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Providing Transgender Patient Care: Athletic Trainers' Compassion and Lack of Preparedness

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Context: Previous researchers have indicated that athletic trainers (ATs) had a favorable view of treating transgender patients, yet the ATs did not perceive themselves as competent in their patient care knowledge or abilities.

Objective: To gain more in-depth information about ATs' knowledge and experiences regarding the health care needs of transgender student-athletes.

Design: Mixed-methods study.

Setting: Individual, semistructured follow-up interviews.

Patients or Other Participants: Fifteen ATs (4 men, 10 women, 1 transgender female; age = 34 ± 9 years, experience = 11 ± 8 years) who took part in a cross-sectional survey in April 2018.

Main Outcome Measure(s): The interviews were audio recorded and transcribed verbatim. Member checking was completed to ensure trustworthiness of the data. Next, the data were analyzed via a multiphase process and 3-member coding team who followed the consensual qualitative research tradition. The coding team analyzed the transcripts for domains and categories. The final consensus codebook and coded transcripts were audited by a member of the research team for credibility.

Results: Four main domains were identified: (1) perceived deficiencies, (2) misconceptions, (3) concerns, and (4) creating safety. Participants described knowledge deficiencies in themselves, health care providers within their units, and providers able to provide safe transition care. The ATs demonstrated misconceptions when defining *transgender* and *transitioning* and when describing how the body responds to hormone replacement therapy. They expressed concern for the mental health and wellness, self-image, and potential cost of transgender health care for transgender student-athletes. However, participants also described efforts to create safety within their units by validating transgender patients, instilling trust, adjusting the physical environment, and engaging in professional development to improve their knowledge.

Conclusions: Athletic trainers wanted to create a safe space for transgender student-athletes but lacked the necessary knowledge to treat transgender patients. Professional resources to improve their knowledge, skills, and abilities in caring for transgender patients are a continuing need.

Key Words: continuing education, professional development, LGBTQIA+, intercollegiate athletics

Key Points

- Athletic trainers continued to describe a lack of knowledge in caring for transgender student-athletes despite efforts to engage in professional development in order to help them create safe environments.
- Misconceptions were evident when athletic trainers defined the terms *transgender* and *transitioning* and characterized the physiological response to hormone replacement therapy.
- Athletic trainers were concerned for their transgender student-athletes, recognizing the potential damage an unsafe environment can cause for their self-image and mental health and wellness.

Transgender patients face a lack of access to health care, with 20% to 30% not having a primary care provider and 52% unable to obtain health care services because of financial barriers.[1] In *Standards of Care for the Health of Transsexual, Transgender, and Gender Nonconforming People*, seventh version,[2] the World Professional Association for Transgender Health outlined the need for education and training to enhance transgender patient outcomes. However, despite this document and other clinical practice guidelines,[3] a lack of education in this area among health care providers remains a substantial barrier for transgender patients. In a study examining the hours specifically dedicated to the health care of lesbian, gay, bisexual, and transgender (LGBT) patients, Obedin-Maliver et al[4] reported that medical schools taught a median of 5 hours of content. Among the respondents, 33% reported teaching no LGBT-related educational content during the preclinical and clinical years.[4] Specific to athletic training, the Commission on the Accreditation of Athletic Training Education outlined the "Patient-Centered Care Curricular Content Standard,"[5] which specified that an athletic trainer (AT) must advocate for the health needs of

clients, patients, communities, and populations. Athletic trainers must also comply with the *BOC Standards of Professional Practice*, which states one "renders quality patient care regardless of the patient's age, gender, race, religion, disability, sexual orientation, or any characteristic protected by law."[6(p3)] Despite the regulatory initiatives guiding clinical practice, it remains unclear if and how clinicians are implementing these standards in their practices.

As more transgender athletes continue to be included within organizational sports, ATs must have a foundational level of knowledge regarding the physiological effects of hormone replacement therapy. In the athletic arena, several policies, such as the 2011 National Collegiate Athletic Association (NCAA) statement on inclusion of transgender student-athletes[7] and the 2015 International Olympic Committee consensus document,[8] have allowed transgender athletes to participate in sport. The publications outlined regulations specific to hormone replacement therapy that transgender athletes must meet before competing on a sport team. For those who identify as male-to-female transgender, various physiological factors change during hormone replacement therapy, including lower maximal cardiac output, lower maximal oxygen uptake, lower blood volume, less lean body mass, lower hemoglobin level, greater percentage of body fat, and more high-density lipoproteins.[9] Although researchers[2,8,9] have outlined the side effects of hormone replacement therapy in athletes, data surrounding ATs' knowledge of these specific physiological responses in the transgender population are lacking.

In addition to understanding the physiological effects of hormone replacement therapy in transgender patients, ATs must also be knowledgeable about the psychological concerns specific to transgender patients. Mental health concerns, including suicidality, depression, anxiety, substance abuse, and experiences of victimization and stigma, are greater among transgender and nonbinary adults than among their cisgender counterparts.[10] Previous investigators[11] identified that mental health concerns among the transgender community could be mitigated by access to empowering health care and social support. Suicidal ideation decreased when transgender patients received affirming interventions, and depression decreased when transgender adults had providers they considered to be transgender affirming.[12] Although evidence[9] suggested that affirming health care providers played a substantial role in the mental health of transgender patients, a gap in the athletic training literature exists regarding knowledge of psychological concerns.

Researchers[13] in athletic training demonstrated that ATs were comfortable treating patients who identified as transgender yet lacked comfort and competence in specific aspects of transgender patient care. They perceived themselves as less competent in counseling transgender patients on mental health concerns, the effects of hormone treatments on sport participation, and, and how hormone levels can affect the drug-screening processes of the NCAA, National Association of Intercollegiate Athletics, or other sport regulatory bodies, as well as adjusting exercise prescription based on hormonal differences in transgender student-athletes.[14] The purpose of our study was to gain more in-depth information about ATs' knowledge and experiences regarding the health care needs of transgender student-athletes in order to enhance the future health care that ATs provide to these patients.

METHODS

Research Design

We followed a sequential, explanatory mixed-methods approach. In April 2018, we conducted a cross-sectional survey of collegiate and university ATs (n = 667) from both the NCAA and National Association of Intercollegiate Athletics to assess their perceived competence and educational influences in caring for collegiate transgender student-athletes. At the end of the quantitative survey, the respondents provided their email addresses if they were interested in participating in a follow-up interview on the topic. After analyzing the quantitative survey results, we determined that it was imperative to create an interview plan to identify the knowledge and experiences of these ATs regarding the health care needs of transgender student-athletes. The design for the follow-up study described in this manuscript centered on in-depth interviews to produce textual data. The 2 parts were independently reviewed and approved by the Institutional Review Board of Indiana State University.

Participants and Sampling

From the initial cross-sectional survey, 59 ATs (8.8% of the study population) expressed interest in completing a follow-up interview with the research team. One year after the initial survey was completed, we emailed the 59 ATs a form letter reminding them of their participation in the previous cross-sectional survey and their interest in a follow-up interview. We used a 1-year follow-up period to allow participants to make informed decisions on the topic, introduce new patient care experiences, or explore the topic in their own time.

After recruitment, 15 ATs confirmed their continued interest and completed follow-up interviews. All participants were current or previous collegiate or university ATs during the cross-sectional survey; however, several had changed job settings during the intervening year. On average, the participants were 34 ± 9 years old (range = 25–57 years) and had 11 ± 8 years of experience as a credentialed AT. Most (n = 10, 66.7%) stated they had a friend or family member who identified as transgender. Participant characteristics, including job setting, gender, and sexual orientation, and pseudonyms are provided in Table 1.

Data Collection

Interview Protocol. We connected the quantitative and qualitative phases of this research project by developing the interview protocol. The meaningful data extracted from the cross-sectional survey guided question development. We created an interview protocol with 11 primary questions and 7 potential follow-up questions. After ethics approval was obtained, the interview protocol was piloted for question clarity and approximate duration with 2 ATs who were ineligible to participate but met the inclusion criteria (ie, AT in the collegiate or university setting). The pilot interviews lasted 25 and 38 minutes. The pilot

Table 1. Participant Characteristics

Pseudonym	Age, y	Gender Identity	Sexual Orientation	Experience as an Athletic Trainer, y	Current Job Setting
Alan	27	Male	Straight	5	NCAA Division I
Amy	37	Female	Straight/asexual	14	NCAA Division II
Angela	33	Female	Lesbian	12	NCAA Division III
Cory	27	Transgender female	Straight	5	NCAA Division III
Eric	27	Male	Gay	5	NCAA Division II
Jack	57	Male	Bisexual	32	NCAA Division II
Jennifer	25	Female	Lesbian	3	Industrial
Katherine	43	Female	Lesbian	20	NCAA Division II
Lauren	27	Female	Straight	5	NAIA
Millie	28	Female	Straight	5	Campus recreation
Morgan	41	Female	Straight	18	NCAA Division I
Rachael	32	Female	Straight	8	NCAA Division II
Shawn	26	Male	Straight	5	NCAA Division III or secondary school
Topanga	29	Female	Straight	4	NCAA Division III
Trini	45	Female	Lesbian	18	NJCAA

Abbreviations: NAIA, National Association of Intercollegiate Athletics; NCAA, National Collegiate Athletic Association; NJCAA, National Junior College Athletic Association.

participants provided commentary on the script, and we listened to the recorded interviews to identify areas where minor edits to the script were necessary. The final interview protocol is shown in Table 2.

Procedures. We asked the participants to complete audio-only, individual telephone interviews in July 2019. After expressing interest, the participants were sent links to schedule their interviews. At the arranged time, the researcher and participant joined a commercially available teleconferencing platform (Zoom Video Communications, San Jose, CA). The same member of the research team (Z.K.W.) conducted all 15 interviews. The interview began with the demographic questions, followed by the interview protocol. The interviews lasted an average of 30 minutes. They were recorded and transcribed verbatim using the automated transcription service via Zoom (Otter.ai, Los Altos, CA). The researcher then checked each transcribed interview for accuracy.

Data Analysis and Trustworthiness

After reviewing the transcripts, 2 researchers (Z.K.W., K.C.G.) sent the transcripts to the participants for member checking. This allowed participants to read the transcribed conversation and review it for accuracy. During this time, participants had the opportunity to provide any clarifications or updates to their initial responses. After member checking was complete, the research team assembled a 3-member coding team (L.E.E., E.A.N., D.R.W.) that consisted of individuals with experience in both consensual qualitative research and the care of patients including but not limited to those who were LGBT, queer, intersex, or asexual and all within the community of queer and transspectrum identities (LGBTQIA+).

We used a consensual qualitative research[15] approach to analyze the transcripts for common domains and categories. The multiphase analysis began with an initial review and coding of 4 transcripts using an individually curated codebook of core ideas. Next, the coding team met to discuss the coded transcripts and develop the team's preliminary codebook. Using this codebook, the coding team moved to the second phase, during which they independently coded 2 of the previous transcripts from the initial phase and 2 new transcripts using the preliminary codebook. The team met to discuss the 4 coded transcripts and confirm the consensus codebook, including the domains and final development of categories. The team then moved into the third phase, during which each researcher individually coded 5 transcripts (15 transcripts in total). Each member of the coding team shared 2 or 3 transcripts with another member of the team for internal auditing. The coding team met to discuss discrepancies among team members, with all disputed codes finalized using a two-thirds vote. A cross-analysis was used to ensure that each researcher accurately used the codebook on all transcripts.

After the analysis was confirmed by the 3-member coding team, an external reviewer (S.E.W.) confirmed and verified the accuracy of the information analyzed to establish rigor. Once the external reviewer confirmed the consensus codebook and coding, we established frequency of the data at the category level. To do so, the emergent categories were assigned a frequency classification, consistent with the work of Hill,[15] of either *general*, meaning the category was identified in all 15 participants, or *typical*, meaning the category was identified in at least 8 but fewer than 15 participants. Less common categories were identified as either *variant*, meaning the category was present in 4 to 7 participants, or *rare,* meaning the category was identified in 3 or fewer participants.[15] Of the 12 categories, we characterized 1 as general, 7 as typical, and 4 as variant. The final process was to select quotations in the identified categories to support the findings. Trustworthiness and credibility were established using member checks, multiple-analyst triangulation, and an external peer reviewer.

RESULTS

We identified 4 emergent domains in the data (Figure, Table 3): perceived deficiencies, misconceptions, concerns, and creating safety.

Within the perceived deficiencies domain, the ATs described their own deficiencies or the deficiencies they believed existed in health care, and 3 categories emerged: AT self-knowledge, knowledgeable providers, and access to safe transition care. Regarding AT self-knowledge,

Table 2. Interview Protocol[a]

Demographic questions	1. What best describes your college or university job setting? 2. What is your age? 3. How many years of experience do you have as a credentialed AT? 4. What gender do you identify as? 5. What is your sexual orientation? 6. Have you had a friend or family member that identifies as transgender?
Interview protocol	1. In your treatment of patients, how do you routinely or consistently consider gender, sexuality, or both in your patient care planning? 2. Have you ever provided care to a transgender student-athlete? a. If yes, describe that experience. What were the outcomes of that experience? What were the barriers or challenges to that experience? Were you comfortable addressing the patient's needs? Why or why not? b. If no, what do you think, if any, are some of the barriers or challenges that might exist in providing care to a transgender student-athlete? Would you be comfortable addressing the patient's needs? Why or why not? 3. Describe what you know about the importance of using accurate pronouns with transgender individuals. 4. How do you think repeated misgendering a transgender individual impacts the patient? 5. Describe what you know about the effects of hormone therapy in transgender individuals. 6. To your knowledge, what are the typical health care needs of transgender individuals? a. How are those needs similar to or different than the needs of student-athletes? 7. To your knowledge, what does it mean to transition, to be transitioning, or to have transitioned? 8. How do you create a supportive environment that promotes good health for transgender individuals? 9. What health disparities exist for transgender individuals? 10. What health care disparities exist for transgender individuals? 11. What do you think would be an effective strategy to motivate you to engage in professional development to help you with providing care for transgender individuals? a. What methods or platforms have you used in the past to engage in continuing professional development regarding the care of transgender individuals? b. Based on your previous experiences, what do you think would be the best methods or platforms that might help others engage in similar continuing professional development opportunities?

[a] Items are presented in their original format.
Abbreviation: AT, athletic trainer.

Table 3. Frequencies of Categories

Domains and Categories	Frequency (n/15)	Frequency Label
Perceived deficiencies		
Athletic trainer self-knowledge	12	Typical
Knowledgeable providers	7	Variant
Access to safe transition care	11	Typical
Misconceptions		
Definitions of *transgender* and *transitioning*	10	Typical
Physiological response to hormone replacement therapy	7	Variant
Concerns		
Mental health and wellness	9	Typical
Self-image	5	Variant
Cost of transition care	4	Variant
Creating safety		
Validation	14	Typical
Trust	11	Typical
Environmental factors	15	General
Professional development	12	Typical

participants referred to their own lack of knowledge in providing health care to transgender patients. They also perceived a lack of knowledge about regulations regarding sport involvement. They were concerned about knowledgeable providers on the patient's sport-related health care teams, including team physicians and other ATs in the facility. Participants perceived a deficit in access to safe transition care, whereby patients may have faced discrimination in their communities when seeking hormone replacement therapy or gender-affirming surgeries. This category was characterized as providers outside of the patient's sport-related health care team. Supporting quotations for the perceived deficiencies domain are presented in Table 4.

The misconceptions domain included ATs' inaccurate definitions of *transgender* and *transitioning* and incorrect characterization of the physiological response to hormone replacement therapy. Although many participants demonstrated a basic understanding of *transgender* and *transitioning*, 66.7% (n = 10) struggled to accurately define the terms. Common errors were using language about choice and preferences or describing transitioning as a continuum from gender expression to gender-affirming surgery. In contrast, 33.3% (n = 5) of participants were able to more accurately define *transgender* as gender incongruence and *transitioning* as an array of options to help transgender persons align their gender identity with their gender presentation. Participants expressed misconceptions about the physiological response to hormone replacement therapy, specifically a lack of knowledge about how estrogen and testosterone affect the body and may or may not affect sport performance. Supporting quotations for the misconceptions domain are presented in Table 5.

Respondents described several concerns for transgender patients, including mental health and wellness, self-image, and the cost of transition care. They spoke about the concomitant mental health concerns that often affected transgender individuals: depression, anxiety, and substance use disorders. Participants demonstrated trepidation about the self-image of transgender patients, noting how stigmas and structural barriers might negatively affect their patients. A concern that transition care could be costly and perhaps unsupported by insurance companies was identified by 26.7% (n = 4) of participants. Supporting quotations for the concerns domain are presented in Table 6.

The ATs described ways of creating safety within their health care facilities through validation, trust, environmen-

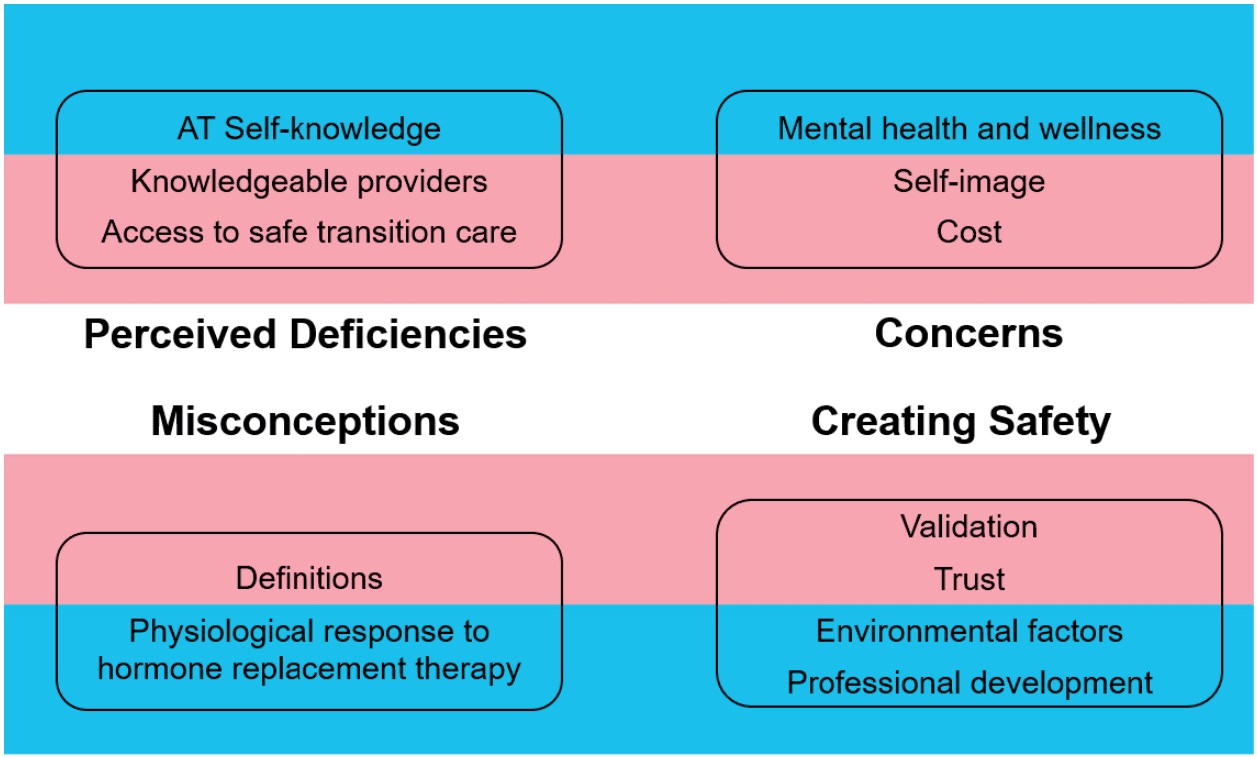

Figure. Emergent domains and categories.

Table 4. Supporting Quotations for the Perceived Deficiencies Domain and Categories

Category	Supporting Quotation
Athletic trainer self-knowledge	"I have to say that even though I am part of this community myself, there are still so many things that I do not know and that I can always continue to educate myself on, especially when it comes to like medications and you know how those are going to affect the body from a physiological standpoint, so I think you know, there's always something new to learn because the community itself is always changing. There's always new vocabulary and new terms." –Cory
	"I am not actually [aware of the National Collegiate Athletic Association policies regarding sport participation for hormone-related therapy]." –Eric
	"No, I am not [aware of the National Collegiate Athletic Association policies regarding sport participation with hormone-related therapy.]" –Jennifer
	"Even in participating in this study with some of the questions that you've asked me, and I can tell you that I don't feel 100% confident answering them because of the lack of education and continuing education that I've had with this topic." –Lauren
Knowledgeable providers	"I believe that the other staff that I was working with was ill-prepared to handle queer and transgender student-athletes based on their own personal biases that had become prevalent in out-of-office conversations. That played a role in my departure from the institution. The other athletic trainer was making disparaging remarks about [a] former student-athlete who had transitioned since graduation." –Shawn
	"I know that in LGBTQIA+ populations, the amount of times that they will actually report that they have something wrong with them is decreased just because they don't feel comfortable speaking with their health care provider about that issue. Like feeling like they may be judged differently because of the way that they recognize themselves. For example, if they do identify as transgender, will their condition or the way that they are presenting, will it be taken seriously? Will they have the same level of care that an athlete that does not recognize themselves as transgender [has]?" –Lauren
	"That is one of my biggest concerns. I am not 100% sure on that. The [medical director or team physician] is religious, and I have serious doubts as to whether he would be the best person to treat someone who is transgender." Amy
Access to safe transition care	"I just think about how hard it would be to call physicians and start trying to ask that question unless you already have a great physician." –Morgan
	"Some of the care disparities are access to physicians that are knowledgeable and willing to help with gender-related care, especially for individuals that are away from urban areas. It is a little bit harder of a time to find a treating physician to aid in transition-related care, such as formal prescriptions, follow-up appointments, bloodwork, etc. That overall accessibility and reliable staffing is another problem." –Shawn
	"Going on the biggest disparities, it would be from what I have heard, which there are plenty of health care providers that just are unwilling to provide health care to transgender individuals or they are not willing. They are not providing the best care that they can to them because they are transgender." –Eric
	"I think also just being able to go to a doctor's office and not get turned away and knowing that they can receive care and that they're going to get the best care that they can." –Cory

Abbreviation: LGBTQIA+, lesbian, gay, bisexual, transgender, queer, intersex, asexual and all within the community of queer and transspectrum identities.

Table 5. Supporting Quotations for the Misconceptions Domain and Categories

Category	Supporting Quotation
Definitions of *transgender* and *transitioning*	"To my knowledge, that is, I guess the process by which you are changing your physical outward sex. That is what is changing. So that can be a process, usually a process, and it involves hormonal therapy as well as potentially physical treatment." –Angela
	"I know from the people I have met and talked to that they undergo top or bottom surgeries to make their outside look like what they feel on the inside." –Jennifer
	"In my belief, transition, from my understanding, was there is also a hormonal aspect of it and taking medications. Also, transition depending on the level that you go through, there is gender-confirming surgery, as well." Eric
Physiological response to hormone replacement therapy	"I just imagine middle school all over again of voices changing, hair growing or not growing, body parts growing or shrinking, but I do know that with higher hormones, depending on which direction you are going, you will have either higher testosterone or estrogen. That will be creating more sensitive areas to that patient." –Millie
	"If you have a transgender student-athlete, say they identify as a female or, sorry, they were born female, maybe identify as a male if they use hormones. . . I don't know if that would give them a competitive edge or not." –Alan
	"I know, for females, it is to suppress the estrogen and increase testosterone and vice versa. In a male transitioning, they would be decreasing testosterone and increasing estrogen. I just do not know how that is done. I know it is a lot of injections and a lot of medicine only because I went through fertility treatments. So I know what it is to give yourself hormones but not for the different effects." –Trini
	"You have the chemical imbalances with that, so from the anger and changes in that way." –Jennifer

tal factors, and professional development. They talked about validating transgender patients by acknowledging their gender identities and avoiding misgendering. They also discussed the importance of trusting therapeutic relationships with their patients and their desire to make patients feel safe enough to communicate their health care needs. Participants addressed creating safe spaces in their physical environment through visible markers and policies. They referred to posting ally signage and prohibiting discriminatory language within their athletic training facilities. Respondents also reported engaging in professional development activities to increase their understanding and resolve perceived deficiencies in their self-knowledge. They shared that training consisting of patient perceptions and experiences provided effective learning experiences. Supporting quotations for the creating safety domain are presented in Table 7.

DISCUSSION

Our findings indicated that the ATs noted a number of potential concerns about providing quality care to transgender patients, which supports the work of previous researchers[13,14] who stated that ATs may have had a positive view of treating transgender patients, but they did not necessarily perceive themselves as completely competent in doing so. Specifically, we identified 3 domains in which participants indicated potential concerns with care: perceived deficiencies, misconceptions, and concerns. However, we also noted a fourth domain, creating safety,

Table 6. Supporting Quotations for the Concerns Domain and Categories

Category	Supporting Quotation
Mental health and wellness	"I know that, like, transgender women of color are at a much higher statistic for violence. I think trans[gender] people in general [are] at a higher incidence of violence, but I do know for a fact that trans[gender] women of color are a highly targeted demographic for violent behavior." –Rachael
	"I always wonder how their mental health would be [as a] transgender patient because I bet they would be stigmatized and how they would be handling all the different external pressures." –Alan
	"The transgender population is more prone to mental health considerations, whether that be through depression or anxiety and stress, to something more serious of self-harm or suicidal ideation. Obviously, they are more prone to alcohol, smoking, and other types of drugs, most likely." –Cory
Self-image	"I think it is something I would feel horribly disrespected and undervalued because they are not being identified as their true selves. I think that I can only imagine how upsetting that is to not see that you are being accepted for who you are especially if it is deliberate." –Topanga
	"I would say it would impact a person because someone who's doing that, whether maliciously or just they don't know, either way. They are making that patient, that person, feel like their gender identity is not valid. I want to make sure that I am not doing that, if at all humanly possible." –Amy
Cost of transition care	"I think that's another factor of just them not necessarily having the same benefits as a cisgender person because their insurance company doesn't recognize their gender identity or doesn't cover those benefits for them." –Cory
	"Many insurances do not cover transition-related care, which can cost thousands of dollars out of pocket. I'm fortunate enough to not have that struggle, but not every trans[gender] person is able to share in that experience and is often limited in how far they can medically transition by their income. For example, if a person seeks gender-confirmation surgery, [and] this is not covered by insurance, someone could be facing a total out of pocket cost of tens of thousands of dollars depending on the surgery center and procedure, coupled with lost wages for taking time off work to recover from surgery. Being able to afford a procedure like that without insurance, loans, or crowdsourcing can be almost insurmountable based on the current state of financials for millennials with the student debt crisis. Many people are hard pressed to find a way to afford surgery without sinking themselves in greater debt, creating a catch-22 between this medically necessary surgical procedure for the benefit of their mental health and worsening the burden of financial limitations." –Shawn

Table 7. Supporting Quotations for the Creating Safety Domain and Categories

Category	Supporting Quotation
Validation	"Accurate pronouns is an essential part of validating somebody['s] existence as their true gender. They can be demoralizing and to be called by the wrong pronoun, they can be very discouraging, whereas using the correct pronoun [can] make somebody feel valid, make somebody feel like they're being their authentic selves, and can increase social confidence, and just general overall health and wellness by playing into the, like, the mental, emotional side of things." –Shawn
	"The one analogy I have heard is it's like telling a butterfly they are a caterpillar over and over and over again. Obviously, the caterpillar has transitioned into a butterfly and others are not accepting that, and it is very pointless, and it is not helping anybody. It's telling somebody or saying I am not validating them in any way, shape, or form, telling them my perception of you is more important than your own perception and this is what I see you as." –Eric
	"I feel like it is counterproductive. If they are routinely misgendered, it puts the athlete at a disadvantage. I would think that it would make them feel like they did not belong and that they were not being recognized for who they are. I think it is important for all athletes to be recognized for who they are, but also, I think that it hurts them with their fellow athletes. It sets a tone for what is acceptable for other athletes to do as well [as] for other administrators and staff members." –Katherine
Trust	"They will not trust you, and they probably won't want to work with you. They will not feel very safe. They will not feel very validated. I mean, as a health care provider, you know, we're supposed to be trusting and have them feel safe to be able to come to us and seeking treatment or evaluation or whatever they may need from the athletic trainer. So it would just suddenly create a lot of boundaries, a lot of distrust and unhappiness. Again, it is just not validating who they are." –Trini
	"I think barriers to providing care would be around how comfortable the athlete is with the provider. So for me personally, like, I would hope that my athletes, whether they be transgender or anything other than, you know, trans[gender] on the spectrum, whether that be gay, bisexual, whatever it is. I would hope that they had that comfortable [feeling], but I do understand that societally, that is an issue. So I think that sometimes like a trans[gender] person's experiences decidedly could make them more hesitant to want to come for care." –Rachael
	"It is just like getting to know them, just like any relationship. It is just getting to know the person and listening to them." –Morgan
Environmental factors	"I think my biggest thing is making it clear that this is a safe space for them. Because I tell my athletes there is no stigma against, say, mental health in my clinic. There is no stigma against physical injury. There is no stigma against your orientation or your how you identify anything like that. It is truly a safe space. So just trying to make that a well-known concept." –Topanga
	"We have a few nonbinary athletes that I am aware of. They maybe aren't as open and talking about their gender identity, but we're always making sure that we're doing everything we can to be inclusive in regard to medical paperwork, bathroom access, things like that." –Cory
	"I guess just making sure that I have a safe environment for them to seek treatment and my help if they need it as far [as] in the athletic training center. Make sure they are welcomed, make sure that they are comfortable, make sure that there's privacy and confidentiality. I think all the same things I would ensure when dealing with sensitive issues with [a] nontransitioning athlete. As far as the health care of it, make sure that HIPAA [is followed] and confidentiality [is maintained]." –Trini
Professional development	"I would honestly prefer to deal with people on a one-to-one basis, like the pronoun workshop that I did was awesome because it was people on our campus talking about their personal experiences and, like, the experiences of those that they know. I just think it's more relatable and valid when it's coming from people who are actually walking through that experience rather than somebody else just talking about it. I would prefer in-person events and opportunities to hear from people who are actually experiencing it, like what worked for them, what didn't work for them, how can we be better? From a transgender person's perspective rather than just what like some random people are saying trans[gender] people should feel like, I think it's kind of that would be something that I would be interested in." –Rachael
	"I think the first piece is understanding language that is beneficial. To communicate effectively with transgender patients but also being able to always have like a workshop that would be practice, so before you have to potentially use that in a clinical setting. I feel like there needs to be a practice piece to it besides just learning the material. I think that'd be a really important continued piece that I would be interested in." –Alan
	"I feel like the more training I can go to, especially with the mental health side of things. I am tied into a lot of mental health committees and things like that; the transgender topic fits in well because it is identified as such a risk factor with suicide and mental health issues." –Morgan

Abbreviation: HIPAA, Health Insurance Portability and Accountability Act of 1996.

in which participants indicated how they were working to improve care for the transgender patient population.

Perceived Deficiencies

According to earlier authors,[14] ATs have received little or no formal training in treating transgender patients. This is consistent with US and Canadian medical students, who perceived that inadequate training in medical school led to their difficulty in addressing patient gender identity.[16] Our participants noted a lack of awareness regarding sport regulations in relation to transgender student-athletes. Although prior investigators[14] found that ATs broadly agreed they were comfortable educating student-athletes about regulations from sport regulatory bodies regarding transgender student-athletes, ATs did not perceive them-

Table 8. Credible, Publicly Available Resources on Transgender Care

Title	Focus	URL
GLMA[a]	Health professions advancing LGBTQ equality	http://www.glma.org/index.cfm?fuseaction=Page.viewPage
International Olympic Committee[8]	Consensus statement on sex reassignment and hyperandrogenism	https://stillmed.olympic.org/Documents/Commissions_PDFfiles/Medical_commission/2015-11_ioc_consensus_meeting_on_sex_reassignment_and_hyperandrogenism-en.pdf
National Athletic Trainers' Association, Inclusion Resources[b]	Resources to enhance inclusion in athletic health care and the athletic training profession	https://www.nata.org/professional-interests/inclusion/resources
National Collegiate Athletic Association: Inclusion of Transgender Student-Athletes (Office of Inclusion)[7]	Best practices and guidelines for inclusion of transgender student-athletes	http://www.ncaa.org/sites/default/files/Transgender_Handbook_2011_Final.pdf
National LGBT Education Center, Fenway Institute[c]	Meeting the health care needs of transgender people	https://www.lgbtqiahealtheducation.org/wp-content/uploads/Sari-slides_final1.pdf
The World Professional Association for Transgender Health[2]	Standards of care for the health of transsexual, transgender, and gender-nonconforming people	https://www.wpath.org/media/cms/Documents/SOC%20v7/Standards%20of%20Care_V7%20Full%20Book_English.pdf

Abbreviations: GLMA, Health Professionals Advancing LGBTQ Equality (previously known as the Gay & Lesbian Medical Association); LGBTQ, lesbian, gay, bisexual, transgender, and queer.

[a] GLMA Web site. http://www.glma.org/index.cfm?fuseaction=Page.viewPage. Accessed September 9, 2020.

[b] LGBTQ+ Advisory Committee. National Athletic Trainers' Association Web site. https://www.nata.org/lgbtq-advisory-committee. Published July 22, 2020. Accessed August 1, 2020.

[c] Meeting the health care needs of transgender people. National LGBT Education Center, Fenway Institute Web site. https://www.lgbthealtheducation.org/wp-content/uploads/Sari-slides_final1.pdf. Published 2012. Accessed July 21, 2020.

selves as competent in counseling transgender patients on how hormone replacement therapy may affect drug testing as specified by sport regulatory bodies. Respondents in this study expressed similar sentiments regarding a lack of understanding about how transition care may affect a student-athlete's ability to take part. Although the current NCAA guidelines[7] on transgender student-athlete participation were released in 2011 (Table 8), ATs were still unaware of these regulations. Most ATs may lack this knowledge because they believed they had never treated a transgender student-athlete. Regardless of whether ATs have cared for transgender patients, the general lack of understanding relative to sex hormones and endocrinology creates misconceptions about how hormone replacement therapy can result in an unfair advantage. This is easily resolvable with brief, self-directed learning using credible, publicly available resources (Table 8).

Currently, only 17 states have explicitly banned discrimination based on gender identity, and in June 2020, the former president of the United States and the US Department of Health and Human Services finalized a rule removing protections for patients against discrimination based on gender identity.[17] Although a subsequent US Supreme Court ruling upholding Title VII of the Civil Rights Act and forbidding discrimination in the workplace based on sexual orientation and gender identity may result in further discussion on the ruling,[18] no federal protections currently exist for transgender patients in health care settings. Participants commented that they were concerned about access to competent health care providers, both within their own health care team and in the community. This concern is fair because discrimination against transgender patients in health care settings has been well documented, and legislative action has been inconsistent in providing necessary protections. Health Professions Advancing LGBTQ Equality provides a free nationwide provider directory to help members of the LGBTQ community find health care professionals whom they can trust (Table 8). This registry and similar resources should be among those ATs have available to share with LGBTQIA+ student-athletes and specifically with transgender student-athletes, who often experience discrimination in health care.

Misconceptions

As was true in a previous study,[14] most of our participants were unable to accurately articulate the definitions of *transgender* and *transitioning*. Many ATs believed that transitioning required patients to act on a continuum, starting with gender expression and ending with gender-affirming surgery. However, transgender persons may experience transition in different ways, taking actions to express themselves fully in any ways that make them feel more authentic. This might include asking others to call them by a new name, dressing differently (even with no gender conformity), pursuing speech classes to alter the voice, hormone replacement therapy, or an array of gender-affirming surgical interventions, none of which are required to transition.

Many participants expressed misconceptions about the possible effects of hormone replacement therapy, specifically on patients' emotions and sport performance. Three ATs discussed the way hormone replacement therapy may cause patients to become more agitated or moody, despite the lack of quality evidence pointing to this as a common side effect[19] and current evidence indicating hormone replacement therapy has a positive effect on mood.[20] Regarding sport performance, many respondents noted they simply did not know how hormone replacement therapy would or would not affect sport performance. Despite conflicting evidence about how much hormone replacement therapy affects muscle mass, muscle density, and strength,[21] evidence suggesting transgender athletes are

in any way advantaged when compared with cisgender athletes is lacking. Whereas some participants more correctly articulated the general effects of hormone replacement therapy, we observed a notable lack of complete understanding by most.

Concerns

Many participants expressed concern regarding transgender patients' mental health. Although, as noted, hormone replacement therapy has generally been shown to improve both mood and quality of life in transgender patients,[20] mental health concerns among transgender and nonbinary adolescents and adults include depression, anxiety, substance abuse, suicidality, and experiences of victimization and stigma.[10,22] This is an important acknowledgment, as the mental health needs of transgender patients differ from those of cisgender patients.[23] Athletic trainers often have the primary role of recognition of and referral for mental health concerns, yet they also need to provide continuous care, minimize the negative effects, and help student-athletes who wish to transition back to sport. One approach focuses on targeted, local, credible, and continuous contact to help minimize the stigma of mental illness.[24]

Respondents also cited concern about the self-image of transgender patients, including stigmas and structural barriers, both in and out of athletics. This is, of course, an important topic, as transgender student-athletes face a traditionally unfriendly culture in athletics, which can affect both their physical and mental health.[25] In response, ATs can create inclusive patient health information forms, allowing for name and pronouns of reference, which will support efforts to minimize stigmas and promote authenticity in athletic health care.

Several participants addressed the cost of transition care and whether patients' insurance would cover interventions. Transgender-specific care for 1 person is generally estimated to cost between $25 000 and $75 000,[26] which is relatively inexpensive when compared with other common medical procedures, such as an implanted defibrillator ($68 000–$102 000).[26] However, despite this relatively low cost, many insurance providers still have exclusions limiting or denying coverage to transgender patients for certain health care services.[27] Although Medicare, for example, provides coverage for transgender patients' medically necessary routine care, some Medicaid programs, employer-provided plans, and state health insurance exchanges exclude such care.[28] In fact, 25% of transgender people reported being denied coverage or routine care because they were transgender.[10] Collegiate student-athletes may have insurance but be denied coverage for services deemed unnecessary.

Creating Safety

As noted, transgender student-athletes face an often unfriendly athletic culture, which can harm their mental and physical health.[25] However, ATs are in a unique position to help ease this harm and change the culture. Many participants described how they created safe, inclusive environments in their health care facilities through validation, trust, environmental factors, and professional development. The most frequently mentioned method of validating transgender patients was acknowledging their gender identity and avoiding misgendering. This is a critical aspect of care, as misgendering patients can cause them to feel stigmatized and may contribute to psychological distress.[29]

Participants also noted the importance of creating trusting relationships with their patients and a desire to make patients feel safe enough to communicate their health care needs. Creating trust between health care providers and patients had a substantial effect on health outcomes, including beneficial health behaviors, fewer symptoms, a higher quality of life, and more reported satisfaction with their treatment.[30] Therefore, creating trusting relationships is a beneficial way of improving the quality of care provided to transgender patients.

The ATs described their efforts to create a more inclusive environment by posting visible markers and policies. Most transgender people reported being nervous about their health care providers' reactions to their gender identity[31] and, thus, may specifically seek providers whom they believe are more comfortable working with the LGBTQIA+ community. To help transgender patients feel more comfortable and convey an understanding of their gender identity, ATs may post relevant posters, stickers, decals, or infographics in visible locations, as well as have brochures and pamphlets pertaining to transgender health available (Table 8). Posting policies related to transgender care in visible locations can also help patients feel comfortable seeking care from ATs and other medical providers in the facility. In addition, participants prohibited discriminatory language in their athletic training facilities. Athletic trainers are in a position to educate other patients and coworkers about the detrimental nature of discriminatory language. Prohibiting such language can help transgender patients feel more comfortable and welcome in the facility.

Researchers[14] have reported that ATs received little formal education on transgender patient care, and our results were similar. However, some respondents engaged in professional development activities to help resolve some of their perceived knowledge deficiencies and create safety for their transgender patients. These participants remarked that this learning often involved patient perceptions and experiences and that these educational experiences were important learning opportunities. More directly, they thought transgender student-athlete commentary and personal narratives would be effective means of future professional development. The National Athletic Trainers' Association LGBTQ+ Advisory Committee offers valuable online resources for ATs to learn how to effectively treat transgender patients and hosts educational seminars at national and regional conventions (Table 8). By accessing these resources, as well as other readily available guidelines for treating transgender patients,[2,3] ATs can take meaningful steps to better prepare themselves to provide quality care for all of their patients.

LIMITATIONS AND FUTURE RESEARCH

Participants in this study self-selected to engage in a follow-up interview based on their previous involvement in the cross-sectional survey. Self-selection in both studies may have indicated a more accepting view of transgender student-athletes, and the previous survey perhaps prompted

them to engage in professional development given that their original involvement was based on a perception of unawareness. Furthermore, more transgender ATs took part in this study than were represented in the athletic training population. However, self-disclosure of transgender status is historically underreported.

Continued professional development for practicing ATs is needed, and although training to create safe environments is important, it alone is not sufficient. Along with advanced training in endocrinology, ATs must engage in simulated experiences to enhance communication skills, patient advocacy, and assistance with shared decision making during transition care. Future investigators should create, validate, and establish reliability for standardized patient and simulation experiences relative to transgender patient care, not only at the level of preparing students for entry into athletic training but also for practicing providers with limited experience.

CONCLUSIONS

Athletic trainers continue to perceive themselves as being deficient in knowledge of the needs of transgender student-athletes. Although our ATs were unable to correctly characterize the terms *transgender* and *transitioning*, as well as the physiological responses to hormone replacement therapy, they were able to identify the health disparities for these patients and were making efforts to create safe spaces for transgender student-athletes in their facilities. Education focused on creating inclusive health care spaces and safe environments is seemingly effective, but ATs need more professional development regarding evidence-based interventions and care for transgender patients undergoing transition. As health care providers who often serve as a gateway into the health care system, ATs must embrace their responsibility to be aware and serve as patient advocates.

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REFERENCES

1. Sanchez NF, Sanchez JP, Danoff A. Health care utilization, barriers to care, and hormone usage among male-to-female transgender persons in New York City. *Am J Public Health*. 2009;99(4):713–719. doi:10.2105/AJPH.2007.132035
2. Standards of care for the health of transsexual, transgender, and gender nonconforming people, version 7. The World Professional Association for Transgender Health Web site. https://www.wpath.org/publications/soc. Published 2011. Accessed December 14, 2020.
3. American Psychological Association. Guidelines for psychological practice with transgender and gender nonconforming people. *Am Psychol*. 2015;70(9):832–864. doi:10.1037/a0039906
4. Obedin-Maliver J, Goldsmith ES, Stewart L, et al. Lesbian, gay, bisexual, and transgender-related content in undergraduate medical education. *JAMA*. 2011;306(9)971–977. doi:10.1001/jama.2011.1255
5. 2020 Standards for accreditation of professional athletic training programs. Commission on the Accreditation of Athletic Training Education Web site. https://caate.net/wp-content/uploads/2019/08/2020-Standards-Final-7-15-2019.pdf. Accessed December 14, 2020.
6. BOC standards of professional practice: version 3.1. Board of Certification for the Athletic Trainer Web site. https://www.bocatc.org/system/document_versions/versions/154/original/boc-standards-of-professional-practice-2018-20180619.pdf?1529433022. Published October 2017. Implemented January 2018. Accessed December 14, 2020.
7. NCAA inclusion of transgender student-athletes, part three: best practices recommendations for implementing transgender student-athletes inclusions policies. National Collegiate Athletics Association Web site. http://www.ncaa.org/sites/default/files/Transgender_Handbook_2011_Final.pdf. Published August 2011. Accessed December 14, 2020.
8. IOC consensus meeting on sex reassignment and hyperandrogenism: November 2015. International Olympic Committee Web site. https://stillmed.olympic.org/Documents/Commissions_PDFfiles/Medical_commission/2015-11_ioc_consensus_meeting_on_sex_reassignment_and_hyperandrogenism-en.pdf. Accessed December 14, 2020.
9. Dubon ME, Abbott K, Carl RL. Care of the transgender athlete. *Curr Sports Med Rep*. 2018;17(12):410–418. doi:10.1249/JSR.0000000000000545
10. James SE, Herman JL, Rankin S, Keisling M, Mottet L, Anafi M. The report of the 2015 US Transgender Survey. National Center for Transgender Equality Web site. https://www.transequality.org/sites/default/files/docs/USTS-Full-Report-FINAL.PDF. Accessed December 14, 2020.
11. Bockting WO, Miner MH, Swinburne Romine RE, Hamilton A, Coleman E. Stigma, mental health, and resilience in an online sample of the US transgender population. *Am J Public Health*. 2013;103(5):943–951. doi:10.2105/AJPH.2013.301241
12. Kattari SK, Atteberry-Ash B, Kinney MK, Walls NE, Kattari L. One size does not fit all: differential transgender health experiences. *Soc Work Health Care*. 2019;58(9):899–917. doi:10.1080/00981389.2019.1677279
13. Nye E, Crossway A, Rogers SM, Games KE, Eberman LE. Lesbian, gay, bisexual, transgender, and queer patients: collegiate athletic trainers' perceptions. *J Athl Train*. 2019;54(3):334–344. doi:10.4085/1062-6050-260-17
14. Walen DR, Nye EA, Rogers SM, et al. Athletic trainers' competence, education, and perceptions regarding transgender student-athlete patient care. *J Athl Train*. 2020;55(11):1142–1152. doi:10.4085/1062-6050-147-19
15. Hill CE. Consensual qualitative research (CQR): methods for conducting psychotherapy research. In: Gelo OCG, Pritz A, Rieken B, eds. *Psychotherapy Research: Foundations, Process, and Outcome*. New York, NY: Springer-Verlag Wien; 2015:485–499. doi:10.1007/978-3-7091-1382-0_23
16. Shindel AW, Ando KA, Nelson CJ, Breyer BN, Lue TF, Smith JF. Medical student sexuality: how sexual experience and sexuality training impact US and Canadian medical students' comfort in dealing with patients' sexuality in clinical practice. *Acad Med*. 2010;85(8):1321–1330. doi:10.1097/ACM.0b013e3181e6c4a0
17. Simmons-Duffin S. Transgender health protections reversed by Trump administration. National Public Radio Web site. https://www.npr.org/sections/health-shots/2020/06/12/868073068/transgender-health-protections-reversed-by-trump-administration. Published June 12, 2020. Accessed December 14, 2020.
18. Reuter E. Supreme Court decision calls HHS' reversal of LGBTQ protections into question. MedCity News Web site. https://medcitynews.com/2020/06/supreme-court-decision-calls-hhs-reversal-of-lgbtq-protections-into-question/?rf=1. Published June 18, 2020. Accessed December 14, 2020.

19. Unger CA. Hormone therapy for transgender patients. *Transl Androl Urol*. 2016;5(6):877–884. doi:10.21037/tau.2016.09.04
20. Costantino A, Cerpolini S, Alvisi S, Morselli PG, Venturoli S, Meriggiola MC. A prospective study on sexual function and mood in female-to-male transsexuals during testosterone administration and after sex reassignment surgery. *J Sex Marital Ther*. 2013;39(4):321–335. doi:10.1080/0092623x.2012.736920
21. Jones BA, Arcelus J, Bouman WP, Haycraft E. Sport and transgender people: a systematic review of the literature relating to sport participation and competitive sport policies. *Sports Med*. 2017;47(4):701–716. doi:10.1007/s40279-016-0621-y
22. Reisner SL, Poteat T, Keatley J, et al. Global health burden and needs of transgender populations: a review. *Lancet*. 2016;388(10042):412–436. doi:10.1016/S0140-6736(16)00684-X
23. Riley EA, Tim Wong WK, Sitharthan G. Counseling support for the forgotten transgender community. *J Gay Lesbian Soc Serv*. 2011;23(3):395–410.
24. Corrigan PW. Research and the elimination of the stigma of mental illness. *Br J Psychiatry*. 2012;201(1):7–8. doi:10.1192/bjp.bp.111.103382
25. Cunningham GB. LGBT inclusive athletic departments as agents of social change. *J Intercoll Sport*. 2015;8(1):43–56. doi:10.1123/jis.2014-0131
26. Are transgender-inclusive health insurance benefits expensive? Human Rights Campaign Web site. https://www.hrc.org/resources/are-transgender-inclusive-health-insurance-benefits-expensive. Accessed December 14, 2020.
27. Transgender health care. HealthCare.gov Web site. https://www.healthcare.gov/transgender-health-care/. Accessed December 14, 2020.
28. Finding insurance for transgender-related healthcare. Human Rights Campaign Web site. https://www.hrc.org/resources/finding-insurance-for-transgender-related-healthcare. Accessed December 14, 2020.
29. McLemore KA. A minority stress perspective on transgender individuals' experiences with misgendering. *Stigma Health*. 2018;3(1):53–64. doi:10.1037/sah0000070
30. Birkhäuer J, Gaab J, Kossowsky J, et al. Trust in the health care professional and health outcome: a meta-analysis. *PloS One*. 2017;12(2):e0170988. doi:10.1371/journal.pone.0170988
31. When health care isn't caring. Lambda Legal Web site. https://www.lambdalegal.org/publications/when-health-care-isnt-caring. Published July 31, 2014. Accessed December 14, 2020.

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