

Sexual and Gender Minority Health: A roadmap for developing evidence-based medical school curricula

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The Importance of LGBTQ Health in Undergraduate Medical Education

The marginalization and discrimination faced by sexual and gender minority (SGM) individuals contribute to significant health disparities. The Standing Committee on Health of the House of Commons of Canada released a report in 2019 showing that SGM individuals are four times more likely to attempt suicide and have higher rates of cardiovascular and respiratory diseases, as well as arthritis, certain cancers, and sexually transmitted infections than their heterosexual, cisgender counterparts (1). Overall, these disparities can be partially explained by the stigmatization of SGM communities within healthcare: homosexuality was only removed from the Diagnostic and Statistical Manual of Mental Disorders (DSM) as an illness in 1973 (2), and “gender dysphoria” is still a hotly debated DSM-5 diagnosis (3). Additionally, this pathologizing of the SGM community, coupled with a perceived lack of practitioner knowledge regarding their health needs (4), has led to long-standing distrust of practitioners by the SGM community and avoidance of medical care in general (4,5).

With this in mind, it is largely accepted that one way to improve health outcomes for SGM communities is to decrease stigmatization of these communities within medicine, and this should start with educating medical students (1,6,7). It is important to tackle this at an undergraduate medical level because literature has shown that early and repeated exposure to SGM-related health topics improves retention and reduces stigma and bias towards these groups (8,9). Further, medical students want training that prepares them to care for patients from broad backgrounds (10). A 2022 cross-sectional study demonstrated that medical students exhibit a relatively “high degree of personal comfort in caring for transgender patients but lack the knowledge and skills to confidently care for them” (6). This indicates that medical students want to learn more than what is offered by current curricula, which seek to teach cultural competence but do not include medical knowledge or concrete skills.

In this paper, we will first establish the current global standard in teaching SGM medical education, including commonly used teaching techniques and a review of literature regarding best practices. We then explain why a Canadian standard is needed despite the existence of an American set of guidelines; in brief, an intersectional analysis of the Canadian political and social landscape shows multiple oppressive systems that cause unique challenges for the SGM community, including SGM minorities of color and Two-Spirit individuals (1). The current state of Canadian medical education also reveals important gaps in national curricula. Methods for addressing these gaps are further discussed below through eight recommendations that we believe are instrumental to forming a new and comprehensive SGM curriculum in Canada.

In teaching medical students, it is imperative first to recognize that sexual minority (SM) and gender minority (GM) populations face unique and varied challenges with minimal overlap. These two groups are often conflated due to the hetero- and cis-normative medical gaze that has historically grouped them through a lack of understanding of the differences between sex and gender. Teaching medical students about these two distinct communities under one umbrella is a disservice to students and SM and GM patients; however, most medical schools in Canada currently do not make this distinction in their curriculum (11). Throughout this document, we make it a point to discuss these communities separately whenever possible, and our suggested competencies are separated into SM and GM parts.

Current Global Perspectives

A review of global gray literature concerning the current state of SGM medical education shows a paucity of established guidelines. In the UK, despite the wide availability of position statements and best practice guidelines from medical and nursing organizations that address treatment of SGM patients, there are no guidelines for teaching these concepts (12). In the United States, the existing teaching guideline published in 2014 is *Implementing Curricular and Institutional Climate Changes to Improve Health Care for Individuals who are LGBT, Gender Nonconforming, or born with a Disorder of Sexual Development (DSD)*, after this referred to as the “AAMC Guidelines” (13). This document is a set of 30 competencies ranging from communication skills to medical knowledge. This set of guidelines has been referenced extensively through literature as guiding principles for curricular reform throughout the United States and globally. No official guidelines have been established in Canada.

Despite the lack of established guidelines outside of the United States, there have been concerted efforts to develop adequate curricula in many countries. Some notable examples are listed in Table 1; these examples outline novel approaches to curriculum design that have proven effective with statistical measures described in each reference. We include them as potential starting points for curricular designers searching for a starting point.

Table 1: Examples of literature describing novel curricular efforts for SGM content

Reference	Novel addition
Let's Talk About Sex: The Social Determinants of Sexual and Reproductive Health for Second-Year Medical Students (14)	A medical school in Florida had an established didactic lecture to teach SGM-relevant content, but added a panel discussion with community members after it was raised that students felt their lecture was politically motivated, and expressed that the healthcare disparities discussed were “exaggerated.” The addition of lived experience was key for ensuring students understood the importance of learning this topic.
Education of the medical profession to facilitate delivery of transgender health care in an Australian health district (15)	This Australian paper describes the steps researchers took to consult local SGM stakeholders when designing their curriculum to ensure content presented reflected the needs of their community.
The Case of Ty Jackson: An Interactive Module on LGBT Health Employing Introspective Techniques and Video-Based Case Discussion (16)	Among other excellent efforts, this US-based research group provided students with rainbow lapel pins to advertise their allyship and pocket-sized, laminated copies of the gingerbread person to serve as a reference guide in clinic, which was noted to be of use to students.
A Novel Curriculum for Medical Student Training in LGBTQ Healthcare: A Regional Pathway Experience (17)	This paper describes an attempt at a four-year, longitudinal integrated curriculum that ensures repetition of the material for additional retention and can serve as a model for schools that currently utilize a

	spiral education model or who want to ensure longitudinal integration of content throughout both pre-clerkship and clerkship (see Recommendation 3).
Student Journal Club to Improve Cultural Humility with LGBTQ Patients (18)	This paper describes how a student-driven, faculty-moderated journal club successfully increased cultural humility and decreased bias towards the SGM community. However, the sample size of students was quite small.
Using Standardized Patients to Augment Communication Skills and Self-Efficacy in Caring for Transgender Youth (19)	This paper utilized a checklist of skills students should demonstrate while interviewing standardized patients, and contrary to their previous OSCE structure, allowed students to try a station twice and assess improvement in communication with the same scenario.

The Current State of Canadian Undergraduate Medical SGM Education

The landscape of SGM education in medical schools in Canada is heterogenous, and no standardized set of competencies exists that medical students should attain to properly address 2SLGBTQ+ health and healthcare disparities (10). In a survey of practicing physicians in Winnipeg, exposure to SGM subjects during UGME varied between none to one day per year throughout their training (10). Despite the lack of national standardization in SGM education, ongoing calls for increased SGM education and representation have manifested independently across the country (10,11,20,21). In some cases, anti-2SLGBTQ+ discrimination and heterosexism have been identified in UGME alongside a paucity of SGM education (22). In the authors' experiences, when discussing this with curriculum leaders across the country, the lack of a national teaching standard for guidance on this topic is noted to be a significant barrier to developing and delivering this material.

Limitations in Canadian SGM curricula relating to transgender care are a particular area of concern. A qualitative study of physician knowledge of transgender health and healthcare in Manitoba found significant disparities, reflecting poor representation of this community in local medical education (10). These disparities are not confined to any one province. These knowledge deficits included a lack of physician comfort in providing hormone therapy and care for patients who were medically transitioning, as well as a general lack of knowledge about the health needs of transgender patients. These disparities resulted in unnecessary referrals for patients seeking to transition, causing increased wait times, decreased access to care, and a lack of appropriate screening for relevant health issues such as gynecologic malignancies and pregnancy for transgender men (10). A lack of education on transgender care was also identified in research at the University of Ottawa, with a consequence of decreased practitioner comfort in treating this population (22).

The current framework for Canadian medical education presents an opportunity to integrate these needs into a competency-based curriculum. Specifically, adequate fulfillment of the Medical Expert and Health Advocate CanMEDS roles should include 2SLGBTQ+-specific competencies. Currently, the key

Medical Expert competency “Practice medicine within their defined scope of practice and expertise” is unmet among physicians who lack training in transgender care, which is well within the scope of generalists and family physicians (23). A set of specific competencies regarding SGM communities is warranted to highlight the importance of SGM education (24) and existing educational discrepancies. This change would align with key concepts of the Health Advocate role, specifically those relating to health equity and continuous quality improvement (25).

Our Recommendations

Recommendation 1: Standardize learning objectives across the country to empower each medical student to achieve competency in this field.

Through a thorough review of literature, the AAMC guidelines, (13) and our experiences as medical students, physicians, educators, and advocates, we have developed a suggested list of competencies guided by existing CanMEDS roles (24). These competencies can be found in Table 2, along with relevant sources to support our inclusion of these competencies where possible. It is important to note that, unlike the current curriculum landscape in Canada, these competencies span much more than cultural sensitivity and include elements vital to becoming a medical expert, the CanMEDS Integrating role. In addition, wherever appropriate, we have included separate and specific learning objectives for the SM and GM communities. The landscape of SGM communities is constantly changing, and competencies should be continuously revised to stay current.

Table 2: CanMEDS roles and suggested competencies

CanMEDS Role	Suggested Competencies: By the end of their fourth year of medicine, students should be able to...
Medical Expert	<i>Sexual identity:</i> Understand the difference between sex anatomy, sex development, sexual behavior and sexual orientation. (26) Understand that sexual identity and sexual behavior are key components of sexual, physical, and mental health, and understand the importance of soliciting this demographic information sensitively for comprehensive medical care. (26) Provide effective primary care, anticipatory guidance, and screening tests for patients (ex: intimate partner violence, safe sexual practices, cancer screening). (26,27) <i>Gender identity:</i> Understand the difference between sex anatomy, gender identity, and gender expression. Definitions to understand include, but are not limited to, transgender, non-binary, intersex and Two-Spirit. (31) Be able to identify atypical sexual development (ex: congenital adrenal hyperplasia), its etiologies, and basic management strategies, including counseling parents. Have an understanding of the harm done to intersex patients whose anatomy has been forcefully corrected surgically as infants. (23,32) Understand that gender identity impacts both physical and mental health and understand how to sensitively elicit this demographic

	information for comprehensive medical care. (26) Understand how to perform a sensitive and trauma-informed physical examination, including identifying when such an exam may be inappropriate or unnecessarily traumatizing. (23) Describe the options available for patients seeking to transition, including medical transitions (e.g. hormone therapy) and surgical options, their indications, benefits, and risks, including how to prescribe relevant medications. (23,27) Recognize how patients may choose to affirm their gender identity with non-prescription approaches, including chest binding, tucking, and seeking online hormone therapies, and be able to counsel on the risks and safe uses of these options. (23)
Communicator	<i>Sexual identity:</i> Take a comprehensive and sensitive sexual history for patients of any age, race, sexuality, and gender identity. (13) <i>Gender identity:</i> Understand the importance of identifying and using the correct pronouns for patients and how to ask for this information. (23) Be able to develop rapport with all individuals involved in the care of a patient regardless of sexual identity or gender expression, including parents, whose concerns and needs may be different than their children. Recognize the sensitivity of some clinical information pertaining to the care of sexual or gender minority patients, including when not to divulge aspects of their identities to family or others.
Collaborator	Understand how to counsel patients and their families about their sexual health and gender identity to empower them toward shared decision-making. Ensure consent is obtained from a patient before involving family. (23) Understand the importance of allied health in the care of gender minority patients and be able to involve the entire health team in decision-making for patient care.
Leader	Recognize and develop strategies to mitigate the inherent power imbalance between physician and patient, patient and parent/guardian, and physician and parent/guardian. (13) Understand how implicit and explicit bias about sexuality and gender may adversely affect patient care and engage in constant corrective self-reflective processes to reduce these effects.

Health Advocate	Understand the historical, political, institutional, and sociocultural factors implicated in minority stress for both SM and GM groups and how this relates to poor physical and mental health outcomes (26). Understand the legal and cultural context in their jurisdiction for medical and social transition and how to help transgender patients navigate this process. Understand the legal requirement and moral obligation to refer patients for care related to sexual or gender identity if one is not comfortable providing such care. Prepare to engage in continuous self-development around SGM health care topics, as terminology, the legal and political landscape, and medical needs are always evolving. (13)
Scholar	Be able to identify local, provincial, and national resources for both SM and GM patients who seek support beyond the medical office. Be able to identify how SGM topics relate to any subspecialty in medicine. (27)
Professional	Recognize communication patterns in healthcare settings that may prove detrimental for a patient and develop strategies to effectively address these situations to protect patients from one's own implicit bias and that of other team members. Recognize that team members may also identify as SGM individuals and be able to provide support when needed to maximize inclusion and minimize the harmful effects of implicit bias on team members.

Recommendation 2: Use established curricular models to guide the establishment, monitoring and continual improvement of curricula.

We recommend the use of established curricular models for designing and implementing curricular change according to the competencies described in Recommendation 1. This allows for a consistent approach to curricular reform that will be resistant to faculty turnover and will ensure monitoring and evaluation strategies are in place when a new curriculum is rolled out. We include validated models and examples of educators who have used them to develop an SGM curriculum to offer a starting point. Institutions should use the curricular development method they are most comfortable with as long as it helps ensure consistency and integrates an evaluation and improvement step.

First, the Kern model of curriculum development (28) is a 6-step circular process that facilitates developing and monitoring a new curriculum. It has been validated numerous times as a guiding

process for curricular reform and can serve as a starting point for SGM curricula. Many recommendations in the rest of this document can be directly mapped to one of these steps.

Box 1: The Kern model of curriculum development (28)

1. Problem identification and general needs assessment
2. Targeted needs assessment (*see Recommendation 8*)
3. Setting goals and objectives (*see Recommendation 1*)
4. Identifying the appropriate educational strategies (*see Recommendation 4*)
5. Implementation of the curriculum (*see Recommendation 3*)
6. Evaluation and feedback

The Kern model has been used with success by a group of educators at Rutgers university to develop two curricula, one as an introduction to the SGM community in general (16) and one specific to transgender health.(29) Both led to an increase in understanding and comfort in first year medical students when comparing pre- and post-course surveys. Specifically, their needs assessment revealed that students would benefit from watching a physician interact with a patient, first poorly, then well after a period of group reflection about the physician's performance. Their use of the Kern model helped them establish a teaching method (good and bad performance videos) that was novel to their institution (16,29).

The Kirkpatrick model of curriculum evaluation (30) has also been validated in literature in its application to SGM education. This model helps guide the process of evaluation and feedback around a new curriculum, which in turn guides future improvements. The Kirkpatrick model contains four levels of criteria:

Box 2: The Kirkpatrick model of curriculum evaluation (30)

1. Reaction: whether learners find the curriculum engaging, useful and relevant
2. Learning: whether learners have acquired the intended knowledge, skills and confidence that was intended to be taught.
3. Behaviour: whether learners were impacted by what they have learned and how they are applying it.
4. Results: how metrics related to key outcomes have changed.

The Kirkpatrick model has been successfully used by Roth et al. for creating a curriculum based on AAMC competencies. They evaluated this new curriculum by first asking participants to rate their satisfaction with the curriculum and importance to their residency program using a Likert scale. They then utilized pre- and post-curriculum subjective ratings of learners' perceived knowledge and comfort to assess changes in learning and knowledge assessments for a more objective measure of the success of this curriculum. Their post-curriculum assessment also included questions regarding how students intended to use what they learned in the clinic. Finally, the research team assessed changes in self-reported percentages of time providers spent asking relevant patient history questions. In doing so, the team assessed all four levels of the Kirkpatrick model and ensured their curriculum adequately addressed the needs of their learners, both immediately and longitudinally in clinic (31).

More specific to the SGM community, Zumwalt et al. have established the SGM-CAT (32), a list of 12 items distilled from the AAMC's guidelines that serve as curricular teaching goals. This work was done in the context of their curriculum renewal as described above, and this checklist can be used or adapted to individual institutional goals or CanMEDS objectives (see Recommendation 1) to help evaluate any new curricula that are established at a Canadian institution.

Recommendation 3: SGM content should be interwoven in already existing learning events, and stand-alone “LGBTQ health” lectures should be avoided. All learning events with SGM health topics should be mandatory.

SGM content should be included in the longitudinal medical curriculum as part of already existing, mandatory learning events as it fosters an environment of inclusivity, leads to better retention and decreased bias, and ensures all medical students receive sufficient training in SGM issues.

Interweaving SGM content into already existing mandatory learning events normalizes SGM identities and contextualizes health issues from a diverse and more complete perspective. The original, dominant narratives upon which Western medical schools were founded are reflective of the values and interests of white, wealthy, heterosexual, cisgender men and are inherently oppressive of outside groups such as SGM individuals (33). As the medical community has begun to challenge these narratives and redefine medical education to include perspectives of outside groups, it is critical to integrate this content within the core curriculum (33). Separating SGM content into its own section of the curriculum is a form of “structural othering,” implying that 2SLGBTQ+ individuals are a “special population” and that their health issues are separate from the general public (33). Core-curriculum modifications that account for the broad range of SGM identities and their varying needs will equip students to provide safe, informed care to all patients, no matter the specialty they choose to pursue after undergraduate medical education.

The longitudinal integration of SGM concepts in the medical curriculum decreases student bias towards SGM individuals and leads to better knowledge retention. One study surveyed medical students who had received one or two didactic lectures on treating youth with gender dysphoria and assessed their knowledge of and attitudes toward hormonal interventions for transgender adolescents (8). Similar levels of knowledge were found among students who believe hormonal therapy is ethical and those who believe it is unethical, demonstrating that didactic knowledge about therapeutic benefits alone may not be sufficient to affect attitudes regarding endocrine care for transgender youth (8). There was also evidence that general knowledge and precision in use of terminology decreased over time, suggesting that re-teaching material throughout medical school may improve retention (8). In summary, ongoing, consistent integration of SGM topics and exposure to SGM peers throughout medical training is instrumental for decreasing bias and improving student preparedness to treat SGM patients.

An additional benefit of integration into pre-existing learning events is that it resolves the issue of limited curricular time, which, per informal conversations with curricular leaders, is a commonly cited barrier to teaching SGM content. Modifying existing sessions to include SGM perspectives and use appropriate language circumvents this issue and centres 2SLGBTQ+ identities as an integral part of healthcare.

Further, since longitudinal SGM curricula have been shown to be effective, SGM learning events must be mandatory so that all students benefit from this training.

Integrating LGBTQ content into mandatory lectures ensures that *all* medical students receive this important training on SGM health, as it has been shown that not all students attend optional lectures. In fact, SGM education literature frequently cites this as a limitation of teaching if learning sessions are optional; often, people with interest in and knowledge of the topic are the ones that come to the sessions, not students with a knowledge gap. This is demonstrated by Liang et al. in a study measuring medical student knowledge and comfort with SGM topics via pre- and post-curriculum survey (34). While students who attended extracurricular SGM health learning opportunities or a formal Transgender medicine elective were not identified, “allies and LGBTI-identifying individuals” together accounted for 94% of survey respondents (34). The authors acknowledged response bias as a significant limitation of the study, whereby it is hard to fully characterize the efficacy of the learning sessions when the students choosing to participate already have above-average interest, knowledge, and experience in SGM topics at baseline compared to their peers who did not participate (34). Therefore, mandatory sessions are paramount to ensuring each student benefits from this important teaching.

Literature exists regarding suggestions on incorporating longitudinal SGM education and examples of how it has been done in specific medical programs. Pregnall et al. provide a blueprint for interweaving SGM topics into the existing medical curriculum, focusing on postgraduate medical education (27). They outline clinical considerations for SGM individuals in twenty-seven medical specialties. Internal medicine, for example, could incorporate teaching on “providing acute clinical care for transgender patients, provision of preexposure prophylaxis, gender-affirming hormones and sexual and mental health screenings, and primary care needs of transgender patients.” Urology, for example, could provide training in “prostate cancer in transgender women, provision of gender-affirming phalloplasty and vaginoplasty and management of complications arising from these procedures” (27). Roth et al. outline a longitudinal SGM curriculum that was successfully implemented in the pediatrics PGME setting (31). Their study used educational time that was already attended by both faculty and medical residents to teach pediatric-specific SGM topics over the span of a year. Outcomes included improved practitioner comfort in sensitive SGM-related history taking and teaching this material to students. Following curriculum completion, participants also had an increased interest in adapting their practice to be more inclusive of SGM patients and in applying SGM-specific guidelines to their practice, effectively showcasing the strength of a longitudinal curriculum (31). An in-depth audit into existing UGME curriculum and subject-specific methods of SGM content integration is beyond the scope of our paper; however, these examples demonstrate the universal relevance of SGM care among all medical specialties and serve to encourage curriculum teams to identify SGM topics relevant to their sector of medicine. Pregnall et al. also include a table of relevant studies that detail how SGM topics are taught in various disciplines (see Pregnall et al., Table 2), which can serve as a starting point for any educator attempting to include SGM content within their specific block or area of practice.

Recommendation 4: Cases, panels, role-playing exercises, guest speakers, and other hands-on teaching modalities should be incorporated into SGM curricula as they are more effective than didactic lectures.

The selection of appropriate teaching methods is a critical step for integrating teaching on SGM health issues into medical education, as the selected method will influence how students engage with and retain the material (26). Traditionally, the preclinical years of medical school are delivered through didactic lectures; however, research has shown students learn more effectively with modalities that encourage both interactions between student and teacher and the opportunity to practice or apply knowledge, neither of which a traditional didactic lecture offers (35). Case-based learning allows students to apply the knowledge they acquire to real cases, thereby developing their critical thinking skills (26). This allows for a deeper understanding of the issues that SGM populations face regarding gender, equity in health care and the effect of discrimination on their physical and mental health (also known as minority stress). In the context of this research, a “case-based” learning activity is any modality where students apply what they have learned to a real-life or simulated situation (26); this definition encompasses many kinds of learning activities.

For instance, panel discussions with members of the SGM community were found to be an incredibly effective learning method in a qualitative research study conducted by Yang et al. (26). They note that the stories shared by panelists allowed medical students to acquire new knowledge and better understand the value of these perspectives. The realism offered by narrative teaching using panels or guest speakers helps students give these topics meaning; they are therefore more likely to apply these concepts to their own conduct beyond the classroom. In addition, it was noted that panels and guest speakers were students’ favourite parts of courses and thus promoted more engagement with the material (26). It was also found that a facilitated question-and-answer period with presenters helped engage learners by providing an immediate response to questions (26).

Another method of providing case-based education is through case-based discussions, where students are grouped into teams to discuss a case that has been written either based on a true patient experience or generated to correspond to a set of learning objectives (36). This learning modality allows for discussion between students, which helps develop clinical reasoning and decision-making skills (36). These cases are usually accompanied by a set of questions to guide discussions.

It is important to note that not every institution will have the immediate resources to identify and recruit individuals with lived experience as a member of the SGM community; we provide guidance on this topic in Recommendation 8. In addition, question-and-answer periods and discussions must be facilitated by someone with experience or training to ensure the safety of both the presenter and any SGM students in attendance by adequately responding to any intentional or unintentional microaggressions from students’ questions. The importance of training faculty is further discussed in Recommendation 5. Lastly, role-play and practicing interview techniques are integral to the application of knowledge; we discuss the use of OSCEs in Recommendation 7. For examples of these teaching modalities in action, please see Table 1.

Recommendation 5: Ensure faculty are adequately trained to provide SGM teaching.

Our experience as students, educators, and advocates, and our review of literature have demonstrated that one of the more significant barriers to establishing adequate SGM education within undergraduate medical schools is the scarcity of faculty training to deliver this content (26). Professional development of *all* faculty is essential to ensure that the correct material is taught and that untrained faculty do not perpetuate harmful stereotypes when teaching lectures that are not immediately apparent as being relevant to the SGM community.

Biro et al. conducted qualitative focus groups with medical students who identified that variability in preceptor quality had an impact on their learning; furthermore, they noted that persistent prejudices held by faculty negatively impacted learning as well (36). There is, however, conclusive evidence showing that faculty respond well to training. Roth et al. piloted a yearlong curriculum to address the gaps in pediatric graduate medical education regarding the SGM community and noted a statistically significant increase in comfort from faculty in teaching this material to trainees after the course (31). Key skills for faculty to master extend beyond mastery of the material itself and include discussion facilitation skills to avoid overwhelming students and help strike a balance between students who may be more well-versed in these topics and those who are seeing it for the first time (26). In addition, faculty should be able to sensitively redirect participants who may accidentally engage in perpetuating stereotypes or misgendering without shame (29), and engage in continuous and proactive self-reflection to assist in managing implicit bias (37).

Developing faculty training should follow the same overall approach as the development of student learning materials, including continuous evaluation of the success of this training and ongoing improvements; please refer to Recommendation 2 for an overall approach and suggestions for methods that may be useful.

Recommendation 6: Ensure a safe space for 2SLGBTQ+ students.

A 2019 systematic review on the experiences of sexual and gender-diverse medical students found that 2SLGBTQ+ medical students experience more discrimination than inclusion during their training (38). All students, including SGM students, have the right to a safe and healthy learning environment. Protecting this right involves having a medical curriculum that adequately covers SGM issues, improving the diversity climate of the institution and preparing students to care for this population by facilitating positive interactions with SGM individuals (9). The lack of an adequate SGM health curriculum burdens students, particularly SGM students, to organize extracurricular teaching events on fundamental SGM health issues. This not only tells SGM students that their identity and needs are not essential to medical education, but puts the onus on an already marginalized group to educate their peers and justify the relevance of SGM issues in patient care. It is the institution's responsibility to foster an inclusive space and to provide faculty who have adequate diversity training.

Proper faculty training and a focus on SGM staff recruitment can lead to better representation and inclusion of SGM students. Freeman and Keuroghlian discuss that medical educators may "feel anxious

about inadvertently causing offense” when discussing SGM health issues as a result of insufficient educator fluency in the evolving terminology and concepts related to SGM communities (37). Providing adequate faculty training can help improve educator comfort in teaching these topics and in interactions with SGM students, ultimately creating a safer and more inclusive environment for SGM students. Examples of faculty training include discussing the differences between sex and gender, pronoun variations, and expressions of gender identity, as well as teaching how implicit and explicit anti-SGM bias “adversely impact[s] communication, rapport and decision making in clinical care and education settings” (37). An institution that is welcoming to SGM students and prioritizes faculty awareness and acceptance of the SGM community is more likely to be a positive environment for SGM faculty; this leads to better recruitment and retention of SGM educators (39). Representation is important: SGM faculty serve as mentors, role-models, and advocates for SGM students and staff. They can positively influence institutional views and policies on the SGM community, promoting a culture of respect and equity (39). Institutions with diverse, actively inclusive faculty establish an environment where students can be openly Queer and Trans, which results in improved clinical preparedness for all medical students.

Increased student contact with SGM peers leads to better overall preparation in caring for SGM patients. Phelan et al. found that more frequent favourable contact with SGM colleagues and patients, less faculty role modeling of discriminatory behavior, and less discrimination reported by sexual minority students were associated with lower medical student bias against SGM individuals and greater perceived skill and preparedness in caring for SGM patients (9). An important factor is that having 2SLGBTQ+ students in a program helps peer-to-peer teaching, as these students consistently demonstrate greater knowledge in SGM topics than their cisgender, heterosexual counterparts and can help other students better understand SGM communities and cultures (34). In addition, adequately teaching SGM issues in the curriculum provides all students with a baseline knowledge of SGM issues and removes the burden from SGM students. Ideally, peer-to-peer teaching can thus provide additional context and understanding, as opposed to being the only source of information on these important topics.

Increased general exposure to SGM individuals further serves to mitigate bias and secure a safer environment for 2SLGBTQ+ medical students. Burke et al. found that “more frequent and more positive intergroup contact predicted more positive attitudes toward gay men and lesbian women” and make several recommendations regarding the facilitation of positive contact in a UME setting (40). First, instructors can include SGM individuals on speaker panels, which provides students with a “small number of high-quality positive contact[s].” Their results demonstrate that when contact with SGM individuals was highly favourable, the amount of contact was less important. Second, implementing programs to recruit more SGM students into medical school provides all students with the opportunity for equal-status contact with SGM individuals and is particularly effective for reducing intergroup bias. Third, faculty should foster the development of an inclusive, identity-affirming environment for SGM students, which reduces the risk of dropping out of the program (40).

Recommendation 7: The use of OSCEs as a teaching tool

OSCEs have a role in developing cultural competence in a low-stakes environment. This learning environment allows students to make mistakes and ask questions without offending or harming patients. Greene et al. propose the Learner Activation Framework as a way to engage students in their own learning about transgender health over four levels that help develop agency and self-direction (41). The effective use of OSCEs requires mitigating the sense of judgement that students may feel from their peers. Potter et al. established a set of ground rules for role-playing scenarios and found that faculty enforcement of these rules made students feel safer engaging with the material (42).

It is important to craft cases that adequately prepare students without contributing to bias. A prominent critique of current Canadian curricula is that cases reinforce stereotypes by only discussing SGM patients when their sexuality or gender directly contributes to the case, which often carries a negative connotation. A classic example is the patient with HIV who is always a man who has sex with men, or a case in psychiatry where the patient's depression is tied to their gender identity and nothing else. We propose two ways to mitigate this: first, ensuring cases presented in OSCEs are more nuanced and less focused on the gender or sexuality of a patient. Second, and arguably more important, ensure there are cases of SGM patients seeking care for reasons other than their identity, such as a broken arm. This introduces scenarios where a patient's sexual and gender identity is only relevant as demographic information and does not warrant an in-depth discussion about sexual practices.

Furthermore, many students may feel the need for more than one opportunity to acquire skills and confidence for SGM patient encounters (41). See Recommendation 3 for more information on the benefit of a longitudinal curriculum.

Finally, while OSCEs are not always representative of true patient interaction, hiring standardized patients with lived experience of the identity they are portraying can improve the authenticity of the scenarios. Recommendation 8 has information on recruiting members of the SGM community locally to facilitate the delivery of a course, including OSCEs.

Recommendation 8: Involve the local SGM community in creating new curricula without over-burdening them or putting the onus entirely on students to be these representatives.

The importance of involving the local SGM community in the planning and execution of a curriculum cannot be understated and is especially important in two different phases of establishing a curriculum. First, a reliable needs assessment requires input from the community the curriculum is designed to assist. Since the political and social landscape varies by region across Canada, consulting with local communities will provide invaluable information that can help guide curriculum design. In addition, as previously described, most curricula will utilize teaching modalities where an SGM perspective is presented to the class (for example, panel sessions, focus groups or small group discussions), or where a student can interact with an SGM patient through OSCEs. Early and transparent

communication with local communities will help facilitate the recruitment and retention of SGM individuals who can help to facilitate or participate in these sessions.

Arora et al. utilized local resources effectively when conducting a needs assessment for their medical school in Australia. Through discussions with local Trans individuals and their families, they identified specific skills and components of knowledge that medical students in that region need to be equipped with to care for their patients properly. By doing so, they were able to implement a curriculum that carefully catered to the populations they were serving (15). Salkind et al. also started with a needs assessment in the community, which then facilitated the recruitment of a Trans person for a panel discussion and additional SGM facilitators for small group sessions (cis-identifying small group facilitators received additional training, see Recommendation 5) (41).

Resources and starting points

Each province, territory, and even municipality will have its own set of unique community resources and groups of SGM people. We cannot provide an exhaustive list of where to look for information everywhere in Canada, but we do suggest starting by finding SGM community groups who have funding and resources to be able to connect those interested in improving UGME curricula with relevant local stakeholders. More specifically, we suggest consulting our Guides to Gender-Affirming Care, available on our website at cqmsa.org/guides, which contain sections on local gender-affirming clinics and community groups for each province and territory.

Conclusion

This white paper summarizes the current Canadian landscape of SGM medical education and presents a case for why this teaching should be standardized across the country. To guide this process, we have presented a set of 8 recommendations we feel, through our experience as educators and students, would benefit any standardized curriculum. We conclude with a list of resources and starting points for connecting with community stakeholders in each province and nationally.

Canada must develop a national standard for SGM medical education, as any physician can expect to encounter an SGM patient in their practice, no matter the field. SGM medical care is a core component of comprehensive, generalist care; it is therefore critical for curricular development teams to adapt to the needs of students and the changing climate of medicine, and evolve to include pertinent training for under-served populations like the SGM community. An adequate SGM medical curriculum that is enforced by national accreditation standards validates queer medical students, fosters a more inclusive learning environment, and ensures that all medical students are provided with the tools needed to care for a diverse patient population.

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Glossary

2SLGBTQ+ - Two-Spirit, Lesbian, Gay, Bisexual, Transgender, Queer, plus all other identities that are part of sexual and gender minorities that are not included specifically in the acronym

Cisgender - An individual whose gender identity corresponds to their sex assigned at birth

Gender - Socially constructed standards, characteristics, roles and expectations of men, women and gender diverse individuals

Gender dysphoria - Feelings of distress and unease stemming from incongruence between one's gender identity and biological sex

Heterosexism - The assumption that heterosexuality is the norm and subsequent bias and discrimination against any other sexual orientation

OSCE - Objective Structured Clinical Examination

Queer - An umbrella term for all sex and gender identities other than cisgender and heterosexual

Sex - A biological distinction based on chromosomes: female, male or intersex

SGM - Sexual and gender minorities

Structural othering - The systematic, institutional marginalization and exclusion of individuals or groups who do not fit into the current social norms

Transgender - An individual whose gender identity does not correspond to their sex assigned at birth

Two-Spirit - A pan-Indigenous term used by some Indigenous individuals to self-identify as non-cisgender and/or non-heterosexual. Two-Spirit identities should not be understood to supplant or replace non-cisgender and non-heterosexual identities specific to certain First Peoples that existed before colonization and have their own unique cultural meanings and ways of being.

UGME - Undergraduate medical education

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