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Research Article

Exploring the Impact of Legislation Aiming to Ban Gender-Affirming Care on Pediatric Endocrine Providers: A Mixed-Methods Analysis

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Abstract

Context: Access to gender-affirming medical care is associated with better mental health outcomes in transgender and gender diverse youth. In 2021 and 2022, legislation aiming to ban gender-affirming medical care for youth was proposed in 24 states.

Objective: This study aimed to (1) assess the impact of this legislation on pediatric providers based on legislative status of their state of practice and (2) identify the themes of concerns reported by them.

Methods: A mixed-methods study was conducted via an anonymous survey distributed to pediatric endocrinology providers. Survey responses were stratified based on US state of practice, with attention to whether legislation aiming to ban gender-affirming care had been considered. Data were analyzed both quantitatively and qualitatively.

Results: Of 223 respondents, 125 (56.0%) were currently providing gender-affirming medical care. A total of 103 (45.7%) respondents practiced in a state where legislation aiming to ban gender-affirming care had been proposed and/or passed between January 2021 to June 2022. Practicing in legislation-affected states was associated with negative experiences for providers including (1) institutional pressure that would limit the ability to provide care, (2) threats to personal safety, (3) concerns about legal action being taken against them, (4) concerns about their career, and (5) institutional concerns about engagement with media. Major qualitative themes emerging for providers in legislation-affected states included safety concerns and the impact of laws on medical practice.

Conclusion: This study suggests that legislation aiming to ban health care for transgender youth may decrease access to qualified providers in affected states.

Key Words: legislation, gender-affirming medical care, gender diverse youth, transgender, health equity

Abbreviations: GAMC, gender-affirming medical care; TGD, transgender and gender diverse.

Among youth aged 13 to 17 years in the United States, 1.4% identify as transgender, with an increasing number of transgender and gender diverse (TGD) adolescents presenting for gender-affirming medical care (GAMC) globally [1-3]. Guidelines on GAMC published by the Endocrine Society and the World Professional Association for Transgender Health recommend considering the use of gonadotropin-releasing hormone agonists and gender-affirming hormone therapy, when appropriate, in adolescents with gender dysphoria [4, 5]. The use of these therapies is considered standard of care by all major medical organizations [6].

Research consistently links access to GAMC to improved mental health outcomes among TGD youth [7-19]. Although access to GAMC has been increasing, the vast majority of TGD youth are unable to access gender-affirming hormones [8]. Despite demonstrable benefits, legislation aiming to ban medically necessary GAMC was introduced in 24 states in the United States in 2021 and 2022 [20-27]. As of July 24, 2023, the number of states with legislation aiming to ban GAMC rose to 28, and 20 states out of those have already passed the bills to become law to restrict GAMC for TGD youth [28]. Preliminary injunctions have been issued against legislation in Alabama, Arkansas, Florida, Indiana, and Kentucky allowing a temporary continuation of access to care [28, 29]. Perceptions of the impact of proposed legislation aiming to ban GAMC have been previously described in a limited number of studies [30-32]. However, no data on the differential impact on medical providers practicing in states that have considered or enacted legislation aiming to ban GAMC have been published. In particular, the impact on

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pediatric endocrinologists, who are often called upon to provide consultation in the use of puberty-blocking medications and gender-affirming hormones for TGD youth, has not been studied [33, 34].

Awareness of the impact of such laws on medical providers is essential for understanding how legal restrictions may impact access to GAMC for TGD youth and affect the provider workforce. The study aimed to (1) assess the impact of proposed legislation on pediatric providers based on legislative status in their state of practice and (2) identify the themes of concerns reported by medical providers.

Materials and Methods

Survey Development

In alignment with aims of the study and experience of providers in light of proposed legislation banning GAMC, a survey was developed and approved by Boston Children's Hospital's Institutional Review Board. The survey questions were organized into 3 sections, with the first section addressing respondent demographics including role and time in practice, practice environment, and the state of primary practice [35]. We did not obtain demographic information such as age, ethnicity, and race to protect anonymity of the respondents.

The second section comprised questions on whether respondents currently participated in medical care of TGD youth. If the respondent indicated that they provide GAMC to TGD youth, they were asked questions pertaining to experiencing institutional pressures limiting ability to provide GAMC, impact on career, perceived risk for legal action being taken related to providing GAMC, effect on medical liability insurance for the provision of GAMC, and concerns for personal safety at work and/or home.

The third section included questions on institutional engagement in advocacy for TGD youth and institutional concerns in response to legislation aiming to ban GAMC and/or pediatric transgender health programs being closed. A space was provided for open comments.

Table 1. Demographics of the respondents (n= 223)

	n (%)
Clinical role	
Pediatric endocrinology fellow	19 (8.6)
Pediatric endocrinology attending for <5 years	40 (17.9)
Pediatric endocrinology attending for 6-10 years	27 (12.2)
Pediatric endocrinology attending for 11-20 years	60 (26.9)
Pediatric endocrinology attending for 21-30 years	34 (15.2)
Pediatric endocrinology attending for >30 years	33 (14.8)
Other (Advanced practice provider etc.)	9 (4.0)
Not reported	1 (0.4)
Primary focus area	
Clinical care	170 (76.2)
Administrative duties	6 (2.7)
Research	35 (15.7)
Education	4 (1.9)
Industry-related	0 (0.0)
Government related agency (eg, FDA)	1 (0.4)
Other (retired etc.)	4 (1.8)
Not reported	3 (1.3)
Practice setting	
Academic institute	171 (76.7)
Private solo practice	9 (4.0)
Private group practice	20 (9.0)
Community health center	4 (1.9)
County hospital	1 (0.4)
Other (combination etc.)	17 (7.6)
Not reported	1 (0.4)
US Region	
Northeast	63 (28.2)
Midwest	41 (18.4)
South	80 (35.9)
West	39 (17.5)

Recruitment

An email invitation was sent to members of the Pediatric Endocrine Society on May 18, June 1, and June 15, 2022, with a subject heading "Survey on Exploring the Impact of Anti-Trans Legislation on Pediatric Endocrinologists." The body of the email included a description of the study and a link to the anonymous REDCap survey [36]. The survey was closed on June 30, 2022.

Quantitative Methods

Survey responses were included if respondents practiced pediatric endocrinology within the United States, selected a US state, and completed >75% of the survey. Quantitative data analysis and generation of figures was performed using GraphPad Prism (San Diego, CA) and was verified using XLSTAT Cloud in Excel. Descriptive statistics (numbers and percentages) were used to describe categorical variables. Survey respondents were subdivided based on whether they practiced in a US state that had proposed and/or passed legislation aiming to ban GAMC for TGD youth between January 2021 and June 2022. This determination was based on multiple online resources (Table S1 [37]) [20-23, 25, 27, 38]. A chi-square test was performed to compare categorical variables. Statistical significance was defined as $P < .05$.

Qualitative Methods

Embedded mixed methods approach was used since the qualitative analysis was embedded in the quantitative analysis. Consistent with thematic analysis processes outlined by Braun and Clarke, 5 coders (all authors) reviewed the open-ended responses to explore themes [39]. Upon completion of the initial thematic exploration, the team met together over multiple meetings to develop a preliminary list of codes, guided by 2 authors who have previously analyzed qualitative data using these methods [40-43]. When disagreements arose, consensus on codes was reached through discussions among authors [44]. Common codes were used to generate themes refined through discussions. Findings are presented within an analytic narrative framework guided by the research questions.

Results

Characteristics and Practice Patterns of the Survey Respondents

A total of 230 surveys were initiated, 223 were included in the analysis and 7 excluded (ie, completed <75% survey, US state not provided, or practicing outside the United States). The respondents had a varied distribution of duration of clinical practice (Table 1). The majority (n = 170, 76.2%) of survey respondents were involved in clinical care duties as a primary focus area, followed by research (n = 35, 15.7%). Most survey respondents (n = 171, 76.7%) practiced primarily at an academic medical center followed by private group practices (n = 20, 9.0%). There was varied distribution of the respondents across US census regions (Table 1).

Of survey respondents, 103 (46.2%) practiced in states where legislation aiming to ban GAMC for TGD youth was either proposed or passed between 2021 through June 2022 and 120 (53.8%) practiced at the states where such legislation had not been proposed or passed. One hundred and twenty-five (56.0%) respondents reported providing GAMC to TGD youth and 74 (33.2%) reported they did not. Twenty-three (10.8%) additional respondents reported not providing GAMC to TGD youth but expressed either future interest in or support for providing GAMC (Fig. 1A). Almost 80% (n = 179) of all respondents identified a colleague within their division or an alternate provider at their institution who provides GAMC to TGD youth. Out of 125 providers who reported providing medical care to TGD youth, 47 (37.6%) providers practiced in states where legislation aiming to ban GAMC had been proposed or passed between 2021 and June 2022, and 78 (62.4%) practiced in legislation-unaffected states (Fig. 1A and 1B). Significantly fewer providers who delivered GAMC practiced in a state that had proposed and/or passed legislation aiming to ban GAMC (45.6% of respondents in legislation-affected states compared with 65.0% of respondents in legislation-unaffected states, $P = .035$; Fig. 1C).

Assessment of Concerns From Providers Delivering Gender-Affirmative Care

The 125 respondents who indicated that they provide GAMC to TGD youth were surveyed with additional questions on the personal impact of legislation aiming to ban GAMC. Twelve percent (n = 15) reported experiencing pressures from their institution that would limit their ability to provide GAMC, and this concern was significantly higher ($P = .011$) among providers practicing in legislation-affected states (21.3%) than providers in legislation-unaffected states (6.4%; Table 2 and Fig. 2A). There were 14.4% (n = 18) of participants who expressed concerns that providing transgender health care might negatively impact their career (eg, recommendation for promotion, job security, etc. [Table 2]). This concern was significantly higher ($P = .003$) among providers practicing in legislation-affected states (27.7%) than providers in legislation-unaffected states (6.4%; Fig. 2B).

Over half (n = 74; 59.2%) of respondents providing GAMC to TGD youth agreed they were concerned about the risk of legal action related to including GAMC in their practice (Table 2). Concern for medical liability was significantly higher ($P = .011$) in survey participants in legislation-affected states (74.5%) reporting the concern than in participants in legislation-unaffected states (50%) reporting this concern (Fig. 2C). Additionally, 16.8% (n = 21) of respondents providing GAMC to TGD youth expressed that they had either in the past, or currently, experienced concerns for personal safety in the work and/or home settings related to providing GAMC for TGD youth. Like other concerns, threats to personal safety were significantly greater ($P = .027$) in participants practicing in legislation-affected states (27.7%) than in providers practicing in legislation-unaffected states (11.5%; Fig. 2D). None of the 125 respondents who provide medical care to TGD youth reported threats, withdrawal, or cessation of medical liability coverage for the provision of GAMC.

Institutional Advocacy and Concerns About Media Engagement

Many participants (n = 89; 39.9%) reported that their institution participates in advocacy for TGD youth (Table S2 [45]). Interestingly, there was no significant difference ($P = .45$) in institutional advocacy between respondents in legislation-affected (36.9%) and unaffected states (42.5%; Fig. 3A). Additionally, 17% (n = 38) of respondents reported that their institution had concerns about them engaging with the media (eg, interviews, publishing Op-eds, etc.) in response to legislation aiming to ban GAMC and/or pediatric transgender health programs being closed. Endorsing concerns from their medical institution related to a provider engaging with the media were statistically increased ($P = .001$) in respondents practicing in a legislation-affected state (26.2%) compared with respondents in legislation-unaffected states (9.4%; Fig. 3B; Table S2 [45]).

Thematic Analysis of Open-Ended Responses

Through discussion, several themes arose in the evaluation of qualitative material. Several themes were common in all respondents while other themes were specific to individuals in legislation-affected states and legislation-unaffected states. The first theme identified across the participants was the importance of ongoing research in care practices for TGD youth so that providers could make informed decisions about their medical care. One respondent stated that it was important to "encourage research to strengthen in the dated [sic] to show that transgender care is beneficial to the children and finally highlight the really good work that is currently being done and how specifically pediatric endocrinologists are taking a very thoughtful individualized approach to each child they see…."

Another theme that emerged was the need for better mental health support for TGD youth. Multiple comments emphasized the need for more providers trained to support TGD youth and the need for enhanced expertise in providers working with TGD adolescents. One respondent stated, "I believe transgender youth should be treated with respect, in a caring way to provide the opportunity to explore the understanding of their gender identity as a small portion of who they are as individuals…." Another stated, "I cannot emphasize enough the need for legislation to provide adequate mental health care not only in this population but in general."

Both themes reflect issues that are largely unrelated to the legislative context. The first theme reflects the understanding, and sometimes a frustration, that the field of endocrine care for TGD youth is one that would benefit from additional research to support medical practice. The second theme

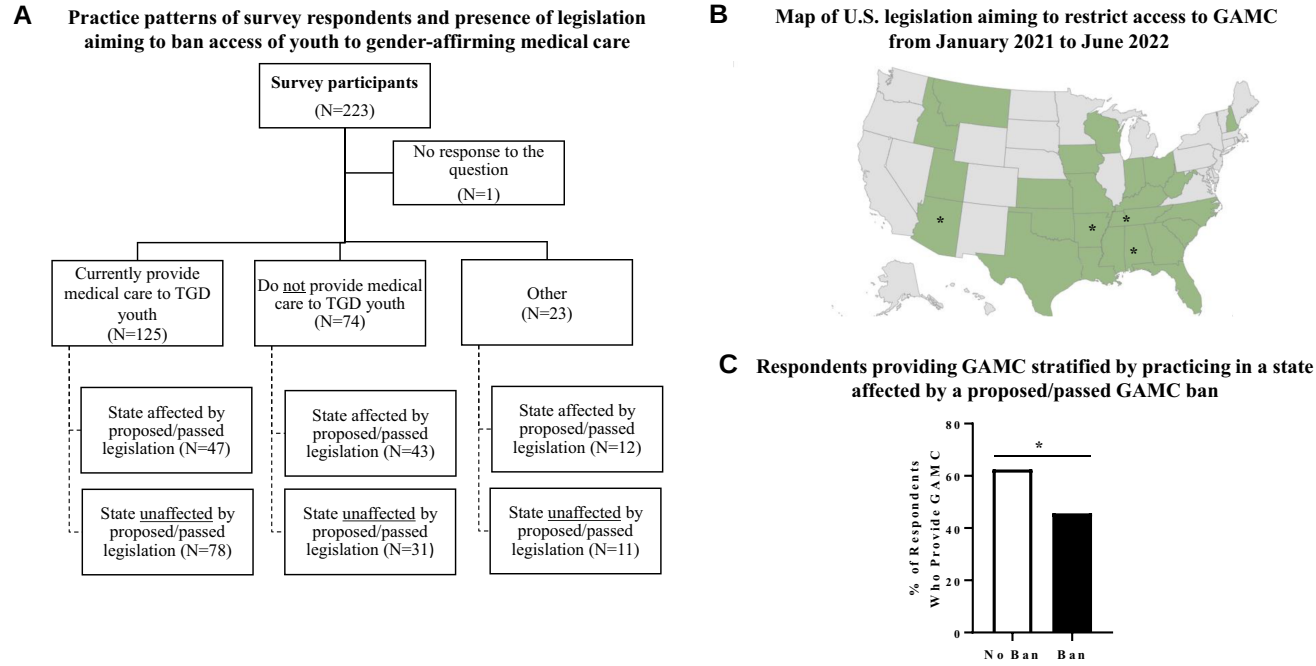

Figure 1. (A) Practice patterns of survey respondents and status of legislation aiming to restrict access of youth to gender-affirming health care. "Other" refers to respondents who do not provide GAMC but are interested in providing care. (B) Map of US legislation during the survey period (January 2021-June 2022) aiming to restrict access to gender-affirming health care (affected states; green shading). Asterisk denotes US state where this legislation has been passed. (C) Providing GAMC is significantly reduced in pediatric endocrinologists practicing in a state affected by a proposed or passed GAMC legislative ban (black bar) compared to those in states not affected by a ban (white bar). $*P < .05$ by chi-square test. GAMC, gender-affirming medical care.

emphasizes that, regardless of legislative environment, there are needs for additional supports for TGD youth, particularly in the realm of mental health.

Legislation-Affected States

Two themes were identified from participants practicing in states that had been affected by legislation aiming to ban GAMC for TGD youth. First, 1 theme was a need to understand how such laws affected their medical practice. As 1 respondent stated, there was a need to "keep pushing science" but they "will not break the law when/if changed." Another stated that their professional society should "provide legal assistance to physicians in states which have passed laws punishing transgender caregivers."

Another theme identified was that providers were concerned about their own safety and the safety of their patients. Respondents expressed concerns, such as "We and our patients are living in consistent fear," and that "Parents also feel threatened and have been [no-showing] to appointments due to fear of being reported to CPS (Child Protection Services)." Respondents talked about the effects of this fear for themselves and on their patients. As 1 stated, "the amount of political pressure against my transgender patients has been extremely detrimental to my mental and physical health. I have never been ill so much. I am terrified every day by what my state will do to our transgender children." Another mentioned that "Anxiety scores are clearly higher now in our clinic." This could also lead to a loss of providers in some states with 1 provider stating that, "As I begin to look for faculty positions, I will not be looking in states that support anti-trans legislation. This ultimately will impact an entire population that needs endocrine care for various reasons, but I cannot work in a state that does not support health equity."

Both themes reflect realistic assessments about factors likely to affect providers living in legislatively affected states. There are substantial practical concerns around licensure related to the care of TGD youth.

Legislation-Unaffected States

Providers in unaffected states recognized a need to advocate for better legislation to maintain access to care for patients and families, including a need to "promote legislation for federal protection." As 1 person stated, there is a need for "active involvement in trying to overturn legislation that prohibits gender diverse youth from obtaining gender affirming care."

Interestingly, an additional theme that arose from providers in unaffected states was the need to explore what other types of medical providers can assist with providing care for TGD youth, as in adults, GAMC is primarily in the domain of primary care providers rather than endocrinologists [46]. One stated, "Our institution's goal is to broaden the sources of gender affirming care so that the leadership and support does not fall solely on endocrinologists. This has been helpful in encouraging primary care clinics to support gender dysphoric patients who may or may not be ready for hormonal therapies." Other respondents recognized that transgender care is broader than endocrine care. One stated, "It is important work but more and more I feel care needs are beyond my scope." It is possible that working in an unaffected state may allow providers a broader scope of imagination for ways to improve TGD care.

Table 2. Assessment of concerns from pediatric endocrine providers delivering gender-affirming medical care (n = 125)

	n (%)
"Have you in the past, or are you currently, experiencing institutional pressures that would limit your ability to provide GAC?"	
Yes	15 (12.0%)
No	109 (87.2%)
Other (eg, possible future concern)	1 (0.8%)
"Do you have any concerns that providing GAC as part of your practice may negatively impact your career (eg, recommendation for promotion, job security, etc.)?"	
Yes	18 (14.4%)
No	86 (68.8%)
Unsure	19 (15.2%)
Other (eg, would impact but will continue the work)	2 (1.6%)
"Do you have any concerns that you are risk for legal action being taken against you now or in the future related to GAC you provide?"	
Yes	74 (59.2%)
No	30 (24%)
Unsure	20 (16%)
Other	0 (0%)
Not reported	1 (0.8%)
"Have you in the past, or are you currently, experiencing concerns for your personal safety in the work and/or home settings related to providing GAC?"	
Yes	21 (16.8%)
No	101 (80.8%)
Other	2 (1.6%)
Not reported	1 (0.8%)

Abbreviation: GAC, gender-affirming care.

Discussion

TGD youth experience multiple barriers to accessing GAMC. These barriers include inadequate ongoing mental health support, health care discrimination, intense fear of consequences, experiencing prejudice, etc. [47, 48]. These barriers exist despite broad consensus among professional organizations that this care is safe and medically necessary [49]. There is evidence that banning GAMC contributes to increased distress and worsening health outcomes in TGD youth [26]. Ninety-three percent of TGD youth reports concerns about being denied access to GAMC due to state or local laws [50]. In a survey-based study, 273 parents and caregivers of TGD youth from 43 US states expressed fear that the proposed antitransgender legislation will lead to worsening mental health and increased suicidal risk for their children [51]. Only a few studies have examined the impact of legislation aiming to ban GAMC [30, 31, 51, 52]. TGD youth have lower quality of life than cisgender youth and we speculate that these legislative bans may further worsen their quality of life [53].

A previous study of 103 US pediatric providers who provide GAMC found that most providers believed that legislation aiming to ban GAMC for TGD youth would lead to increased mental health problems, particularly suicide, among youth [31]. Themes that were reported in this survey were legislation defies standard of care, concern for worsening of mental health for TGD youth, and adverse impact on providers [31]. That study also included ~40% of respondents who practiced medicine in a state affected by legislation aiming to ban GAMC, proposed, and/or passed. Our findings add to that work by examining the association of reported negative impacts with practicing medicine in a legislation-affected state. Interestingly, regardless of legislative status, similar proportions of respondents stated their institutions had been engaged in advocacy to oppose legislation aimed at restricting TGD youth's right to access health, although, this was less than half of respondents.

Our study contributes to limited available data documenting the potential for harm resulting from legislation aiming to restrict the rights of TGD youth to GAMC. Themes identified in our qualitative analysis included respondents in unaffected states discussing the need to advocate for better legislation that protects TGD youth. Respondents in legislative-affected states expressed fear for their personal safety, something which has not been previously reported. In our study, providers across both legislatively affected and unaffected states have been targeted by protests and threats, but the fact that this theme only arose among providers in affected states suggests that the safety risks may feel more salient to them. Themes shared regardless of legislative-status included the importance of ongoing research, the need for better mental health support, and a desire for more guidance around recommended ages of medical treatment, areas which have also been recognized as priorities by the TGD community [54].

Most respondents practicing in legislative-affected states reported concerns about legal action taken against them, and many also reported concerns about their future careers and personal safety. Importantly, these concerns were not exclusive to providers in affected states. More than 10% of survey respondents in legislation-unaffected states expressed concern about experiencing threats to personal safety and approximately half endorsed feeling concerned about legal action taken against them. Recent months have seen an increase in threats reported against providers including legislative-unaffected states, mainly driven by social media, and occurred after the distribution of our survey; therefore our results may in fact underrepresent the current impact on medical providers [55].

Our findings support that legislation aiming to ban GAMC may result in a shortage of medical providers providing not only medical care to TGD youth but also general pediatric endocrinologic care, resulting in an increased number of "care deserts" [56]. According to the American Board of Pediatrics, the final fill rate of pediatric endocrinology fellowships declined from 101.2% in 2014 to 85.4% in 2018, resulting in an increase in unfilled training positions [57]. As of 2019, 3.4 million children and adolescents reside >80 miles away from a pediatric endocrinology subspecialist [58]. The American Board of Pediatrics reports only 2218 pediatric endocrinologists have been certified from 1978 to present [59]. This number reflects a small workforce of pediatric endocrinologists and therefore highlighting the critical shortage of these subspecialists. While it is clear that increasing shortages would add to existing health care barriers for TGD youth, it is likely that the effects of these shortages would not be limited to medical services for TGD youth [48, 60]. The impact of criminalizing an aspect of

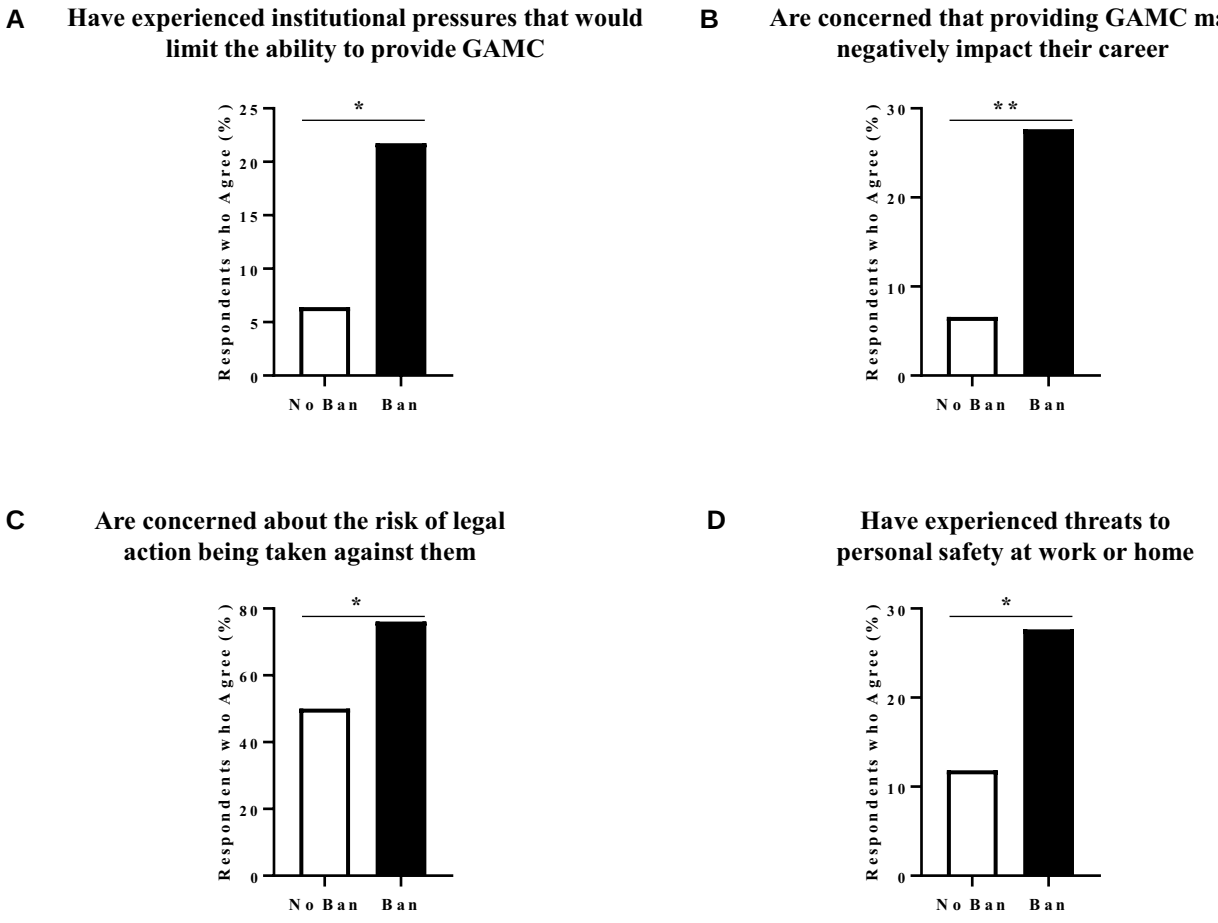

Figure 2. Pediatric endocrine providers practicing in a state affected by a proposed or passed GAMC ban (black bars) had significantly higher rates of agreement in response to the questions (A) "Have you in the past, or are you currently, experiencing institutional pressures that would limit your ability to provide gender-affirming healthcare?", (B) "Do you have any concerns that providing trans health care as part of your practice may negatively impact your career (eg, recommendation for promotion, job security, etc.)?", (C) "Do you have any concerns that you are at risk for legal action being taken against you now or in the future related to the gender-affirmative care you provide?", and (D) "Have you in the past, or are you currently, experiencing concerns for your personal safety in the work and/or home settings related to providing gender-affirmative care?" compared with those with no proposed and/or passed GAMC ban (white bars). $*P < .05$; $**P < .01$; both by chi-square test. GAMC, gender-affirming medical care.

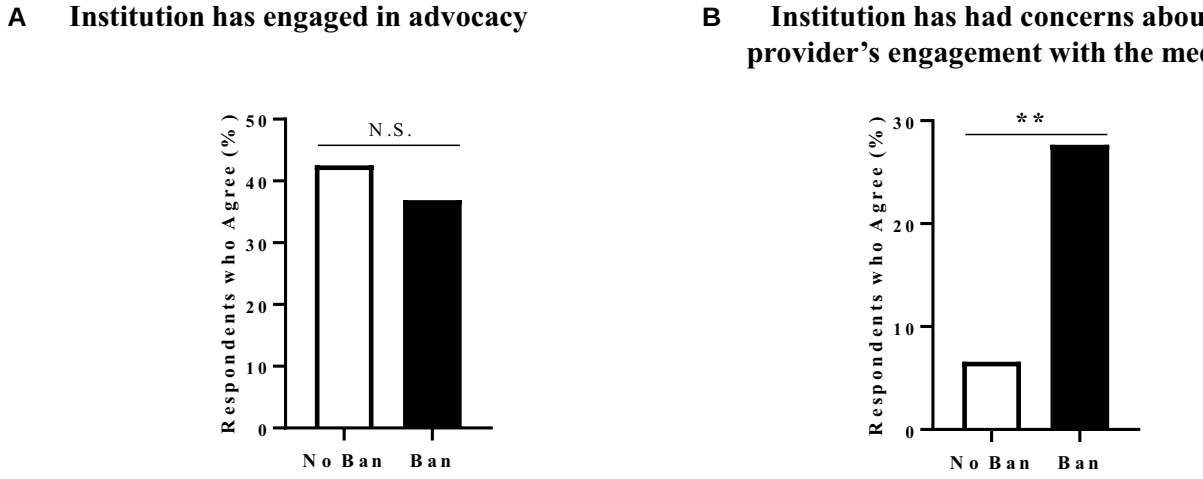

Figure 3. (A) The likelihood that the medical institution of pediatric endocrine providers engaged in advocacy (eg, "To your knowledge has your institution engaged in any efforts to advocate [eg, published public statements, testified in a legislative session] in opposition of legislation [regardless if in your immediate state] aimed at restricting transgender youth's right to access health care?") was not associated with practicing in a state affected by a proposed or passed GAMC ban (black bar) compared with those with no ban (white bar). (B) Pediatric endocrine providers practicing in a state affected by a proposed or passed GAMC ban (black bar) had significantly higher rates of agreements in response to the question "Has your institution had any concerns about you engaging with the media (eg, interviews, publishing OpEds, etc.) in response to anti-trans health care bans and/or pediatric transgender health programs being closed?" compared with those practicing in states with no ban (white bar). $**P < .01$ by chi-square test.

their clinical practice could be experienced by youth with a wide variety of endocrine concerns (eg, type 1 diabetes) by diminishing the already limited supply of providers available to care for them.

Our study has certain limitations. This survey population only included pediatric endocrinology providers and may not represent the experience of other specialists (eg, pediatricians, family practitioners, adolescent medicine providers), although a similar study did not report differences based on subspecialty [31]. The survey responses might also not represent all Pediatric Endocrine Society members as the survey was sent to 1633 recipients yielding a response rate of 13.7%. While it might seem low, the response rate was higher than most surveys distributed by the Pediatric Endocrine Society [41, 61, 62]. The findings may also not be generalizable to medical providers outside of the United States. In-depth interviewing was not performed and remains a future need. While our study focused on access to medical care, we acknowledge this is only part of the lived experience of TGD youth and not all TGD youth are interested in GAMC.

Conclusion

TGD youth currently face numerous barriers in accessing essential medical care. Legislation aiming to ban GAMC has previously been shown to raise concern for the well-being of TGD youth among parents, caregivers, and gender-affirming pediatric providers. Our data suggest that gender-affirming pediatric endocrinology providers experience significant barriers to providing medically necessary care in states where GAMC bans have been proposed or passed, although the effects of such legislation are not limited to providers working in affected states. Providers highlight concerns for the safety of medical providers and their patients as well as the risk that these bans may limit access to pediatric endocrinology more generally in affected states. In all, our data suggest that legislation aiming to ban GAMC has a negative effect on pediatric providers, which risks negatively impacting child health.

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Disclosures

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper. The authors declare no financial interests/personal relationships which may be considered as potential competing interests.

Data Availability

Some or all datasets generated and analyzed during the current study are not publicly available but are available from the corresponding author upon reasonable request.

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