

# Legislation, medicine, and politics: care for gender diverse youth

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### Purpose of review

A recent increase in legislation in the United States prohibiting gender-affirming care (GAC) for transgender youth follows a wave of its politicization despite support from all pertinent mainstream medical associations. This review describes the standards of GAC for transgender youth, the origins of legislation prohibiting this care, a review of current legislation in the United States and a discussion on the impact on patients, providers, and the medical field.

### **Recent findings**

A critical evaluation of historical parallels and current organizations supporting this legislation reveals it stems not from concerns within the medical field but from political and religious interests. This intrusion sets a dangerous precedent, undermining evidence-based medicine, providers' ability to practice according to standards of care, and patients' and guardians' autonomy and medical decision-making. This wave of antitrans rhetoric and legislation has resulted in threats to health providers and hospitals, 'moral distress in providers, and migration of providers and patients from hostile states.

#### Summary

Similar to antiabortion legislation, these legislative efforts will likely result in negative health outcomes and worsening disparities. The medical community must confront these forces directly through an understanding of the political and structural forces at play and adopting strategies to leverage collective power.

### **Keywords**

adolescents, gender-affirming care, gender diverse, legislation, transgender

### INTRODUCTION

At the time of this writing, 19 states in the United States have outlawed gender-affirming care (GAC) for trans youth [1]. These laws directly conflict with current standards of care, forcing providers in this field to choose between violating their own medical ethics or the law. The exponential increase in legislation targeting LGBT and particularly trans individuals during the last 5 years represents an unprecedented intrusion of politics into healthcare, and directly endangers trans youth.

This review will focus on the origins and mechanisms of antitrans legislation including historical parallels like the Save Our Children campaign from the 1970s [2], modern-day organizations sponsoring legislation like the Alliance Defending Freedom [3], and the most common arguments against GAC. We will provide an overview of current legislation at the state level and challenges to the legislation in court. Finally, we will discuss the response to legislation by patients, hospitals, and providers.

Overall, the purpose of this review is to equip healthcare providers with the structural knowledge

required to best care for gender diverse youth in the setting of an increasingly politicized and hostile climate.

### **BACKGROUND**

Trans is an umbrella term for people whose gender identity differs from their sex assigned at birth and may include nonbinary and other gender diverse people. GAC refers to a spectrum of social, medical, surgical, and legal methods to affirm or support gender identity. Social gender affirmation may include using a different name or pronouns,

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### **KEY POINTS**

- The balance of evidence finds gender-affirming care to be associated with several improved mental health outcomes and measures of general functioning.
- No studies have identified that gender-affirming care causes harm.
- All mainstream medical associations support genderaffirming care for trans youth.
- Opposition to gender-affirming care for trans youth, similar to legislation limiting abortion in the United States, has been openly orchestrated by religious legal interest groups, politicians, and commentators.
- The medical community must confront this phenomenon not only through education on the medical evidence on gender-affirming care but also through structural and political education and strategy.

changing the way one dresses, and using the bathroom in accordance with gender identity. Medical therapies in youth include puberty suppression using gonadotropin-releasing hormone agonists (GnRHa), which are in principle reversible, and hormonal therapies like estrogen and testosterone, which are partially irreversible [GnRHa, testosterone and estradiol are not Food and Drug Administration (FDA) approved for gender-affirming care]. Surgical therapies are generally not recommended for people under 18 years of age, with the exception of masculinizing mastectomy, also known as 'top surgery', which can be recommended on a case-by-case basis for sufficiently mature individuals with severe dysphoria [4\*\*]. Finally, legal methods of affirmation include changing gender markers on official documents like IDs and birth certificates.

In adolescents, at least 17 studies, including 9 longitudinal studies, have demonstrated improvements in several mental health domains including depression, anxiety, body dysphoria, overall functioning, and suicidality with the use of genderaffirming medical therapies [5–7,8",9",10"",11"", 12",13–20]. The results of all these studies are consistent and thus far, none show negative mental health outcomes.

Current standards stipulate that gender-affirming medical care be provided only to those with a diagnosis of gender dysphoria [21] or gender incongruence, which is marked and sustained over time [4\*\*]. The DSM-V diagnosis of gender dysphoria requires not only that the incongruence between birth-assigned sex and gender identity be long-standing but also that causes significant impairment in functioning [22]. Standards of care by the World

Professional Association for Transgender Health (WPATH) [4\*\*], the American Academy of Pediatrics (AAP) [23], the American Psychological & Psychiatric Associations [24], and the Endocrine Society [21] all support GAC for youth under a multidisciplinary approach involving thorough evaluation and care by mental healthcare providers.

## OPPOSITION TO GENDER-AFFIRMING CARE

The longitudinal landmark study supporting the 'Dutch protocol' showed resolution of gender dysphoria over time along with self-reported symptoms of depression falling from 30 to 7%, equivalent to the general population [6]. Opponents of GAC in youth question the strength of evidence supporting its beneficial effects on mental health and call for stronger evidence in the form of randomized-controlled trials. Given that the balance of evidence supports the benefits of GAC, a randomized-controlled trial with placebo would be unethical. However, a recent observational cohort study comparing youth and young adults who were eligible and received puberty suppression or hormone therapy to those who were eligible but were not able to receive it, demonstrated significant improvements in depression in the treated group [11\*\*]. This same study identified a 60% reduction in moderate-tosevere depression but no improvements in anxiety scores [11\*\*]. In a recent large prospective 2-year study, moderate and severe depression decreased from 18.6 to 10%, and 15.6 to 13.7%, respectively; of note, these findings were observed in transmasculine but not transfeminine individuals [10\*\*]. Conversely, another study found improvements in both groups but greater improvements in the mental health of transfeminine individuals [18]. Trans people are known to have high lifetime rates of suicidal ideation, and several studies identify either a decrease from lifetime suicidality by either comparing lifetime rates to those during the study period (81–39%) [19], or during the course of the study period (10-6%) [18], or a 73% lower odds of suicidality from a baseline of 45% [11\*\*]. Differences in mental health outcomes may be at least partially influenced by the changing sociopolitical climate and stigma in the different study locations in the United States [10\*\*,11\*\*,18,19].

Given that the balance of evidence favors GAC, arguments against these therapies are frequently based on inflammatory, misleading, and overtly false claims. A recent publication addressing scientific misinformation surrounding GAC addresses several of the most common claims alongside existing evidence [25]. In addition to recognizing and

discounting the explicit falsehoods in many of these arguments, it is equally important for providers to acknowledge the actual safety profile of genderaffirming care via a candid and nuanced discussion of the existing evidence and unknowns.

The SAFE Act, initially Arkansas HB1570, was the first bill proposed to eliminate gender-affirming medical care for youth, and includes many of the arguments that have been replicated in more recent legislation [26]. The text of this bill begins by questioning the natural history of gender dysphoria, by asserting that 'the majority come to identify with their biological sex in adolescence or adulthood.' This common claim stems from four studies which, while they provided important information on the experience of gender in youth, are designed in such a way that it is impossible to draw these conclusions [27–30]. First, these studies predated the DSM-V diagnosis of 'gender dysphoria' and instead utilized the DSM III-IV diagnosis of 'gender identity disorder of childhood', which does not stipulate that youth experience distress as a result of their gender identity. The patient cohorts were comprised of 0-40% of patients who did not meet criteria for the diagnosis of gender identity disorder of childhood, and classified those who were lost to follow-up as having an impermanent gender identity [31]. More recent studies demonstrate that more than 90% of binary trans youth who transitioned socially continued to identify with their binary trans identity at an average of 5 years of follow-up [32\*\*]. The corollary to the argument that trans identity does not persist is that those who do pursue gender-affirming medical care may regret permanent changes to their bodies, but current studies find regret to be rare [33].

Arguments centering on medical risks of GAC frequently center on infertility, often referring to puberty suppression as 'chemical castration.' Puberty suppression with GnRH agonists alone will not impact fertility if discontinued, but it should be acknowledged that when puberty suppression is followed by hormonal therapy (estrogen or testosterone), fertility may be impaired [34]. For this reason, clinical guidelines recommend thorough discussions on the implications on fertility and options for preservation prior to the initiation of these medical therapies [4\*\*,21]. Other arguments against the safety of GAC exaggerate the effects on decreased bone density by GnRH therapy as permanent for all patients, and omits that this is mitigated and may completely resolve by timely discontinuation of treatment or initiation and proper dosing of sex hormones [35,36]. Critics also frequently assert that young, prepubertal children are being given irreversible treatments. In reality, no treatments are recommended before puberty. After the onset of puberty, GnRH agonists can be offered to suppress puberty, and then hormone therapy can be started in adolescence [4\*\*,21].

Risks associated with hormone therapy in cis and trans adults are frequently cited in legislation as potential risks of GAC in trans youth. Transgender adults on hormone therapy demonstrate similar increased incidence of certain cardiovascular diseases compared with untreated cis adults (i.e. transmales in comparison with cisgender males) [37]. Studies examining youth are limited and ongoing but demonstrate a similar increased risk in body composition changes, dyslipidemia, liver dysfunction, and hypertension mainly in relation to testosterone treatment [38,39\*]. Current guidelines acknowledge these potential risks and recommend appropriate long-term monitoring [4\*\*]. Legislative texts also spend an inordinate amount of time describing gender-affirming surgeries using misleading descriptions such as 'sex surgeries in young children' and 'mutilation surgeries', while genital surgeries are not recommended in minors.

Another argument against GAC centers on recently observed epidemiological shifts, as well as policies implemented in some European countries. Historically, a majority of gender diverse youth were assigned male at birth, whereas modern cohorts are majority assigned female at birth and include higher proportions of nonbinary individuals [40,41]. Critics of GAC have used this information and the increased number of trans youth seeking care to construct a narrative that being trans is a 'social contagion' and referring to 'rapid onset gender dysphoria'. This term derives from a study consisting entirely of parental interviews that was ultimately retracted for improper methods, including the failure to obtain informed consent from participants [42]. While one can hypothesize the reasons for the shift in demographics, the approach to the care of gender dysphoric adolescents remains individualized, utilizing a biopsychosocial model that takes into account social and environmental factors. Of note, the four longitudinal studies discussed earlier examined cohorts that were 2/3 transmasculine, consistent with current observations [10,11,11,18, 19]. It should also be noted that an archival analysis of records and correspondence pertaining to trans youth in US hospitals and clinics details the presence of transmasculine youth seeking care in the 1970s but notes their care seemed to be deprioritized relative to transfeminine youth [43].

Cases of 'detransition', are frequently cited as reasons to broadly restrict GAC for trans youth. It is important to note that 'detransition' and regret are often falsely equated; while some who 'detransition' do experience regret, this is not always the case [44].

More frequently than not, external factors such as social stigma are frequent reasons to 'detransition' [33]. Some individuals who have 'detransitioned' but experienced regret from receiving gender affirming therapies, report being rushed into treatment and have testified at legislative hearings supporting bills that would restrict care for youth [45]. Although it is important to acknowledge that regret is a risk, as in any medical treatment, relative to the average experience of youth receiving GAC these experiences are given disproportionate attention by politicians seeking to ban care. There is also evidence that the needs of those who stop GAC may have been inadequately addressed in the past [44]. Rather than viewing 'detransition' through an overly simplified lens and instituting reactionary, blanket bans on care, providers who care for gender diverse youth are actively examining the nuances related to 'detransition', including external and internal driving factors and ways to improve care that are directly informed by gender diverse individuals [44,46].

It is also important to acknowledge that gender can be fluid or nonbinary and that not all patients identifying as transgender/gender diverse want or need medical interventions [47]. In contrast, the hallmark study from the Dutch showing complete resolution of gender dysphoria in adolescents that were followed into adulthood after puberty suppression, hormone therapy and surgery, included patients that were binary in their gender identity, were consistent from early childhood, and had a thorough mental health assessment and follow-up [6]. Youth with gender fluidity or who manifest gender dysphoria later in life (adolescence vs. early childhood), are presenting to gender clinics [48] and it is unclear whether or not findings from the 'Dutch protocol' study will be replicated in youth with these gender trajectories. Current recommendations from WPATH and the Endocrine Society include a mental health and multidisciplinary assessment prior to initiating treatment in youth  $[4^{--},21]$ . This individualized approach evaluates factors that might complicate the decision to pursue GAC, like a nonlinear experience of gender or the presence of specific mental health conditions.

The recent 'closure of Tavistock' (the Gender Identity Development Service in the UK) is frequently touted by critics as a harbinger that GAC may actually be harmful long-term. However, many issues identified in the report commissioned by the National Health Service (NHS) related to the clinic's structure and capacity as the only provider of GAC in the UK, where patients experienced long wait times and infrequent clinical follow-up. The proposed solutions in the Cass Review include

establishing more well staffed, regional centers, where 'any child or young person being considered for hormone treatment should have a formal diagnosis and formulation, which addresses the full range of factors affecting their physical, mental, developmental, and psychosocial wellbeing [49]'. These recommendations do not prohibit gender affirming care and are consistent with the WPATH and Endocrine Society guidelines [4\*\*,21]. Although existing care would not be interrupted, puberty suppression in youth will only be initiated for patients enrolled in clinical trials [50]. Similar trends have been observed in Norway, Finland, and Sweden [51]. This change in Europe occurred in response to the evidence that regional follow-up for those receiving GAC was inadequate, and to avoid having patients being treated outside of standards of care. This change is being cited by politicians as a reason to ban care in the United States without similar evidence of these concerns.

## LGBT CIVIL RIGHTS HISTORY AND THE SOURCE OF OPPOSITION TO GENDER-AFFIRMING CARE

Although the aforementioned arguments against GAC are ostensibly rooted in health concerns for gender diverse youth, further examination of the parties promulgating opposition tells a different story. The 'Lavender Scare', paralleling the Red Scare, refers to a period when the United States sought to eliminate 'homosexuals' from government jobs for the sake of 'national security [52]'. A common narrative espoused against gay people was that they represented a 'New Moral Menace To Our Youth', which was the title of an article in a mainstream magazine in 1950 [53]. Several institutions of higher education accused teachers and professors of recruiting and organized campaigns to oust them; perhaps the most famous of these was the Florida Legislative Investigative Committee (FLIC) [53]. The 1970s saw a slew of victories for the gay community, including the first pride marches, and elected representatives like Harvey Milk. Within the medical community, Dr John Fryer, a psychiatrist and member of the American Psychiatric Association, came out to his colleagues wearing a full face mask as 'Dr Anonymous', urging his colleagues to remove homosexuality as a mental disorder from the DSM [54]. In 1974, homosexuality was reclassified as a 'sexual orientation disturbance' that without accompanying distress, did not constitute a psychiatric disorder.

In 1976, a particular LGBT antidiscrimination ordinance in Miami drew attention from Anita Bryant (Fig. 1), a lifelong Southern Baptist from



FIGURE 1. Historical parallel in the rhetoric exercised by Anita Bryant (left, 1977, Associated Press) and Ron Desantis (right, 2023, Douglas R. Clifford, Tampa Bay Times AP File).

Oklahoma turned celebrity, most famous for her Florida orange juice commercials. The Southern Baptist Convention in June of that year directed its members to vehemently oppose homosexuality in all contexts [2]. Bryant took up this cause with zeal in a campaign and organization she ultimately titled 'Save Our Children [2,55]'. In her book, she shared a letter she sent to Miami city commissioners opposing the ordinance in which she stated, 'As a concerned mother of four children—ages 13 to 8 years—I am most definitely against this ordinance amendment [because] you would be discriminating against my children's right to grow up in a healthy, decent community [2]'. Bryant's national tour resulted in the repeal of similar antidiscrimination ordinances in cities across the country [56]. Her campaign's success was a galvanizing moment for the founding of the 'Moral Majority', an organization representing the shared interests of Christian Baptist leaders like Jerry Falwell Sr. and republican presidential candidate Ronald Reagan [56]. During the 1979 introduction of the Moral Majority, Falwell walked back his prior stance in support of segregation in favor of issues like opposing abortion and homosexuality, and Reagan pledged his support to the group at the National Association of Religious Broadcasters during his campaign in 1980 [56,57]. This relationship proved to be fruitful for both Reagan, who won the presidential race, and Falwell whose organizations enjoyed a surge in funding and popularity.

Contemporary opposition medical care for trans youth mirrors this historical period in a variety of ways (Fig. 1). Reminiscent of the accusations against

university professors recruiting college students in the 50s-60s, LGBT teachers are being portrayed as 'groomers' for simply existing as their authentic selves [58]. The current crescendo of antitrans legislation progressed from facilities bills or 'bathroom bills', to sports bills, to medical bills and finally censorship bills. Narratives used to support restricting mostly trans women's right to use the bathroom corresponding with their gender identity center on accusations that they represented a threat to cis women and children. A law firm named Alliance Defending Freedom (ADF) sponsored model legislation that was used word-for-word in a number of bills introduced in state legislatures [3]. The ADF describes itself as a 'Christian law firm' and in its 2015 financial disclosure states that its work 'champions inherent God-given freedoms that allow for the flourishing of all people throughout the world while affirming the dignity of every person as created in God's holy image [59]'. Interestingly, the US group has also been linked to hundreds of millions of dollars in spending to oppose LGBT rights overseas, and expert witnesses previously furnished by the ADF in domestic cases have appeared in the high-profile Bell vs. Tavistock case as well [60–62]. Similarly, an Associated Press analysis identified several antitransgender health bills originated from model legislation from the Family Research Council (FRC) [63]. The FRC's mission is 'to serve in the kingdom of God by championing faith, family, and freedom in public policy and the culture from a biblical worldview [64]'. Both the ADF and the FRC openly express opposition to 'gender ideology' on their websites [65,66].

As in the past, elected officials, religious organizations, and media personalities are working synergistically. In a Fox News editorial in the wake of a school mass shooting, political commentator Tucker Carlson, wrote: 'The trans movement is targeting Christians, including with violence' and 'Christianity and transgender orthodoxy are wholly incompatible theologies. They can never be reconciled [67]'.

A frequent collaborator with the ADF [68] and vocal opponent to GAC is the American College of Pediatricians (ACP), an organization of roughly 700 members who split from the much larger American Academy of Pediatrics in 2002 as a result of the group's endorsement of adoption by same-sex couples [69]. The ACP website still lists as one of its objectives 'to promote the basic father-mother family unit as the optimal setting for childhood development [70]'. Other groups of health providers who oppose GAC include Do No Harm and the Society for Evidence-Based Gender Medicine, which do not produce scientific research and whose members are not clinical experts in the field, but whose opinions are frequently cited at legislative hearings and texts opposing GAC [63].

### **LEGISLATION**

The 19 states that have outright banned genderaffirming medical care for trans youth include Alabama, Arkansas, Florida, Georgia, Idaho, Indiana, Iowa, Kansas, Kentucky, Louisiana, Mississippi, Missouri, Nebraska, Montana, Oklahoma, South Dakota, Tennessee, Texas, and Utah [1,71]. Figure 2 depicts these states in dark to represent those with the most stringent laws limiting GAC. North Carolina, Ohio, South Carolina, and West Virginia all have bills that would ban GAC for youth advancing through the legislature.

Despite the emphasis placed on the medical risks of GAC, antitrans legislation and certain state's guidelines have not been limited to medical therapies but extend to every component of genderaffirming care including social and legal components [72]. Florida's 'Parental Rights in Education' bill initially restricted the mere discussion of sexual orientation or gender identity in schools through third grade but was ultimately extended through 12th grade [73,74]. Thirteen other states have proposed legislation that similarly disallow social transition in schools, some by allowing teachers to disregard students' affirmed name and pronouns, and others requiring the disclosure of students' gender identity to parents [75]. Although not explicitly restricting social transition, proliferating book bans effectively limit youth's access to narratives by other gender diverse people and seeks to eliminate trans people from public life [76]. Regarding legal transition, states vary from allowing people to

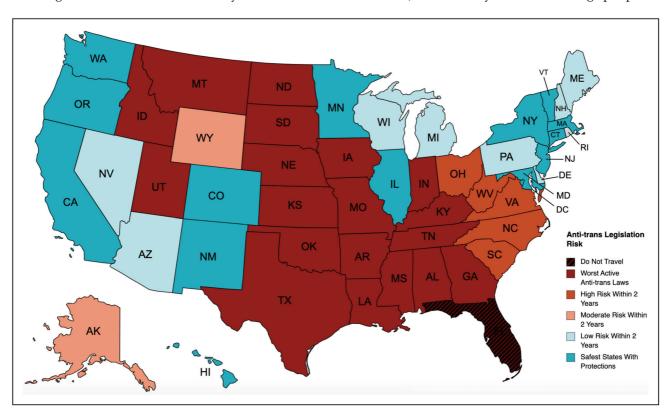


FIGURE 2. Original map by Erin Reed 'June Anti-Trans Legislative Risk Map' [66].

change their gender markers on official documents with no-questions-asked, to requiring proof of surgery or court order, to those that ban gender changes on official legal documents altogether (Montana, Oklahoma, Tennessee, West Virginia) [77].

Despite the increasing rate with which states have pursued legislation to limit GAC for youth, courts have halted its implementation in several cases. In the case, *Brandt v. Rutledge* examining the Arkansas SAFE Act, the judge found it unconstitutional, stating that 'rather than protecting children or safeguarding medical ethics, the evidence showed that the prohibited medical care improves the mental health and well being of patients and that, by prohibiting it, the State undermined the interests it claims to be advancing [78]'. Other states whose laws have been halted by district courts include Alabama, Florida, Indiana, Kentucky, and Tennessee [79].

States who have safeguarded trans youth's access to medical care and other protections deserve equal mention, and include California, Colorado, Connecticut, Hawaii, Illinois, Maryland, Massachusetts, Minnesota, New Jersey, New Mexico, New York, Oregon, Vermont, Washington, and Washington, DC [71]. These states are depicted in blue in Fig. 2. Proposed refugee or 'shield' laws in over a dozen states would block states from prosecuting families who leave the state as a result of laws restricting GAC [71,80].

### **DISCUSSION**

By critically evaluating the origins of the increased criminalization of GAC for youth, it is evident that it stems from political and religious interests and not from concerns within the medical community or patients. With language and events that are eerily similar to the 1970s, we are witnessing the elimination of mere discussion of LGBT people from areas in public life, trans people being dubbed a 'danger to women and children'. and politicians aligning with ideologues for political gain.

Opponents of GAC have carefully crafted narratives that are ostensibly concerned with the health of trans youth, in many cases weaponizing misinformation to undermine trust in providers of this care. Pursuing any medical therapy involves a careful assessment of the risks, benefits, and unknowns. GAC is no different. It is vital that those caring for gender diverse youth resist the temptation to disregard valid concerns that exist among the bad faith arguments in opposition to GAC. Providers in this field openly acknowledge the epidemiological shifts and legitimate potential

risks (fertility, cardiovascular health, development), and are constantly evaluating the evidence and adjusting as necessary. Similarly, we must be forthright with the public on the limitations of existing data, and concede that there will always be individual providers who deviate from the standard of care in any field of medicine. Similarly, we cannot shy away from acknowledging the experiences of those who do detransition, even if they represent a minority of cases. These realities also should not be used as a justification to ban care outright, or infringe on the rights of patients, their parents, and doctors to make informed medical decisions.

Given that legislation limits even social behavior and adults' access to GAC, it is clear that the opposition is not narrowly opposed to aspects of gender-affirming medical care for youth but more broadly to the existence of trans people as a whole. It is vital that providers caring for trans and gender diverse youth recognize that the same organizations are responsible for antiabortion and anti-LGBT legislation, neither of which are supported by evidence-based medicine. The antiscientific push to limit abortion has similarly been supported by the ADF, who openly claims credit for helping overturn Roe v. Wade [81].

Hospitals' responses to state criminalization have mostly been characterized by quiet acquiescence. Several Texas hospitals saw gender clinics for youth disbanded or providers let go in response to state actions including investigations by their Attorney General [82–84]. In addition to actions of the state, providers have also had to contend with targeted harassment campaigns and even bomb threats from individuals who oppose GAC [85].

This interference with the practice of medicine sets a worrisome precedent in the United States and the world. Similar to the case of abortion bans, medical providers are left with an ethical dilemma of whether to follow good medical practice or break the law. Providers can suffer from 'moral distress', a term used to describe health providers who experience a failure of meeting a binding moral requirement when the requirement was impossible to meet [86].

For this reason, lawsuits halting bans of GAC have been initiated not only by patients but also by physicians on the basis of interfering with their right to practice medicine within standards of care, as well as on being forced to discriminate against patients because of their gender identity [78,87]. Under the same premise, at least one physician has presented a lawsuit against her hospital for prohibiting her from providing GAC [88].

An important negative implication is the flux of physicians or medical trainees out of states that restrict GAC or have oppressive LGBT politics. Some are leaving due to 'moral distress' or because they have built their professional careers in gender medicine, some are residents or young doctors looking for training and exposure in this field, and some are members of the LGBT community themselves [89]. Furthermore, as seen with abortion, the lack of exposure to GAC will leave a void in medical education and resident training, and will limit research and advancement in the field to those states and parts of the world where care can be provided. Although those opposed to this GAC cite the inadequacy of research, banning care will only exacerbate this problem.

The impact of this movement to restrict medical care for trans youth cannot be overstated. Legislation pertaining to discrimination has been demonstrated to affect mental health of sexual and gender minority individuals, and practitioners in Florida are already observing increased suicidality among youth because of the new restrictive laws [90]. Trans youth face unacceptable trauma not only because they are unable to access necessary medical care, but because of broader societal discrimination, with 86% reporting their mental health has been negatively affected by recent antitrans legislation and one-in-three reporting they felt unsafe going to the doctor or hospital [91].

### **CONCLUSION**

Regarding GAC, concerted efforts among well funded politicians, religious legal organizations, and commentators have eclipsed the body of evidence and expert consensus, and effectively disrupted the physician–patient relationship. It is vital that the medical community as a whole confront these forces directly. Education must not be limited to the evidence supporting these therapies but include an understanding of political & structural forces at play, and mechanisms to leverage power.

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None.

### **Conflicts of interest**

There are no conflicts of interest.

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rnis is the list study to use a novel measure of global self-perception to evaluate effects of GAC in youth, and which includes scholastic competence, social acceptance, athletic competence, physical appearance, behavioral conduct, close friendship, and global self-worth. GAC was associated with improved self-perception measures.

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