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PERSPECTIVES

Educational Strategies to Support LGBTQ+ Trainees in Graduate Medical Education - A Narrative Review

Mauricio Danckers[1], Jake Nusynowitz[2], Bryan Rubio[1], Richard Shalmiyev[1], Lily Jamneshan[2], Raiko Diaz[1], Asa E Radix[3]

[1]Department of Medicine, HCA Florida Aventura Hospital, Aventura, FL, USA; [2]Herbert Wertheim College of Medicine, Florida International University, Miami, FL, USA; [3]Callen-Lorde Community Health Center, New York, NY, USA

Correspondence: Mauricio Danckers, HCA Florida Aventura Hospital, 20900 Biscayne Blvd, Aventura, FL, 33180, USA, Email Mauricio.Danckers@hcahealthcare.com

Background: Support for LGBTQ+ trainees in graduate medical education (GME) remains inconsistent across specialties and institutions, with persistent gaps in curricular exposure, affirming mentorship, and institutional support. This narrative review synthesizes recent literature on how educational and institutional practices shape trainee learning, belonging, well-being, and professional development in residency and fellowship.

Methods: We conducted a structured narrative review of PubMed/MEDLINE, ERIC, and MedEdPORTAL for publications from January 2019 through March 2026 addressing LGBTQ+ trainee experiences, LGBTQ+ health education, curriculum, mentorship, educational climate, recruitment, well-being, and institutional practices in GME. Findings were synthesized thematically and organized into three recurring domains: curriculum and competency, mentorship and role modeling, and program leadership and institutional support.

Results: Across the literature, LGBTQ+ training remains uneven in depth, clinical relevance, and evaluation, with persistent gaps in transgender health and limited assessment of long-term behavioral or patient-centered outcomes. Affirming mentorship and visible role models appear important to disclosure safety, belonging, and professional development. Institutional climate shapes whether inclusion is experienced as meaningful or merely symbolic, particularly through recruitment practices, leadership behavior, and concrete structural supports.

Conclusion: Although limited by heterogeneous study designs and the interpretive nature of narrative synthesis, this review suggests that support for LGBTQ+ trainees is strongest when curriculum, mentorship, and institutional practice are aligned. Practical priorities for GME programs include longitudinal specialty-specific teaching, faculty development, affirming mentorship, inclusive recruitment, and visible structural supports embedded in everyday training.

Keywords: graduate medical education, GME, LGBTQ+, medical education, mentorship

Background

Medical education has historically struggled to integrate the needs of multiple marginalized populations in a longitudinal and clinically meaningful way. Within that broader context, LGBTQ+ (Lesbian, Gay, Bisexual, Transgender, Queer, and additional sexual and gender minority identities) health content remains inconsistently incorporated across undergraduate and graduate training, and these deficiencies often persist into residency and fellowship. For the LGBTQ+ trainee in graduate medical education (GME), this inconsistency is not simply curricular; it shapes professional formation through uneven educational exposure, limited affirming mentorship, concerns about identity disclosure, and training environments that do not consistently support belonging or safety.[1,2] Earlier training has also framed LGBTQ+ topics through narrow, pathology- or risk-based lenses, while preventive care, chronic disease, identity development, and affirming longitudinal care receive less attention.[3,4] This hidden curriculum can be

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especially consequential for transgender and nonbinary trainees, whose educational and clinical experiences are further shaped by curricular omission and limited institutional support.[5] As a result, trainees may remain underprepared to provide affirming, clinically competent care for transgender and nonbinary patients across routine and specialty-specific settings.

In graduate medical education, support for LGBTQ+ trainees remains inconsistent, fragmented, and variable across specialties and institutions. Published curricula have expanded, but their scope, depth, and clinical applicability remain uneven.[6,7] Across specialties, LGBTQ+ training continues to vary in quantity, quality, and clinical relevance, and transgender health remains underrepresented despite requiring specific communication skills, clinical knowledge, and attention to structural barriers to care.[6,8,9] These educational deficiencies intersect with workplace experiences, as LGBTQ+ trainees may also face mistreatment, pressure to conceal identity, and reduced belonging, all of which can adversely affect well-being, professional development, and retention.[10,11]

Despite growing attention to LGBTQ+ health in medical education, an important gap remains in GME: curricular, mentorship, and institutional challenges affecting LGBTQ+ trainees are often described separately rather than synthesized as interrelated influences on training. As a result, support for LGBTQ+ trainees remains inconsistent across specialties and institutions, and the practical implications for GME programs may be insufficiently integrated. This narrative review addresses that gap through a trainee-centered synthesis of recent literature organized around three recurring domains: curriculum and competency, mentorship and role modeling, and program leadership and institutional support. In doing so, it aims to clarify how these domains shape trainee learning, belonging, well-being, and professional development in residency and fellowship.

Methods

We conducted a structured narrative review to synthesize literature relevant to the support of LGBTQ+ trainees in GME. Through review and thematic analysis, three recurring and interconnected domains emerged: curriculum and competency, mentorship and role modeling, and program leadership and institutional support. These domains guided the narrative synthesis and our examination of how educational and institutional practices influence trainee learning, sense of belonging, well-being, and professional development.

The literature search was performed in PubMed/MEDLINE (Medical Literature Analysis and Retrieval System Online) and in the Education Resources Information Center (ERIC) using free-text terms combined with Boolean operators. Core search concepts included LGBTQ, LGBTQ+, LGBT, sexual and gender minority, transgender, trainee, resident, fellow, curriculum, mentorship, well-being, and graduate medical education/GME. Example search combinations included (LGBTQ OR LGBT OR sexual and gender minority OR transgender) AND (trainee OR resident OR fellow) AND (graduate medical education OR residency OR fellowship), with additional targeted combinations used to broaden retrieval for curriculum, mentorship, educational climate, and institutional support topics. We performed a targeted search of MedEdPORTAL to identify peer-reviewed educational interventions and curricular resources relevant to LGBTQ+ trainees in GME. Search results were limited to publications from January 2019 through March 2026 (Supplemental Material #1).

Titles and abstracts were screened for relevance. Full-text articles were reviewed when they addressed LGBTQ+ trainee experiences, LGBTQ+ health education, curriculum, mentorship, role modeling, educational climate, recruitment, well-being, or institutional practices within residency, fellowship, or other GME settings. Articles focused exclusively on undergraduate medical education were not emphasized unless they provided foundational or transitional insights directly relevant to GME. Articles without a clear educational, trainee, or institutional connection to GME were excluded from narrative synthesis.

Because this was a narrative review rather than a systematic or scoping review, findings were synthesized thematically and organized into the three domains above. Recommendations presented in this review represent the authors' interpretive synthesis of the reviewed literature and are not presented as original empirical findings. Conduct and reporting were informed by the Scale for the Assessment of Narrative Review Articles (SANRA).

Curriculum Development and Competency

LGBTQ+ education in GME has expanded, but remains inconsistent across specialties, settings, and levels of training.[6,12] A 2025 scoping review identified 52 United States (U.S.) residency articles across 12 specialties and found wide variability in teaching hours, content, and educational methods, with persistent gaps in transgender health and meaningful clinical exposure.[6] Similarly, a national survey of 1048 U.S. residency programs reported a median of 2.0 hours of didactic LGBTQ-related teaching per year and 10.0 hours of clinical exposure, with 15.8% of programs reporting no didactic content and 19.4% no clinical exposure at all.[12] Across studies, limited curricular time and lack of faculty expertise were the most common barriers to implementation.[9,12,13]

These deficiencies recur across specialties. In pediatrics, only a small minority of programs reported a robust LGBTQ+ curriculum, and more than half of program directors felt residents were not adequately prepared to care for LGBTQ+ patients by graduation.[9] Similar limitations have been reported in pediatric emergency medicine and pediatric anesthesiology fellowships, where LGBTQ+ and transgender content remain limited or absent for some learners.[13,14] Comparable patterns have also been described in emergency medicine, dermatology, psychiatry, and obstetrics and gynecology, where curricular time remains limited and transgender health content is often underrepresented.[15–19] Collectively, these findings suggest that curricular gaps are widespread rather than specialty specific.

Routine progression through training does not appear to reliably improve preparedness in the absence of targeted instruction. In a multicenter study of 833 internal medicine residents across 120 U.S. residency programs, baseline LGBTQ+ knowledge scores did not differ by postgraduate year, whereas scores improved after completion of a structured online module.[20] Internal medicine needs assessments have similarly found that residents consider LGBTQ+ education important but remain dissatisfied with current training and often prefer interactive, case-based formats.[21] Other studies have reported limited prior LGBTQ+ teaching at both undergraduate and postgraduate levels despite perceived clinical relevance.[22] Together, these findings suggest that competence in LGBTQ+ care does not consistently develop through routine clinical exposure alone.

Educational interventions generally improve learner outcomes, although the methodological strength of the literature remains limited.[7,23] A 2023 systematic review of 36 studies found that affirming and inclusive care training for medical students and residents improved knowledge, comfort, attitudes, confidence, and skills.[7] A second review focused on knowledge retention and clinical skills found that relatively few studies evaluated durable outcomes or observed performance.[23] In graduate surgical education, a systematic review likewise found limited exposure to transgender health and gender-affirming surgery content despite broad recognition of its importance.[24] More recent intervention studies suggest that clinically focused, specialty-relevant curricula may improve knowledge and self-efficacy. A randomized trial involving 623 internal medicine residents found that brief educational interventions increased the self-reported likelihood of initiating and continuing gender-affirming hormone therapy, with greater gains in knowledge and comfort in the clinically focused arm.[25] Controlled and single-site studies in internal medicine and family medicine have similarly reported improvements in transgender health knowledge, confidence, sexual health care, pre-exposure prophylaxis (PrEP), and gender-affirming hormone therapy management after structured curricula.[26–28]

Experiential and longitudinal models have also shown promise. Transgender standardized-patient exposure has been associated with better gender-affirming communication and case-specific clinical skills during residency.[29] Standardized-patient and simulation-based curricula in family medicine and obstetrics and gynecology have improved knowledge, comfort, and awareness related to gender-affirming care, informed consent, and transition-related resources.[30,31] Dedicated LGBTQ+ clinical exposure in family medicine residency has also been associated with increased confidence and later incorporation of LGBTQ+ care into practice.[32] Interprofessional simulation has similarly been used to teach affirmative transgender care in hospital settings.[33] In parallel, the literature increasingly includes longitudinal and competency-based approaches. Longitudinal pediatric curricula have improved resident and faculty comfort and knowledge[34] while competency-based frameworks have also been proposed through a pediatric entrustable professional activity, consensus transgender health objectives in endocrinology, and fellowship recommendations in hospice and palliative medicine.[35–37]

Despite this progress, important content and evaluation gaps remain. Surveys across multiple specialties continue to identify insufficient knowledge of gender-affirming hormone therapy, surgeries, referral pathways, community resources, and care of older LGBTQ+ adults.[38–41] Most studies also remain focused on short-term outcomes such as self-reported comfort or knowledge, with fewer assessing sustained behavior change, workplace application, or patient-centered outcomes.[7,23] Taken together, the literature suggests that LGBTQ+ curricular development in GME is expanding, but remains uneven in depth, clinical relevance, and evaluation.

Mentorship and Role Modeling

Mentorship and role modeling emerge consistently in the literature as important influences on the LGBTQ+ trainee experience in graduate medical education, particularly in relation to belonging, visibility, and professional development. A scoping review of LGBTQ+ medical trainee experiences in GME identified mentorship and community as protective factors, while also highlighting recurring themes of discrimination, concealment of identity, and lack of institutional inclusivity.[2] Similarly, a survey of sexual and gender minority students pursuing health-related careers found that mentorship was rated highly both when mentors openly identified as sexual and gender minority and when mentors did not share that identity but demonstrated affirming behaviors and willingness to address homophobia and transphobia in academic settings.[42]

The broader learning environment also shapes mentorship and role modeling. A longitudinal study found that greater contact with LGBTQ+ individuals during medical school predicted lower explicit bias during residency, whereas exposure to negative role models predicted higher explicit bias.[43] A more recent qualitative study suggested that educator comfort, fear of mistakes, and limited institutional support influence how sexual and gender minority health is taught and modeled.[44] Together, these findings suggest that faculty behavior and informal teaching may influence whether trainees experience the learning environment as affirming or exclusionary.

Recent GME literature suggests that visible representation and affirming role models remain important during residency and fellowship. In otolaryngology, LGBTQ+ residents reported less comfort disclosing relationships to attendings, perceived a worse residency environment, and were more likely to consider leaving their program, while the presence of LGBTQ+ faculty or residents positively influenced rank lists for LGBTQ+ applicants.[45] In neurosurgery, many LGBTQ+ residents reported concerns about how their identity would be perceived during applications and work, including intentional concealment.[46] In general surgery, national survey data showed higher rates of discrimination, sexual harassment, and bullying among LGBTQ+ residents, with attending surgeons identified as the most common source of mistreatment.[10] A single-institution study similarly found that LGBTQ+ trainees were more likely to report offensive remarks and discriminatory experiences.[47] These findings suggest that mentorship cannot be separated from the broader interpersonal and cultural climate of training.

Representation at senior levels remains limited in several fields. In a large cross-sectional study from the United Kingdom and Republic of Ireland, consultant diversity was lower than trainee diversity, and consultants identifying as LGBTQ+ were underrepresented relative to the general population.[48] In Canadian surgical leadership, investigators also noted a marked absence of binary-identified trans individuals despite limited nonbinary and agender representation.[49] This limited senior-level representation may reduce opportunities for identity-concordant mentorship and visible career modeling.

Disclosure concerns also shape recruitment and training experiences. In a national survey of transgender and nonbinary physicians, many respondents reported feeling unsafe disclosing gender identity during residency interviews, being misnamed or misgendered, or perceiving that gender identity may have affected ranking.[50] A practice-oriented article on supporting transgender and nonbinary residents emphasized that trainees should not be expected to educate programs themselves and highlighted the importance of affirming names and pronouns, gender-neutral bathrooms, insurance coverage, and proactive institutional support.[51] In otolaryngology, analysis of 928 residency applications found only two applicants who explicitly self-identified as LGBTQ+ in personal statements, suggesting substantial underdisclosure, underrepresentation, or both.[52]

Several reports describe deliberate efforts to improve LGBTQ+ visibility and mentorship within training programs. A descriptive report from one general surgery residency outlined long-term efforts to foster visible LGBTQ+ leadership,

openly LGBTQ+ faculty presence, allyship culture, and institutional recognition of LGBTQ+ inclusion, alongside an increase in residents identifying as LGBTQ+ over time.[53] A related perspective article emphasized intentional cultural and structural strategies to improve recruitment and support for LGBTQ+ trainees in surgery.[54] In surgical residency more broadly, a narrative review of mentoring across differences explicitly included LGBTQ+ trainees within its framework for underrepresented learners and emphasized deliberate institutional support rather than reliance on informal mentor matching alone.[55]

Faculty development may also shape role modeling by reducing reliance on LGBTQ+ trainees as informal educators. A 2-hour train-the-trainer workshop implemented in 3 pediatrics educational settings provided faculty and residents with anticipated benefit for both clinical practice and learner teaching sexual orientation and gender identity in clinical settings.[56] A more recent faculty educational intervention using 1-hour didactics plus small group discussion format improved participants awareness of gender and sex differences, recognition of relevance of gender to teaching and readiness to discuss physiological drivers on sex-linked diseases in medical education.[57] In internal medicine, faculty who participated in LGBTQ+ curricular activities were perceived by residents as more knowledgeable and comfortable with the content.[58] Taken together, these studies suggest that affirming mentorship and role modeling depend not only on individual mentors, but also on faculty development, visible representation, and training environments that support LGBTQ+ inclusion.

Program Leadership and Institutional Climate

Program leadership and institutional practices shape the conditions under which LGBTQ+ trainees are recruited, supported, and retained in graduate medical education. Recent literature suggests that these conditions are influenced not only by local program culture, but also by visible institutional signals, structural policies, and the broader socio-political environment.[59,60] A recent American College of Physicians position paper explicitly supported incorporation of LGBTQ+ health into medical school, residency, and continuing medical education curricula, as well as recruitment and support programs for LGBTQ+ learners and physicians.[59] In parallel, a mapping study in surgical education found that most general surgery training positions and fellowship opportunities were in states with enacted anti-LGBTQ legislation, indicating that external policy context may also shape the institutional environment in which trainees learn.[60]

Recruitment practices are one area in which institutional support becomes visible to applicants. In a report describing an LGBTQ-focused applicant–resident chat in internal medicine, inclusion of a 30-minute conversation with LGBTQ+ trainees was associated with an increase in the proportion of incoming residents identifying as LGBTQ+, from 3.9% to 8.5% over subsequent recruitment cycles.[61] In a national survey of transgender and nonbinary physicians during residency application, many respondents reported feeling unsafe disclosing gender identity during interviews, being misnamed or misgendered, or perceiving that gender identity may have negatively affected ranking.[50] Together, these findings suggest that applicants are highly attuned to whether programs communicate safety, inclusion, and affirmation during recruitment.

Website analyses further suggest that many programs communicate Diversity, Equity and Inclusion (DEI) and LGBTQ+ support inconsistently. In internal medicine, only 30% of residency websites had a DEI section, 41% had a dedicated wellness page, and 23% identified a wellness officer, indicating variability in how support structures are made visible to applicants.[62] In obstetrics and gynecology, only 17.4% of residency websites contained any LGBTQ+ content and only 2.8% specifically mentioned LGBTQ+ didactics or rotations.[63] In general surgery, 92% of top-ranked programs had DEI webpages, but only 43% had LGBTQ+-specific webpages.[64] In radiology, diversity statements were common at an institutional or departmental level, but sexual orientation was named in only a subset, and DEI committees were variably visible online.[65,66] Collectively, these findings suggest that institutional commitment is often only partially visible to prospective trainees.

Several studies have examined concrete institutional readiness to support LGBTQ+ and transgender/nonbinary trainees once they enter training. In a national needs assessment of obstetrics and gynecology residency programs, 97% of programs agreed they had a duty to provide an inclusive environment for transgender and nonbinary residents, but only 57.4% felt prepared to support an incoming transgender and gender nonbinary (TGNB) resident; readiness was associated with having had a TGNB resident previously, pronoun pins, and accessible gender-neutral bathrooms.[67]

A practical article on supporting transgender and nonbinary residents similarly highlighted affirming names and pronouns, nondiscrimination policies, gender-neutral bathrooms, and health insurance coverage as important programmatic supports.[51] These findings suggest that stated commitment to inclusion does not always translate into operational preparedness.

Institutional support also extends beyond recruitment and identity affirmation to trainee well-being and life planning. A national cross-sectional survey of U.S. residents found that LGBTQ+ trainees reported greater barriers to family-building, including cost and relationship-related barriers, and that only 9.1% of all respondents had received educational lectures on family-building options, while 80.2% believed GME should offer more support in this area.[68] In a large national survey of general surgery residents, LGBTQ+ identity was among the top three factors associated with suicidality, with an odds ratio (OR) of 1.67, alongside bullying (OR 2.42) and sexual harassment (OR 2.18).[69] These findings underscore that institutional climate is closely linked not only to inclusion, but also to broader trainee well-being.

Variability in diversity efforts and outreach is also evident across programs. In regional anesthesia and acute pain medicine fellowships, half of program directors reported no LGBTQ+ fellows and 61% reported no outreach programs targeted to underrepresented groups, despite most believing their programs were successful at being diverse.[70] In Canadian anesthesiology residency programs, 87% of residents felt DEI was important, but 52% were unaware of any DEI initiatives in their programs and 43% reported receiving no DEI training.[71] In endocrinology fellowships, both fellows and program leaders expressed high interest in structured diversity, inclusion, and health-equity curricula, despite persistent representation gaps.[39] Together, these studies suggest that institutional efforts remain uneven in visibility, reach, and implementation.

Finally, several descriptive reports suggest that intentional institutional efforts may improve LGBTQ+ visibility and recruitment. A general surgery residency described long-term strategies including visible LGBTQ+ faculty leadership, allyship culture, and institutional recognition of LGBTQ+ inclusion, alongside growth in the proportion of residents identifying as LGBTQ+ over time.[53] A related surgery perspective similarly emphasized visible leadership, inclusive culture, and institutional commitment as necessary components of a welcoming training environment.[54]

Discussion

This narrative review suggests that the challenges faced by LGBTQ+ trainees in graduate medical education (GME) arise not from a single deficiency, but from the cumulative interplay of curriculum, mentorship, and institutional climate. Across the literature, these domains shape whether trainees feel prepared, visible, supported, and able to participate authentically in training. Viewed in this way, support for LGBTQ+ trainees is not peripheral to GME; it is closely tied to programs' educational responsibility to foster inclusive learning environments and prepare physicians to care for diverse patient populations.[72,73]

A trainee-centered reading of the literature suggests that curricular gaps matter not only because they limit clinical knowledge, but also because they signal whose identities and patient populations are regarded as relevant within training. When LGBTQ+ health content is absent, narrowly framed, or inconsistently delivered, trainees may be left underprepared to care for LGBTQ+ patients while also receiving the implicit message that such content is secondary rather than integral to professional competence. For LGBTQ+ trainees, this may carry additional significance, as curriculum can shape both clinical development and the extent to which their identities and lived experiences are recognized within the educational environment.

The literature similarly indicates that mentorship and role modeling influence LGBTQ+ trainees not only through career guidance, but also through belonging, disclosure safety, and professional visibility. The presence of affirming mentors may affect whether trainees feel able to navigate training authentically, seek sponsorship, and envision long-term advancement within their field. In this context, mentorship functions not merely as support, but also as an indicator of whether trainees are fully included within the profession. Conversely, negative role modeling, silence around bias, and the absence of visible affirming faculty may reinforce concealment and isolation, even in settings where formal commitments to diversity are present.

Institutional climate further shapes whether support is experienced as substantive or symbolic. Although public statements of inclusion may be meaningful, trainees encounter institutional values most directly through recruitment processes, everyday workplace culture, leadership behavior, and the availability of concrete supports. For LGBTQ+ trainees, these conditions influence not only well-being, but also whether participation in training requires concealment, self-protection, or additional emotional labor. From this perspective, institutional support is part of the educational infrastructure of GME because it shapes the conditions under which trainees learn, develop professionally, and remain in training. Prior institutional guidance likewise emphasizes that inclusive climate depends on visible structures, equity-oriented policies, and mechanisms that translate support into practice.[74]

Taken together, the literature suggests that improving the experiences of LGBTQ+ trainees requires more than isolated curricular additions or symbolic expressions of support. What appears most consequential is whether programs create learning environments in which trainees can develop without erasure, access mentorship without fear, and progress professionally without having to negotiate belonging alone. A trainee-centered framework therefore shifts attention from representation alone to the educational conditions that shape whether LGBTQ+ trainees experience GME as affirming, safe, and professionally sustainable.[72–74]

This review should be interpreted in light of several limitations. As a structured narrative review, it was not designed to provide exhaustive study identification, formal risk-of-bias assessment, or quantitative evidence grading. The available literature is heterogeneous across specialties, institutions, and study designs, and many reports rely on single-site interventions, cross-sectional surveys, and self-reported outcomes rather than longitudinal behavior or patient-centered outcomes. Publication bias is also possible, particularly because programs with visible LGBTQ+ curricular or institutional efforts may be more likely to publish their experiences. Accordingly, the recommendations offered here should be understood as an interpretive synthesis of the current literature rather than prescriptive standards or evidence-ranked best practices.

In practice, programs may approach this work in phased steps: first, assess existing LGBTQ+ curricular content, mentorship availability, recruitment messaging, and structural supports; second, identify specialty-specific gaps and faculty development needs; and third, implement a small set of visible changes that trainees can experience directly, such as longitudinal curricular touchpoints, affirming name and pronoun workflows, access to gender-neutral spaces, mentorship or sponsorship pathways, and recruitment practices that clearly communicate inclusion. Program leadership can then monitor progress through trainee feedback, curricular assessment, and visible accountability structures.

Conclusion

In conclusion, this narrative review suggests that support for LGBTQ+ trainees in graduate medical education depends less on isolated initiatives than on whether programs align curriculum, mentorship, and institutional practice in ways that are visible and meaningful to trainees. For educators, this includes integrating specialty-specific, clinically relevant, and longitudinal LGBTQ+ content into routine training rather than relying on one-time sessions. For program and institutional leaders, it includes strengthening affirming mentorship, faculty development, inclusive recruitment, clear anti-discrimination processes, and concrete structural supports such as affirming name and pronoun practices, accessible facilities, and equitable benefits. A practical next step for many programs is to begin with a local needs assessment and implement a small number of high-visibility, trainee-facing changes that can be reinforced over time. Framed this way, supporting LGBTQ+ trainees is not an optional add-on, but part of the educational infrastructure required for trainee well-being, professional development, and preparation to care for diverse patient populations.

Abbreviations

DEI, Diversity, Equity, and Inclusion; ERIC, Education Resources Information Center; GME, Graduate Medical Education; LGBTQ+, Lesbian, Gay, Bisexual, Transgender, Queer, and additional sexual and gender minority identities; MEDLINE, Medical Literature Analysis and Retrieval System Online; OR, Odds Ratio; PrEP, Pre-Exposure Prophylaxis; SANRA, Scale for the Assessment of Narrative Review Articles; TGNB, Transgender and Gender Nonbinary; U.S., United States.

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Author Contributions

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