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IN DEPTH ARTICLE: COMMENTARY

A Call to Action: the Need for Integration of Transgender Topics in Psychiatry Education

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Transgender is a term that "encompasses individuals whose gender identity differs from the sex originally assigned to them at birth [and/] or whose gender expression varies significantly from what is traditionally associated with or typical for that sex... as well as other individuals who vary from or reject traditional cultural conceptualizations of gender in terms of the male–female dichotomy [1]." For example, individuals may identify strongly with another gender or with a variance that falls outside of traditional gender constructs, such as identifying with both genders or identifying with neither gender. As background terminology, cisgender refers to a person whose gender identity corresponds with their birth sex. An individual's gender identity (internal sense of self) and gender expression (outward expression of gender) may be fluid and evolving over time [2].

Healthcare providers, including psychiatrists and psychiatry residents, are increasingly providing assessment and treatment of transgender individuals given the changing demographics in the USA. Of note, the 2016 percentage of adults who identified as transgender in the USA was double the estimate from 2011 [3]. Explanations for this increase include an increase in visibility, more sophisticated data collection over time, and social acceptance of transgender people that may relate to comfort in identifying as transgender on a survey [3]. Reports from 2016 cited that an estimated 1.4 million adults in the USA identified as transgender, based on data from the CDC's Behavioral Risk Factor Surveillance System [3]. States varied in their demographics, with high percentages of adult residents identifying as transgender in the District of Columbia (2.8% of its population, or 14,550 individuals) and Hawaii (0.8% of its population, or 8450 individuals). Massachusetts was noted at that time to have 29,900 individuals, 0.57% of its population, who identified as transgender. Overall, the age group of 18- to 24-year-olds was noted to have a higher percentage (0.66%) of its population identifying as transgender (205,850 individuals) than older age groups. However, given the larger population size of age 25–64, the 0.58% percentage of individuals identifying as transgender in that population represented 967,100 individuals in the USA.

Both the variation in transgender presentation and the growing size of this population highlight the need for healthcare professionals to approach gender identity with fewer assumptions and an open perspective regarding patient needs [4]. However, in both the general population and in medical healthcare, stigma continues to exist against transgender individuals. In the general USA population, a 2013 sample of over 2000 heterosexual adults noted significantly less favorable self-reported attitudes towards transgender people than attitudes towards gay men, lesbians, and bisexuals [4]. Although public awareness of transgender individuals may be increasing due to popular culture transgender individuals and political discussions, the ability of transgender individuals to integrate in society at large, such as navigating bathroom laws or serving in the US military, remains a topic fraught with contemporary controversy [2].

Healthcare Barriers and Disparities in the Transgender Population

Disparities in healthcare for lesbian, gay, bisexual, transgender, questioning, and queer (LGBTQ) patients have been acknowledged by several prominent organizations, including the Association of American Medical Colleges (AAMC), the American Medical Association (AMA), the Institute of Medicine, the Joint Commission, and the US Department of Health and Human Services. Transgender adults report less access to healthcare and more frequent experiences of physicians demonstrating prejudices towards them, in the form of

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blame, harsh language, rough treatment, and excessive precautions [5].

Transgender individuals have been shown to face multifactorial barriers in accessing adequate healthcare. In a 2010 report, 20.9% of transgender respondents had been subjected to harsh language, 20.3% had been blamed for their own health problems, 15% noted that a healthcare professional refused to touch them or used excessive precautions, and 7.8% reported physically rough or abusive treatment by a medical provider [6]. In a 2010 survey, 90% of transgender people reported insufficient number of medical staff properly trained to care for them and 52% cited concerns about being refused medical services when needed [6]. In the 2011 National Transgender Discrimination Survey that included 6540 transgender and gender-nonconforming individuals in the USA, 50% of respondents reported having to teach their medical providers about transgender care, 33% had postponed preventative medical care due to discrimination, 28% had delayed seeking medical care even when sick or injured, 28% had experienced verbal harassment in a doctor's office, and 19% had experienced being refused medical care due to their transgender status [7]. These issues collectively highlight the barriers that inhibit access to appropriate healthcare for transgender individuals.

Whether conscious or unconscious, stigma and bias among healthcare providers may influence the ability to best care for these individuals. The transgender patient may be dissuaded from disclosing relevant information if they encounter negative attitudes by clinicians, such as prejudices or hostility. In addition, a provider's lack of understanding of sexual and gender identity topics may lead to deficiencies in the ability to fully care for the patient [8]. Thus, studies show lower rates of healthcare-seeking behavior in age-matched LGBTQ populations, including transgender persons, attributed to perceived stigma and lack of LGBTQ-specific knowledge by healthcare providers [8].

Psychiatry and Mental Health Considerations

Barriers to adequate healthcare faced by transgender individuals are especially concerning given the elevated rates of serious psychiatric problems as reported in the literature on available LGBTQ populations. Studies indicate that 41% of the transgender population has attempted suicide, compared to only 2% of the general USA population [9]. In another report of a sample of 515 transsexual individuals in San Francisco in 2001, 62% of the transgender women reported depression, 55% of the transgender men reported depression, and 32% of that sample had attempted suicide [10]. In addition, individuals with gender dysphoria before gender reassignment are at increased risk for suicidal ideation, suicide attempts, and suicides [4]. Although stigma, discrimination, and minority stress may explain higher rates of self-harm and suicide among this patient population, issues of gender identity are often ignored during medical encounters [8].

Transgender adults are at increased risk for problematic substance use behavior. A 2017 study by Gonzalez and colleagues of 1210 transgender adults across the USA cited high rates of excessive substance use including alcohol (21.5%), cannabis (24.4%), and illicit drugs (11.6%) [11]. Transgender men were noted to have used cannabis more frequently than transgender women. Other literature has pointed to even greater rates of binge drinking (47.0%), marijuana use (39.6%), and illicit drug use (19.0%) in the transgender population [12]. Tobacco use is also known to be highly elevated in LGBTQ populations with rates upwards of 26.5% [13]. In addition to these disproportionally high rates of substance use, transgender individuals experience significant barriers in accessing addiction treatment. Inpatient addiction treatment centers were originally designed with a heteronormative structure, offering gender-segregated residential housing, facility bathrooms, and group sessions to treat heterosexual cisgender populations. This structure, in addition to stigma and prejudice, may detract transgender individuals from seeking this help even if it is needed. Statistics estimate that 50% of substance-abusing and dependent transgender individuals are discouraged from seeking addiction treatment [9].

Within the younger segment of the transgender population, gender minority adolescents and youth may present to healthcare at different times with unique challenges, including gender identity and sexual orientation [5]. Compared with age-matched controls, transgender youth are noted to have a two- to threefold increased risk of depression, anxiety, self-injurious behavior, suicidal ideation, and suicidal attempts, in addition to increased risk of psychiatric hospitalization and homelessness [2]. Transgender adolescents are also at risk for psychiatric social stressors and negative adjustment, survival sex work such as prostitution, and infections such as HIV. Further obstacles could include bullying, foster care systems, and legal issues in the court systems [2]. In addition, these individuals may face stigma related to gender nonconformity and/or insufficient family support [5]. Negative medical encounters are especially concerning for transgender adolescents and children, as they may less able to advocate for themselves [2]. These barriers highlight the important role that clinicians have in reducing these patients' overall experience of stigma and to help facilitate family adjustment [5].

Inpatient psychiatric settings, where many psychiatry residents train, can present a unique opportunity to offer these children and adolescents support, welcoming validation, acceptance, and a chance to instill hope. Rather than focusing on obstacles, the literature suggests residents focus on the individual's internal positive factors (assets) and external positive factors of support (resources) to help promote resiliency [2]. However, psychiatric inpatient units continue to have gaps in

staff training and logistics. Adolescent inpatient case discussions observed by Hall found medical staff using pronouns inconsistently even within the same sentence, placing a preferred pronoun in quotes in a manner that could be offensive, or a judgmental undertone among staff even when the correct pronoun was utilized [2]. In addition, the inpatient unit was also observed to be fraught with logistical considerations, such as navigating separate common spaces for males or females, alerting visiting consultants that a particular pronoun or name is preferred, and avoiding questioning from other patients overhearing an individual's birth name or gender. A contributing factor to these elements was that medical staff had not received sufficient education regarding general terminology, sensitivity, confidentiality, the appropriate use of names and pronouns, and elements of care for transgender individuals [2].

Transgender Educational Models in Medical School Curriculums

Medical school curricula, presented at the beginning of clinical psychiatry education, can provide the foundation of knowledge and clinical training for psychiatry residents. While medical school curricula have begun to integrate educational initiatives to promote competent care for LGBTQ individuals, gaps continue to exist.

In 2007, the AAMC issued a policy statement across the country promoting education in competent care for LGBTQ individuals [14]. In 2010, the AMA called for widespread integration of LGBTQ health content into medical curricula to prepare all medical professions, regardless of future discipline or geographical location, to provide sensitive quality care to patients, including sexual and gender minority individuals [15].

Despite this effort, a 2009–2010 survey of all US and Canadian allopathic and osteopathic medical schools by the Stanford School of Medicine LGBT Medical Education Research Group reported that 70% of respondents assessed their LGBT curriculum as fair, poor, or very poor [16]. In that survey, 176 medical school deans found that their schools devoted a median of 5 h of LGBTQ content across all 4 years of education and that this education was generally limited to gathering sexual histories [16]. There was unclear amount of educational time, if any, devoted to transgender identities or a broader education on transgender topics [16]. Another 2011 study of American medical school curriculum and its LGBTQ content found little to no education on transgender health [16]. Educational gaps in transgender topics are also noted in a 2017 survey of 166 anonymous medical students across all years of study in a UK university; 84.9% reported a lack of LGBTQ healthcare education [8].

Recent medical school education literature has begun to highlight different types of training modalities to specifically include transgender topics in a general medical education. A recent report by Ton and colleagues noted the use of a daylong retreat to design a 4-year sexual orientation and gender identity (SOGI) curriculum [17]. Retreat activities included breaking into teams and tasking them with integrating multiple competencies into learning/assessment modules. These were then presented to the group at large for establishing consensus. Participants completed pre-and post-surveys on their knowledge towards SOGI learning, and the database was reviewed 2 years later to reassess the curriculum [17].

Existing medical school transgender curriculum recommendations include curricular development, with identification and involvement of support faculty and local community resources. Content examples include a lecture on health disparities among the transgender population, lecture and small group discussions on terminology and interview skills, case presentations, standardized patients who identify as LGBTQ, panel presentations with patients who self-identify with this population, and clinical rotations or electives with a focus in this area [18]. Vance and colleagues administered a transgender youth curriculum to fourth-year medical students, pediatric interns, psychiatry interns, and nurse practitioner students on their 1-month adolescent and young adult medicine rotations [19]. That model included six interactive, online modules with topics including transgender terminology, obtaining a psychosocial history and sensitive physical examination and an observational experience in a multidisciplinary pediatric gender clinic. Pre-curriculum and post-curriculum knowledge was assessed. Post-curriculum knowledge and awareness scores increased on every queried transgender youth-related benchmark, including the difference between gender and sexuality, ways to ask about a preferred name, questions to ask about gender history, manifestations of gender dysphoria, role of family rejection in poor psychosocial outcomes, types of psychosocial support for transgender youth, and the irreversible effects of estrogen and testosterone [19].

The role for diversity of medical educators is also an important consideration. For example, there are few transgender medical educators and underrepresentation of LGBTQ faculty and students in medical education at all levels, and this may create less opportunity to challenge gender bias among peers [5]. Literature suggests that including sexual and gender minorities in the physician population may improve training and medical practice environments, akin to racial and ethnic diversity at medical schools allowing White students at those schools to feel more prepared to care for minority patients [20].

Transgender Educational Models in Other Specialties

While the studies above focus on medical school transgender curriculum, no similar comprehensive review exists for post-graduate medical education. Not surprisingly, surveys of post-graduate medical trainees demonstrate that they are unaware of key needs of LGBTQ patients and are uncomfortable delivering care for this patient population [5].

These educational gaps exist across medical specialties in post-graduate training. In a multi-specialty survey of 464 resident and attending physicians, the majority of these providers reported not discussing sexual orientation or gender identity with their patients. Of note, during encounters with sexually active adolescents, even those presenting with suicidality or depression, 41% of providers responded that they did not discuss sexual orientation or gender identity, citing their lack of training as the primary impediment [21].

Specific specialties are also experiencing the need for education in this area. For example, surgeons cite an increase in consultations for surgical therapy to help transgender and gender-nonconforming individuals. Although providers may have the technical skills for these procedures, they may not have a full understanding of the complex and comprehensive care required to provide optimal healthcare for transgender individuals [22]. In addition, a 2014 report surveyed the prevalence of LGBTQ health education and training in 160 emergency medicine residency programs. Of the 124 programs that responded, only 26% had ever presented a specific LGBTQ lecture and only 33% had incorporated LGBTQ topics in their didactic curriculum [23]. Modalities utilized included lectures (94%), grand rounds presentations (79%), and journal club discussion (71%). That report recommended an LGBTQ educational curriculum of a minimum of 2 h in length, ideally repeated twice during residency [23].

Current Transgender Education Within the Field of Psychiatry

Given the transgender population's high risk of psychiatric disorders including suicide, self-harm, depression, and substance use, education on transgender topics is particularly needed during psychiatric training. Existing literature on this topic points to the need for LGBTQ education as part of the psychiatry residency education, the value of clinical exposure to the transgender patient population, and the importance of follow-up regarding the effectiveness of educational offerings.

To ensure that graduates of residency training programs in psychiatry have had exposure to key issues and considerations for providing quality care to this population, recommendations by Rutherford and colleagues suggest incorporating a mandatory LGBTQ component in the education curriculum [18]. The design of an educational curriculum also needs to be assessed for effectiveness and redesigned as needed. Kidd and colleagues noted the importance of extended follow-up after providing education to residents [24]. In that study, 22 psychiatry residents across all post-graduate years underwent a 90-min workshop to enhance their ability to empathize with and professionally treat transgender patients. These residents then completed surveys to assess perceived empathy, knowledge, comfort, interview skills, and motivation for future learning. While there were short-term increases in resident professionalism towards this population, there was no statistically significant difference on follow-up after 90 days [24]. This suggests a need to reinforce this material through repetitive, sequential, and iterative learning activities. These include additional training sessions in residency, varied types of learning modalities, incorporating transgender patients into cases of other didactic classes, additional learning venues such as grand round lectures or guest presentations, and clinical electives that provide additional exposure to this patient population.

In addition to structured didactic education, there is notable value in clinical exposure. Literature by Ali and colleagues from 2016 explored the attitudes of psychiatrists towards transgender people [4]. They found that psychiatry residents and faculty members appear to have a more tolerant attitude towards transgender people, even though they may not receive extensive education regarding this population. Of note, while psychiatry residents tended to have less negative attitudes towards transgender patients than undergraduate controls, these attitudes were correlated with clinical exposure. Psychiatry residents benefit from seeing transgender patients and learning from educators who are part of the transgender community. In this way, contact with the underrepresented group is a valuable strategy in decreasing stereotypes and discriminatory behavior.

Recommended Transgender Educational Initiatives in Psychiatry

Psychiatry residency training programs are strongly encouraged to develop, provide, and evaluate education and training opportunities with transgender and gender-nonconforming patients (Fig. 1). Psychiatrists should demonstrate the ability to deliver culturally responsive care for gender minorities and the development of a competent practitioner stems from training programs that integrate assessment and care of these patients within residency training. While there has been limited research on the effectiveness of specific programs of education in transgender health for psychiatry and other medical specialties, there is a demonstrated need for programs to develop and

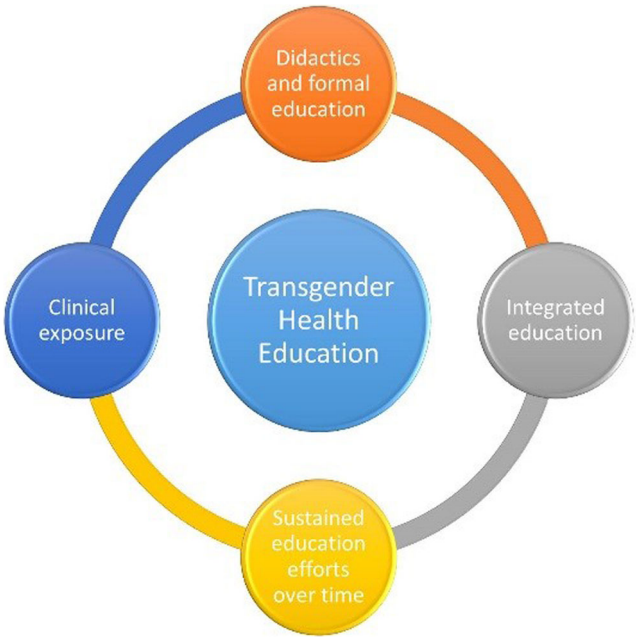

Fig. 1 Integrated transgender health education

evaluate educational initiatives given the high rates of psychiatric problems within this minority population. An institutionally specific response considers local cultural and socioeconomic factors shaping the knowledge, skills, and attitudes of psychiatric residents towards their transgender patients. A documented needs assessment of the learning gaps of residents will tailor curriculum content to respective target audiences. While there are not current educational standards for how psychiatry training ought to incorporate LGBT content, the following recommendations are encouraged for implementation in the field based upon a review of the literature:

Utilize Organizational Systems to Promote Collaborative Transgender Education

A documented needs assessment of learning gaps could be utilized to formulate curriculum content. Psychiatry residency training programs are encouraged to consider their current organizational structure and their place and interactivity within the broader hospital system to determine how to leverage this structure to offer transgender education. For example, training modalities could include dedicating a grand rounds topic on a regular basis to transgender health or co-hosting a guest speaker to present to both medicine and psychiatry. Psychiatry departments may also consider connecting with other departments (e.g., surgery, endocrinology) who provide assessment and treatment of transgender persons to collaboratively offer education and other training opportunities. This utilization of organizational systems could also include connecting with the hospital or organization's diversity efforts, such as the LGBTQ representative group.

Embed Transgender Topics Within the Curriculum

A review of the literature points to a need for dedicated time and structured learning opportunities within residency training curriculums to include attention to transgender and gender-nonconforming persons. While training programs have varied in the amount of time dedicated, the literature reviewed above suggests that residents would benefit from specific dedicated time to this topic in their education. The prioritization and inclusion of this topic within structured learning opportunities would highlight the importance of attention to diversity factors within the assessment and treatment of gender minorities.

Provide Core Content Area Education and Increased Clinical Exposure

Development of transliterate psychiatrists will be a function of the degree of exposure to core content areas that are germane to gender minority experiences. These core content areas include terminology, healthcare problems and disparities, socialization issues and societal experiences, and multidisciplinary treatment planning. Increased clinical exposure to the transgender population could also help to decrease underlying clinician stereotypes, bias, and stigma. Increased clinical visibility to transgender considerations could include patient panels, community-based activities, guest speakers, and diversity inclusive rotations.

Develop Connections with Local and National Educational Centers

Psychiatry residency training programs may benefit from the establishment of in-person or online connections to established transgender and gender-nonconforming educators who can provide competent training for residents. This could include hosting guest speakers from these institutions for grand rounds, streaming educational webinars, and access to prepared materials to disseminate to residents. For example, the Fenway Institute in Boston, MA, hosts the National LGBT Health Education Center and can provide online streaming of educational content for both faculty (including CME credits) and trainees. Inclusion of innovative learning context such as documentary films, patient panels, or other community-based activities that highlight gender minorities' experiences and challenges could also provide engaging non-traditional learning opportunities.

Integrate Transgender Education throughout Residency

An integrated educational transgender training program is recommended. Integration means that residents will be trained to consider issues of care associated with gender minorities,

including an emphasis on transgender and gender-nonconforming persons, in all aspects of assessment and treatment. Integration could include embedding gender minority issues within case presentations and discussions, providing opportunities for treatment of gender minority persons, and disseminating education and research about this population. Successful integration of these competencies also requires an inclusive climate, including broad institutional engagement, nondiscriminatory policies, community outreach, and an environment in which diversity is valued and celebrated [25]. An integrated training approach would encourage a long-term and developmental approach to training transliterate psychiatrists.

Psychiatrists are expected to provide culturally responsive treatment for diverse patient populations, including gender minorities such as transgender persons. The unique needs of this patient population call for an increased focus on this topic within the educational training of psychiatrists. Transgender persons are increasingly more visible in the USA and are more likely to be encountered in psychiatric settings than in prior generational training of psychiatrists. Within the transgender population, the experience of mental health and substance use problems are elevated, compared with gender majority populations, including serious mental health problems such as suicide attempts and self-injurious behavior. However, in the current state, education of medical students and residents in the assessment and treatment of transgender and other gender minority patients is highly limited and may not be offered at all. Integration of education within residency training of psychiatrists is essential to the ability of psychiatrists to competently provide services to this specific cultural group. Suggested models for incorporating education on this topic include utilizing organizational systems for collaborative transgender education, embedding dedicated training to gender minority healthcare, providing education on core content areas, increasing clinical exposure to decrease stereotypes and stigma, and integrating this training in a developmental model throughout residency. Psychiatry training is in a unique opportunity to highlight the awareness of mental health and substance use needs of this population and to ready the psychiatrist workforce for effective and responsive healthcare.

Recommended transgender educational initiatives in psychiatry
- Perform a documented needs assessment to determine learning gaps and curriculum content
- Utilize organizational systems to promote collaborative transgender education
- Embed transgender topics within the curriculum
- Provide core content area education and increased clinical exposure
- Develop connections with local and national educational centers
- Integrate transgender education throughout residency
- Recruit sexual and gender minorities into the field
- Develop the curriculum to integrate transgender education throughout lectures, small group discussions, case examples, and interviewing skills
- Include LGBTQ topics in retreats

Compliance with Ethical Standards

No human participants were involved in this study.

Ethical Considerations No human participants were involved in this study.

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References

1. Institute of Medicine (US) Committee on Lesbian, Gay, Bisexual, and Transgender Health Issues and Research Gaps and Opportunities. The health of lesbian, gay, bisexual, and transgender people: building a foundation for better understanding. Washington, DC: National Academies Press; 2011.
2. Hill WJ, Shapiro MA. Transgender youth in the inpatient psychiatric setting: a literature review and case report. J Psychiatr Pract. 2017;23(4):290–3.
3. Flores AR, Herman JL, Gates GJ, Brown TNT. How many adults identify as transgender in the United States? Los Angeles: The Williams Institute; 2016.
4. Ali N, Fleisher W, Erickson J. Psychiatrists' and psychiatry residents' attitudes toward transgender people. Acad Psychiatry. 2016;40:268–73.
5. Stoddard J, Leibowitz S, Ton H, Snowdon S. Improving medical education about gender-variant youth and transgender adolescents. Chil Adolesc Psychiatric Clin N Am. 2011;20:779–91.
6. Lamba Legal. When health care isn't caring: Lambda Legal's survey on discrimination against LGBT people and people living with HIV. New York: Lambda Legal; 2010.
7. Grant JM, Mottet LA, Tanis J, Harrison J, Herman JL, Keisling M. Injustice at every turn: a report of the national transgender discrimination survey. Washington D. C.: National Center for Transgender Equality and National Gay and Lesbian Task Force; 2011.
8. Parameshwaran V, Cockbain BC, Hillyard M, Price JR. Is the lack of specific lesbian, gay, bisexual, transgender and queer/questioning (LGBQ) health care education in medical school a cause for concern? Evidence from a survey of knowledge and practice among UK medical student. J Homosex. 2016;63(3):367–81.
9. Matsuzaka S. Transgressing gender norms in addiction treatment: transgender rights to access within gender-segregated facilities. J Ethn Subst Abuse. 2017. https://doi.org/10.1080/15332640.2016.1264338.
10. Clements-Nolle K, Marx R, Guzman R, Katz M. HIV prevalence, risk behaviors, health care use, and mental health status of transgender persons: implications for public health intervention. Am J Public Health. 2001;91(6):915–21.
11. Gonzalez CA, Gallego JD, Bockting WO. Demographic characteristics, components of sexuality and gender, and minority stress and their associations to excessive alcohol, cannabis and illicit (noncannabis) drug use in a large sample of transgender people in the United States. J Prim Prev. 2017;38:419–45.
12. Keuroghlian AS, Reisner SL, White JM, Weiss RD. Substance use and treatment of substance use disorders in a community sample of transgender adults. Drug Alcohol Depend. 2015;152:139–46.
13. Pelster AD, Fisher CM, Irwin JA, Coleman JD, McCarthy MA. Tobacco use and its relationship to social determinants of health

in LGBT populations of a Midwestern state. LGBT Health. 2015;2:71–6.
14. Association of American Medical Colleges. Institutional Programs and educational activities to address the needs of gay, lesbian, bisexual and transgender (GLBT) Students and Patients. Memorandum #07–07. March 2007.
15. Levin S and Mayer G. American Medical Association. Statement of the American Medical Association to the Institute of Medicine Re: lesbian, gay, bisexual and transgender (LGBT) Health Issues and Research Gaps and Opportunities. Feb 1, 2010.
16. Obedin-Maliver J, Goldsmith ES, Stewart L, White W, Tran E, Brenman S, et al. Lesbian, gay, bisexual, and transgender-related content in undergraduate medical education. JAMA. 2011;306(9):971–7.
17. Ton H, Eidson-Ton WS, Iosif A-M, Sitkin N, Henderson S, Callahan E. Using a retreat to develop a 4-year sexual orientation and gender identity curriculum. Acad Psychiatry. 2016;40:796–801.
18. Rutherford K, McIntyre J, Daley A, Ross LE. Development of expertise in mental health service provision for lesbian, gay, bisexual and transgender communities. Med Educ. 2012;46:903–13.
19. Vance SR, Deutsch MB, Rosenthal SM, Buckelew SM. Enhancing pediatric trainees' and students' knowledge in providing care to transgender youth. J Adolesc Health. 2017;60:425–30.
20. Mansh M, Garcia G, Lunn M. From patients to providers: changing the culture in medicine toward sexual and gender minorities. Acad Med. 2015;90(5):574–611.
21. Kitts R. L. Barriers to optimal care between physicians and lesbian, gay, bisexual, transgender, and questioning adolescent patients. J Homosex. 2010;57(6):730–47.
22. Berli JU, Kunudson G, Fraser L, Tangpricha V, Ettner R, Ettner FM, et al. What surgeons need to know about gender confirmation surgery when providing care for transgender individuals: a review. JAMA Surg. 2017;152(4):394–400.
23. Moll J, Krieger P, Moreno-Walton L, Lee B, Slaven E, James T, et al. The prevalence of lesbian, gay, bisexual, and transgender health education and training in emergency medicine residency programs: what do we know? Acad Emerg Med. 2014;21:608–11.
24. Kidd JD, Bockting W, Cabaniss DL, Blumenshine P. Special-"T" training: extended follow-up results from a residency-wide professionalism workshop on transgender health. Acad Psychiatry. 2016;40:802–6.
25. Association of American Medical Colleges (AAMC). Implementing curricular and institutional climate changes to improve health care for individuals who are LGBT, gender nonconforming, or born with DSD: a resource for medical educators. 2014. http://members.aamc.org/eweb/upload/LGBTDSD%20Publication.pdf