they can't do it. For other people, it becomes a huge thing that drags them down and stops them from being able to get on with their lives.

This example illustrates the importance of support and the unique psychological vulnerability that can be exacerbated by the mirage of surgery. The balance between hope and the complexity of accessing GAS creates severe consequences for trans and non-binary people due to their vulnerable position and the power-relation between them and the clinical/medical system, as Charlie shared:

We have several patients who have attempted self-harm and at least two successful suicides. Now, we don't know why those patients committed suicide, but definitely we have a considerable number of patients who do attempt self-harm... if a patient attempts self-harm and if they're ok and they've sort of kind of regretted it a bit, they'll say go back to your GP for long term care. There's nothing within the public health system to support these people ... definitely not to support transgender.

#### 4.3 Not if, when

This last theme depicts the certainty amongst participants that publicly-funded GAS is inevitable and will become a reality in Queensland/Australia, as articulated by Hayden: "Demand is escalating. Demand is ... a direct expression of how stigma and discrimination are declining in the community... hundreds of people are coming forward, who even 10 years ago, would not have dreamt of coming forward."

This theme describes participant views of how increases in demand are seen as a critical mass to leverage to achieve publicly-funded GAS. Despite the participants working in an under-resourced and stigmatized medical discipline; with

formidable barriers, including the resistance of the wider medical community, participants speak of substantial changes happening across all systems may result in publicly-funded GAS.

#### 4.3.1 Reaching critical mass

Seven out of the eight participants described a significant increase in demand for their services since early 2020. Kim described the increase in demand as “overwhelming” and “huge... We’re on track to double the number of patients this year from last year.”

It is important to acknowledge the emergence of COVID-19 in early 2020 and subsequent ongoing efforts and lock-downs to restrict the spread within Queensland. Sam saw a potential connection: “A lot of people ... would tell us anecdotally ... ‘Oh, it’s now or never,’ like the worlds going to end anyway. I might as well.”

Concerning increasing demand, Kim directly referenced the social milieu: “More celebrities come out and things, like all those things help people. Individuals being brave about their circumstances and who they are, is slowly helping.”

While the increase in demand presents possibilities and potential leverage there is also a feeling of expectation, as illustrated by Avery “I think what we have to do as clinicians and advocates, is try and find a way for the public system to fund it.”

#### 4.3.2 The best way forward

While all participants were united in the greater cause of providing high-quality medical care to trans and non-binary people, however, two different approaches of how best to achieve publicly-funded GAS was identified.

The first group, which formed the majority, believed there is growing societal acceptance of gender-affirming care as demonstrated by their educational work progressing within the microsystem and exosystem, and saw this as a result of movement within the macrosystem. This group also saw wider trans and non-binary advocacy, and recent research as the beginnings of potential change in the macrosystem and centered depathologization in their approach. All of these participants were part of private networks dedicated to upskilling and resourcing other clinicians. The exploding popularity of these networks, and the frequency at which participants suggested them, seemed to suggest that these networks are seen as a vital component in achieving publicly-funded GAS. Hayden made the connection explicit when discussing one specific network: “that one network represents a lot of political influence if it’s exerted on the powers that be.”

The second group did not expect greater societal acceptance to directly translate to resources for gender affirming healthcare. The expectation amongst this group is that the process of achieving publicly-funded GAS would be long and arduous and would consist of many hard-fought individual milestones. This group attempted to use the mesosystem and macrosystem-established diagnosis of GD to establish a pathway. In their approach, they centered publicly-funded GAS as a highly effective treatment for an illness. Using this approach, one of the participants, Charlie, secured a list that included an “in principle” public surgical option for hysterectomy in specific non-metropolitan locations. This previous success led to another recent strategic appeal to focus on one specific surgery, mastectomy, arguing that the Australian Queensland Human Rights Act of 2019 provided a sufficient foundation for the procedure and that the procedure provided the most effective treatment of GD for their patients. It is important to note that the procedure of mastectomy does not include chest shaping, which could result in a need for further procedures and expense. However, while they were able to secure another publicly-funded GAS procedure for their patients theoretically, there was no public acknowledgement from any hospitals, and Charlie themselves stressed this was still not a certainty: “They’ve agreed in principle to do it. But now we actually have to set up the pathway.”

Additionally, in negotiation for publicly-funded mastectomy for trans and non-binary people, Charlie stressed that “we want to establish that and not contaminate the conversation with anything else that we might need down the track.” The expectation in this statement is that each GAS procedure requires individual advocacy and a large need for leverage.

When participants discussed the fine details of potential publicly-funded GAS, such as centralized vs decentralized availability, an idea of a surgical center of excellence began to take shape. As illustrated by Morgan when discussing Brisbane as the potential site of publicly-funded GAS:

Honestly, I think that that would be the best way to start out ...and I don’t think you could decentralize it until you had a center of excellence that had ongoing mentoring and registrars and surgeons coming through, because otherwise, where is your workforce going to come from? ... I think you do need a central center of excellence but

it needs to be attached to, or part of, a public hospital so that it can be funded through Queensland Health and whatever federal funding for the hospitals to be able to offer the surgery to people without that massive price tag.

Five participants concurred with the idea of a center of excellence: “Yes, I feel like that is a long overdue, unmet need” and “I think a center of surgical excellence somewhere in the state would be really, really very helpful.” In addition to providing GAS, participants listed other obstacles a center of excellence could help ameliorate: “students learning how to treat people appropriately and respectfully” and the “ability to succession plan and to train ... having all the specialists all together.” When asked to envision the impact of an established surgical center of excellence in Brisbane, Kim struggled to contain their excitement: “I just can’t even imagine what it would be like and how much that would change a lot of people’s lives. I just think it would be incredible ... I don’t even have words.”

However, when discussing a surgical center for excellence, Hayden stressed that strategies need to be considered in response to ideologically opposed groups who would be galvanized by the possibility of such a center:

That would be heavily opposed ... as being something of a scandal, that the government should even consider such an outrageous suggestion. And it would need very strong advocacy for it to be able to jump all of the political hurdles necessary to get funding.

## 5 Discussion

There are substantial barriers to GAS provision in Australia as identified by the cohort of gender-affirming clinicians in Queensland, such as attitudinal barriers within the state’s medical community. These barriers are illustrated in the lack of clinician training [18], which leads to denial of care, and the positioning of government funding as a struggle for competing priorities and resources [38]. Additionally, there are structural barriers that result in a lack of resources that form the basis of gender-affirming healthcare and constitute the failure of Australia, through the case of Queensland, to provide best practice, evidence-based care, in the form of GAS. The lack of resources results in insufficient pathways to public GAS and leaves GAS isolated in the private healthcare. Potential facilitators to achieve publicly-funded GAS were identified. The increasing demand for services could be utilized as a critical mass to leverage for an increase in government funding [11]. Additionally, a surgical center for excellence in Brisbane, was identified as a facilitator of surgical training and to ensure high quality healthcare [33].

Bronfenbrenner’s [34] Ecological Systems Theory (EST) was utilized to map the first four levels of EST onto the Australian public health system and provided a framework to examine the barriers and challenges to publicly-funded in GAS in Australia.

The lack of clinical education (exosystem) regarding GAS as a means of improving health/wellbeing of trans and non-binary patients was implicated in the refusal by clinicians to treat individuals (microsystem) contributing to further distal stress [1, 20]. This lack of education (exosystem) and the lack of funding for GAS (macrosystem) also serves as a mechanism whereby some clinicians, who are potentially attitudinally averse to gender-affirming medical treatment, do not feel engagement with trans and non-binary people is required [1, 22, 48, 49].

Upskilling and remaining current with the literature are essential to ensure clinician lack of knowledge or understanding, does not contribute to the othering/alienation associated with poorer health outcomes [18, 20]. Further complicating matters, the range of literature available also includes empirically unsupported concepts such as autogynephilia and rapid-onset GD that are used as arguments against gender-affirming care [50, 51]. A clinician’s discernment of the literature may also be guided by limited previous exposure to the topic often received during their university training [8, 18, 42].

Fear that a clinician administering GAS would be seen to have committed malpractice if there were not sufficient safeguards to ensure a person was not accidentally misidentified as needing GAS was cited by participants and demonstrates the impact of the macrosystem. The fear is centered around a cisgendered person being subjected to GAS [52, 53]. It centers cisnormativity within trans and non-binary healthcare [52, 53]. This could account for the interpretation of the SOC as requiring a psychiatric diagnosis of GD for medicolegal protection [54]. Given that the psychiatrist is the macrosystem’s legitimizing authority for psychological matters, their approval is sought.

Despite GAS being an evidence-based treatment for GD, the service is not widely available in Queensland [8, 11]. There are only a few private options in Queensland for GAS which can cost between “\$10,000 and \$80,000” depending on the procedure [55]. Genital surgery is the most expensive procedure and the hardest to obtain without travel outside Queensland. There is currently only one private option providing genital surgeries, and there is a substantial waiting list.

Resistance of the wider medical community and lack of clinicians upskilling to treat trans and non-binary patients can also be explained as motivation derived from the macrosystem, in the form of scarcity of government funding. The implication is that to fund GAS, funds must be diverted from an already established need. This positioning of GAS as competition for limited resources, constitutes a zero-sum bias that allows ongoing justification for depriving GAS of government funding.

The political view that any gains made in the trans and non-binary healthcare space means a corresponding loss of resources from cisnormative services is a zero-sum bias to maintain the macrosystem hierarchy. The hierarchy positions cis women above trans women as the more acceptable surgical need, and in direct competition for limited resources [38, 56]. A cis woman wanting to restore their breasts after illness is understood by the BMS foundational concepts as returning to health and wellbeing [57].

This bias leads to the delegitimization of GAS and positions it as a neutral or elective procedure, permitted but not urgent, despite the active harm this does to trans and non-binary people [8, 17, 20, 45, 58–60].

Participants active in advocacy and regular engagement with the trans and non-binary community, outside of a medical context, expressed a greater degree of hope. This finding was in line with a recent call by Ashley and Domínguez [37] for clinicians to engage more broadly with the trans and non-binary community. However, despite hope, barriers persist, resulting in the current gap between procedures performed, and demand [32]. Our theme “Hoping against Hope” described the reality of under-resourced marginalized healthcare that is unable to provide evidence-based best practice care due to resistance from the wider medical community (exosystem) and zero-sum biases (macrosystem; [1, 33]). In addition, this theme explored limitations and frustrations participants encounter as they tried to support the wellbeing of the trans and non-binary people in their care to navigate private surgical options and manage distressing incongruence [10].

Clinicians described “no pathway” for surgery, and this accords with current research [1, 33]. The cost barrier of GAS is well established in the literature, both as a practical barrier for individuals and a structural component of stigma [1, 8, 17, 23, 33]. The 2018 Australian Trans and Gender Diverse Sexual Health Survey reported 42.7% of the respondents as having an annual income under \$40,000 [27]. Needing a surgery that is perceived as permanently beyond resources can have a detrimental impact upon health [8], and constitutes both distal and proximal stress factors [20]. It also reinforces the exosystem and macrosystem impacts that have isolated GAS within private healthcare [1].

The balance between hope as motivation against distressing incongruence and the complexity/inability to access GAS is treacherous for clinicians and for trans and non-binary persons [37], and thus precludes the obvious; that some studies suggest that the most effective support for those needing GAS is not endless hope; it is publicly-funded GAS [59, 60].

Access to GAS needs to be considered urgent by the microsystem and the macrosystem, specifically government funding to ensure the best possible physiological and psychological health outcomes [7, 20]. The prolonged wait for surgery constitutes a detrimental impact on trans and non-binary people’s health and wellbeing [17, 20, 58–60]. Yet, the ecological system’s model mapped on to the Queensland public health system imposes a hierarchy, most explicitly at the macrosystem level, which actively restricts and limits GAS and delegitimizes gender-affirming healthcare through inadequate funding [1].

Despite this, the participants interviewed for this study described their sense that growing support and a changing socio-political-cultural milieu will ultimately lead to publicly-funded GAS as the most sustainable course of action. Whilst visibility and representation in popular media were often cited as progress; this can constitute a gap between reality and perception [61, 62]. The recent rise of anti-trans legislation debate within both Australia and the USA, can be seen as a result of greater visibility which exposed the existing lack of protection to political intransigence and moral panic, impacts of the macrosystem [63].

Implications of this study could aid further exploration within gender-affirming care in Australia, specifically the experience of trans and non-binary people. Further research into the greater clinician cohort in Australia, specific to awareness, sensitivity, and skills training in caring for trans and non-binary people is necessary and urgent. Insights from this study may also be used to further understand how changes within marginalized healthcare bureaucracy are filtered through clinician practices, and ultimately experienced by a trans and non-binary patient. In addition, how this dynamic may shape, limit, and force an impersonal approach to what GAS is and how this limitation shapes the outgroup perception of the largely heterogeneous trans and non-binary community, needs to be better understood.

Limitations of this study include the lack of some clinician disciplines, such as endocrinologists, psychiatrists, and most notably, surgeons who performs GAS. Studies exploring a greater diversity of clinical disciplines, such as endocrinologists, surgeons, and psychiatrists would increase the depth of knowledge about clinicians’ perspectives on GAS in

Australia, and Queensland more specifically. Studies engaging participants in more generalized medical settings, would also increase the awareness of a diverse range of clinical perspectives.

This research sits within a deficit-based approach. Thus, it does not allow for a greater understanding of GAS as a component of resilience, joy, and fortification against distal and proximal stress for trans and non-binary persons. Additionally, this research would benefit from a mirrored investigation that focuses on trans and non-binary people's perspectives [64]. Combining both perspectives would provide a comprehensive understanding of the structural limitations and allow for more targeted advocacy capable of greater individual, interpersonal, community, and societal impact [64].

## 6 Conclusions

In conclusion, this study explored barriers and facilitators to publicly GAS in Australia, utilising the perspective of a relevant cohort of clinicians and financial stakeholders in Queensland. Findings indicate that there is little to no publicly-funded GAS in Queensland and that the procedures that exist are not widely accessible. The participants shared that establishing a surgical centre for excellence in trans and gender diverse healthcare is essential for implementing publicly-funded GAS. A surgical centre for excellence would allow for the possibility of a high-quality decentralised model of gender-affirming care in the future. There are still substantial barriers in place, specifically at the exosystem and macrosystem levels, of Queensland's public health service that need to be urgently addressed.

**Acknowledgements** We wish to express our heartfelt and sincere gratitude to all the participants who provided their professional and clinician perspectives regarding barriers and facilitators to publicly-funded gender-affirming surgeries in Queensland, Australia. Without their stories, this paper would not have been possible.

**Author contributions** All authors contributed to the study conception and design. Material preparation, data collection and analysis were performed by KEPO, ABM, JD, TS, and AB. The first draft of the manuscript was written by KEPO and all authors commented on all versions of the manuscript. All authors read and approved the final manuscript.

**Funding** Not applicable.

**Data availability** Not applicable.

**Code availability** Not applicable.

## Declarations

**Ethics approval and consent to participate** The research was granted ethical approval by the University of Southern Queensland's Human Research Ethics Committee (Approval No: H20REA289). All study activities were performed in accordance with the ethical standards of the University of Southern Queensland's Human Research Ethics Committee, and with the 1964 Declaration of Helsinki and its later amendments, including the Australian National Statement on Ethical Conduct in Human Research (2007)—Updated 2018.

**Competing interests** The authors have no competing interests to declare that are relevant to the content of this article.

**Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

## References

1. Hughto JM, Reisner SL, Pachankis JE. Transgender stigma and health: a critical review of stigma determinants, mechanisms, and interventions. *Soc Sci Med*. 2015;147:222–31.
2. Transhub. Trans mob. 2020. <https://www.transhub.org.au/trans-mob>. Accessed 20 June 2023.
3. UNAIDS. UNAIDS Terminology Guidelines. 2015. [https://www.unaids.org/sites/default/files/media\\_asset/2015\\_terminology\\_guidelines\\_en.pdf](https://www.unaids.org/sites/default/files/media_asset/2015_terminology_guidelines_en.pdf). Accessed 23 June 2023.
4. Goodman M, Adams N, Cornell T, Kreukels B, Motmans J, Coleman E. Size and distribution of transgender and gender nonconforming populations: a narrative review. *Endocrinol Metab Clin North Am*. 2019;48(2):303–21.

5. Valentine SE, Shipherd JC. A systematic review of social stress and mental health among transgender and gender non-conforming people in the United States. *Clin Psychol Rev*. 2018;66:24–38.
6. Hughto JMW, Clark KA, Daken K, Brömdal A, Mullens AB, Sanders T, et al. Victimization within and beyond the prison walls: a latent profile analysis of transgender and gender diverse adults. *J Interpers Violence*. 2022;37:NP23075–106.
7. Treharne GJ, Riggs DW, Ellis SJ, Flett JAM, Bartholomaeus C. Suicidality, self-harm, and their correlates among transgender and cisgender people living in Aotearoa/New Zealand or Australia. *Int J Transgend Health*. 2020;21(4):440–54.
8. Swan J, Phillips TM, Sanders T, Mullens AB, Debattista J, Brömdal A. Mental health and quality of life outcomes of gender-affirming surgery: a systematic literature review. *J Gay Lesbian Ment Health*. 2023;27(1):2–45. <https://doi.org/10.1080/19359705.2021.2016537>.
9. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 5th ed. Arlington: American Psychiatric Association; 2013.
10. Pulice-Farrow L, Cusack CE, Galupo MP. “Certain parts of my body don’t belong to me”: trans individuals’ descriptions of body-specific gender dysphoria. *Sex Res Soc Policy*. 2020;17(4):654–67.
11. Wiepjes CM, Nota NM, de Blok CJM, Klaver M, de Vries ALC, Wensing-Kruger SA, et al. The Amsterdam cohort of gender dysphoria study (1972–2015): trends in prevalence, treatment, and regrets. *J Sex Med*. 2018;15(4):582–90.
12. Coleman E, Radix AE, Bouman WP, Brown GR, de Vries ALC, Deutsch MB, et al. Standards of care for the health of transgender and gender diverse people, version 8. *Int J Transgend Health*. 2022;23(sup1):S1–259. <https://doi.org/10.1080/26895269.2022.2100644>.
13. Human Rights Act 2019 (Qld). s37. 2019. <https://www.legislation.qld.gov.au/view/html/asmade/act-2019-005#sec.37>. Accessed 1 July 2023.
14. Schneiders M. Values and preferences of transgender people: a qualitative study. 2014. [https://apps.who.int/iris/bitstream/handle/10665/128119/WHO\\_HIV\\_2014.21\\_eng.pdf](https://apps.who.int/iris/bitstream/handle/10665/128119/WHO_HIV_2014.21_eng.pdf). Accessed 15 June 2023.
15. Winter S, Settle E, Wylie K, Reiser S, Cabral M, Knudson G, et al. Transgender people: health at the margins of society. *Lancet*. 2016;388(10042):318–21.
16. Heng A, Heal C, Banks J, Preston R. Clinician and client perspectives regarding transgender health: a North Queensland focus. *Int J Transgen*. 2019;20(4):434–46.
17. Marquez-Velarde G, Miller GH, Hernandez SM, Mustafa M. Partial transition and mental health: barriers to a full transition. *Sex Res Soc Policy*. 2023. <https://doi.org/10.1007/s13178-023-00837-9>.
18. Franks N, Mullens AB, Aitken S, Brömdal A. Fostering Gender-IQ: barriers and enablers to gender-affirming behavior amongst an Australian general practitioner cohort. *J Homosex*. 2023;70(13):3247–70. <https://doi.org/10.1080/00918369.2022.2092804>.
19. Meyer IH. Prejudice as stress: conceptual and measurement problems. *Am J Public Health*. 2003;93(2):262–5.
20. Testa RJ, Habarth J, Peta J, Balsam K, Bockting W. Development of the gender minority stress and resilience measure. *Psychol Sex Orientat Gend Divers*. 2015;2(1):65–77.
21. Biello KB, Hughto JMW. Measuring intersectional stigma among racially and ethnically diverse transgender women: challenges and opportunities. *Am J Public Health*. 2021;111(3):344–6.
22. Brömdal A, Clark KA, Hughto JMW, Debattista J, Phillips TM, Mullens AB, et al. Whole-incarceration-setting approaches to supporting and upholding the rights and health of incarcerated transgender people. *Int J Transgen*. 2019;20(4):341–50.
23. Phillips T, Brömdal A, Mullens A, Gildersleeve J, Gow J. “We don’t recognize transsexuals... and we’re not going to treat you”: cruel and Unusual and the lived experiences of transgender women in US prisons. In: *The Palgrave handbook of incarceration in popular culture*. Palgrave Macmillan; 2020. p. 331–60.
24. Sanders T, Gildersleeve J, Halliwell S, du Plessis C, Clark KA, Hughto JMW, et al. Trans architecture and the prison as archive: “don’t be a queen and you won’t be arrested.” *Punishm Soc*. 2023;25(3):742–65. <https://doi.org/10.1177/14624745221087058>.
25. Clark KA, Brömdal A, Phillips T, Sanders T, Mullens AB, Hughto JMW. Developing the “Oppression-to-Incarceration Cycle” of Black American and First Nations Australian trans women: applying the intersectionality research for transgender health justice framework. *J Correct Health Care*. 2023;29(1):27–38. <https://doi.org/10.1089/jchc.21.09.0084>.
26. Drescher J. Gender identity diagnoses: history and controversies. In: Kreukels BPC, Steensma TD, de Vries ALC, editors. *Gender dysphoria and disorders of sex development: progress in care and knowledge*. Springer; 2014. p. 137–50.
27. Callander D, Wiggins J, Rosenberg S, Cornelisse VJ, Duck-Chong E, Holt M, et al. The 2018 Australian trans and gender diverse sexual health survey: report of findings. Sydney, NSW. 2019. <https://doi.org/10.26190/5d7ed96ceaa70>.
28. Bearnelly P, Rague JT, Oates RD. Fertility preservation in the transgender population. *Curr Sex Health Rep*. 2020;12(1):40–8.
29. Green J. Transgender: why should we care? *Lancet*. 2016;388(10042):334–5.
30. van de Griff TC, Elaut E, Cerwenka SC, Cohen-Kettenis PT, Kreukels BPC. Surgical satisfaction, quality of life, and their association after gender-affirming surgery: a follow-up study. *J Sex Marital Ther*. 2018;44(2):138–48.
31. Sexual Health Society of Queensland. Sexual health society of Queensland letter to QLD health re publicly available gender reassignment surgery; 2019. [https://www.shsqld.com/uploads/1/3/6/6/13668656/shsq\\_transgender\\_surgical\\_access\\_letter-emeritus\\_professor\\_cindy\\_shannon.pdf](https://www.shsqld.com/uploads/1/3/6/6/13668656/shsq_transgender_surgical_access_letter-emeritus_professor_cindy_shannon.pdf). Accessed 19 June 2023.
32. Bretherton I, Thrower E, Zwickl S, Wong A, Chetcuti D, Grossmann M, et al. The Health and well-being of transgender australians: a national community survey. *LGBT Health*. 2021;8(1):42–9.
33. Puckett JA, Cleary P, Rossman K, Mustanski B, Newcomb ME. Barriers to gender-affirming care for transgender and gender nonconforming individuals. *Sex Res Soc Policy*. 2018;15(1):48–59.
34. Bronfenbrenner U. *The ecology of human development : Experiments by nature and design*. Harvard University Press. 1981. <https://ebookcentral-proquest-com.ezproxy.usq.edu.au/lib/usq/detail.action?docID=3300702>. Accessed 9 May 2023.
35. Noursi S, Saluja B, Richey L. Using the Ecological Systems Theory to Understand Black/White Disparities in Maternal Morbidity and Mortality in the United States. *J Racial Ethn Health Disparities*. 2020;8:661–9.
36. Schulz SL. The informed consent model of transgender care: an alternative to the diagnosis of gender dysphoria. *J Humanist Psychol*. 2018;58(1):72–92.
37. Ashley F, Domínguez S. Transgender healthcare does not stop at the doorstep of the clinic. *Am J Med*. 2021;134(2):158–60.
38. Go JJ. Should gender reassignment surgery be publicly funded? *J Bioeth Inq*. 2018;15(4):527–34.



39. Mullens AB, Fischer J, Stewart M, Kenny K, Garvey S, Debattista J. Comparison of Government and Non-Government Alcohol and Other Drug (AOD) treatment service delivery for the lesbian, gay, bisexual, and transgender (LGBT) community. *Subst Use Misuse*. 2017;52(8):1027–38.
40. Bustos VP, Bustos SS, Mascaro A, del Corral G, Forte AJ, Ciudad P, et al. Regret after gender-affirmation surgery: a systematic review and meta-analysis of prevalence. *Plast Reconstr Surg Glob Open*. 2021;9: e3477.
41. Fitzgerald C, Hurst S. Implicit bias in healthcare professionals: a systematic review. *BMC Med Ethics*. 2017;18(1):1–18.
42. Dubin SN, Nolan IT, Streed CG, Greene RE, Radix AE, Morrison SD. Transgender health care: Improving medical students' and residents' training and awareness. *Adv Med Educ Pract*. 2018;9:377–91.
43. Stroumsa D, Shires DA, Richardson CR, Jaffee KD, Woodford MR. Transphobia rather than education predicts provider knowledge of transgender health care. *Med Educ*. 2019;53(4):398–407.
44. Mehta N. Mind-body dualism: a critique from a health perspective. *Mens Sana Monogr*. 2011;9(1):202–9.
45. Riggs DW, Ansara GY, Treharne GJ. An evidence-based model for understanding the mental health experiences of transgender Australians. *Aust Psychol*. 2015;50(1):32–9.
46. Braun V, Clarke V. Reflecting on reflexive thematic analysis. *Qual Res Sport Exerc Health*. 2019;11(4):589–97.
47. Haigh F, Kemp L, Bazeley P, Haigh N. Developing a critical realist informed framework to explain how the human rights and social determinants of health relationship works. *BMC Public Health*. 2019;19(1):1–12.
48. Eriksson SES, Safer JD. Evidence-based curricular content improves student knowledge and changes attitudes towards transgender medicine. *Endocr Pract*. 2016;22(7):837–41.
49. Cronin TJ, Pepping CA, Lyons A. Mental health service use and barriers to accessing services in a cohort of transgender, gender diverse, and non-binary adults in Australia. *Sexuality Research and Social Policy*. 2023. <https://doi.org/10.1007/s13178-023-00866-4>.
50. Bauer GR, Lawson ML, Metzger DL. Do clinical data from transgender adolescents support the phenomenon of "Rapid-Onset Gender Dysphoria"? *J Pediatr*. 2021. <https://doi.org/10.1016/j.jpeds.2021.11.020>.
51. Serano J. Autogynephilia: a scientific review, feminist analysis, and alternative 'embodiment fantasies' model. *Sociol Rev*. 2020;68(4):763–78.
52. Foucault M. *The history of sexuality: the will to knowledge*, vol. 1. United Kingdom: Penguin; 2008.
53. Strykers S. Biopolitics. *TSQ Transgen Stud Quart*. 2014;1(1–2):38–42.
54. Telfer M, Tollit M, Feldman D. Transformation of health-care and legal systems for the transgender population: the need for change in Australia. *J Paediatr Child Health*. 2015;51(11):1051–3.
55. Rosenberg S, Duck-Chong E, Cook T. Gender affirming surgery in Australia: an evidence brief. 2021. [https://www.lgbtiqhealth.org.au/gender\\_affirming\\_surgery\\_in\\_australia\\_an\\_evidence\\_brief](https://www.lgbtiqhealth.org.au/gender_affirming_surgery_in_australia_an_evidence_brief). Accessed 10 July 2023.
56. Meegan D. Zero-sum bias: perceived competition despite unlimited resources. *Front Psychol*. 2010. <https://doi.org/10.3389/fpsyg.2010.00191>.
57. Elder EE, Brandberg Y, Björklund T, Rylander R, Lagergren J, Jurell G, et al. Quality of life and patient satisfaction in breast cancer patients after immediate breast reconstruction: a prospective study. *Breast*. 2005;14(3):201–8.
58. Weinförth G, Fakin R, Giovanoli P, Nuñez DG. Quality of life following male-to-female sex reassignment surgery. *Dtsch Arztebl Int*. 2019;116(15):253–60.
59. Wernick JA, Busa S, Matouk K, Nicholson J, Janssen A. A systematic review of the psychological benefits of gender-affirming surgery. *Urol Clin North Am*. 2019;46(4):475–86.
60. Zwickl S, Wong AFQ, Dowers E, Leemaqz SYL, Bretherton I, Cook T, et al. Factors associated with suicide attempts among Australian transgender adults. *BMC Psychiatry*. 2021;21(1):1–9.
61. Ashley F. Don't be so hateful: the insufficiency of anti-discrimination and hate crime laws in improving trans well-being. *Univ Toronto Law J*. 2018;68(1):1–36.
62. Slothouber V. (De)trans visibility: moral panic in mainstream media reports on de/retransition. *Eur J Engl Stud*. 2020;24(1):89–99.
63. Tebbe EA, Simone M, Wilson E, Hunsicker M. A dangerous visibility: Moderating effects of antitrans legislative efforts on trans and gender-diverse mental health. *Psychol Sex Orientat Gend Divers*. 2021. <https://doi.org/10.1037/sgd0000481>.
64. Shepherd A, Hanckel B. Ontologies of transition(s) in healthcare practice: examining the lived experiences and representations of transgender adults transitioning in healthcare. *Health Sociol Rev*. 2020;30:41–57.

**Publisher's Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.