DISCUSSION PAPER

Building gender and sexual diversity into case-based learning

L. Uden, V. Vaughan & H. Wilcox

Abstract

On a background of insufficient inclusion and calls for change, medical schools across Australia and Aotearoa New Zealand must work to build LGBTQIA+ health into their curricula. Due to the unique strengths of case-based learning (CBL)—including learning in the context of LGBTQIA+ individuals, providing a safe space to practice skills in inclusive care and reflect on biases and allowing for a focus on the structural and social determinants of health—we propose that CBL is an effective starting point for medical schools looking to maximise growth in students' knowledge, skills and attitudes. We also discuss current LGBTQIA+ inclusion, strategies to integrate LGBTQIA+ health into the curriculum and CBL and the effects of such curricular interventions.

Keywords: LGBT; medical education; case-based learning; experiential learning; curriculum

Introduction

Over the last decade, there have been growing calls for the inclusion of the health of lesbian, gay, bisexual, transgender, queer, intersex, asexual, Sistergirl, Brotherboy, Takatāpui, and other sexual and gender minorities in medical curricula across Australia and Aotearoa New Zealand (Coopes, 2018; Halliwell, 2022). For the purposes of this paper, the term LGBTQIA+ includes all of these diverse experiences and identities. Significant, ongoing health and wellbeing disparities between LGBTQIA+ people and the general population exist, as highlighted in the 2020 report, *Private Lives 3: The health and wellbeing of LGBTIQ individuals in Australia* (Hill et al., 2020). When compared to heterosexual individuals, these deficits span mental health and general perceptions of health, amongst others (Perales, 2019). Given these health inequities and support for change from a range of stakeholders, it is evident that all areas of medical education warrant inclusion of LGBTQIA+ health and inclusive care.

Worldwide, case-based learning (CBL) is a cornerstone of medical education. These inquiry-structured learning experiences, utilising live or simulated patient cases to examine clinical problems through active participation, play a substantial role in

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imparting relevant medical knowledge and connecting theory to practice (McLean, 2016). The unique strengths of CBL may support this teaching modality as an effective starting point for "queering" medical curricula—a verb used in queer pedagogy for the action of disrupting heteronormativity and cisnormativity and creating safety, engagement and understanding within learning environments (Thomas-Reid, 2018). This discussion paper aims to provide a brief overview of the current inclusion of LGBTQIA+ health in Australia and Aotearoa New Zealand before exploring existing guidelines on queering the curriculum and how they may be applied to CBL, the efficacy of LGBTQIA+ curricular interventions involving CBL and the creation and development of LGBTQIA+ CBL.

Current inclusion within curricula

A small number of studies have evaluated the inclusion of LGBTQIA+-related content in medical curricula across Australia and Aotearoa New Zealand. Generally, it is recognised that there has been a significant lack of inclusion in curricula (Carroll et al., 2023; Grant et al., 2021), with most schools reporting less than five hours of LGBTQIA+ teaching (Sanchez et al., 2017). Where there was curriculum time, the learning that did occur tended to focus on sexuality rather than gender identity. Students also observe this gap in learning, particularly relating to transgender and intersex health (Carroll et al., 2023; Grant et al., 2021). This translates into low student confidence in performing relevant skills, despite recognising the importance of such skills in future practice. Notably, these studies support that experience in LGBTQIA+ healthcare and learning in the context of LGBTQIA+ patients may be beneficial in improving attitudes and skills. Anecdotal discussions indicating that the breadth and quantity of LGBTQIA+ teaching remain limited in medical curricula affirm calls for further education within this area (Murray et al., 2021; van Heesewijk et al., 2022). As CBL is centred around simulated or real patient cases, inclusion of LGBTQIA+ health within this teaching modality may provide a similar experience when created in conjunction with community members.

Inclusion within curricula has only recently been specified in the *Standards for Assessment and Accreditation of Primary Medical Programs* by the Australian Medical Council, which is responsible for the development of accreditation standards in consultation with the Medical Council of New Zealand (Australian Medical Council, 2023). The 2024 accreditation standards and graduate outcomes include several references to LGBTQIA+ individuals under the umbrella of "community groups who experience health inequities". The Standards now specify that graduates should be able to identify structural barriers and apply strategies to increase inclusivity; education institutions should engage with stakeholders and community groups; medical program outcomes should align with community needs; and students should learn about differing needs, systemic disadvantage and historical injustice. These changes are welcome, given the importance of improving LGBTQIA+ health and inclusive care (Carman et al., 2020), the translation

of health education to health outcomes (Perales, 2019) and the negative impacts of heteronormativity and cisnormativity (Murphy, 2016; Robertson, 2017).

"Queering" the medical curriculum

Creating a longitudinal, competency-based LGBTQIA+ health curriculum that engages both students and faculty, while being representative of the needs and experiences of the LGBTQIA+ community, is a considerable task. Medical program directors and heads of school recognise several integration strategies, including engagement with LGBTQIA+ communities and medical students, identification and upskilling of academic staff who are willing and have the capacity to teach and development of assessment and evaluation tasks (Sanchez et al., 2017). While these initiatives are welcome, other approaches must also be employed to cultivate environments conducive to LGBTQIA+ health education.

Often, the first step in integrating LGBTQIA+ health into a medical curriculum is defining core competencies based on graduate outcomes, accreditation standards and guidelines (Hollenbach et al., 2014; Keuroghlian et al., 2022). Solotke et al. (2019) support this competency-based approach, which leads to specified educational priorities, and it can be used to advocate for incorporation if barriers are encountered. Furthermore, this ensures LGBTQIA+ content is woven into the medical curriculum by mapping competencies to curricular areas, allowing students to regularly reinforce their learning throughout their education and experience a range of biopsychosocial perspectives (Keuroghlian et al., 2022; Solotke et al., 2019).

One of the most important strategies to ensure that integration of LGBTQIA+ health is authentic and addresses community priorities is through the development of relationships with members of the LGBTQIA+ community (Keuroghlian et al., 2022). This can also foster community-led teaching, curriculum co-design and sharing of lived experience, which may be facilitated through several methods, including advisory groups, forums and panel discussions (Katz-Wise et al., 2023; Noonan et al., 2018; Treharne et al., 2021). However, in recruiting such groups, care must be taken to avoid placing an excessive burden of curriculum development on members of the LGBTQIA+ community. Nevertheless, this input is important for the creation of needs-based LGBTQIA+ education, and generally, the community is willing to engage if consultation leads to meaningful change and the eventual shift of responsibility of education from LGBTQIA+ individuals to healthcare professionals (Noonan et al., 2018).

The creation of a consistent, common language to describe LGBTQIA+ identities is crucial to students understanding differences between concepts and developing a shared understanding of sexuality and gender diversity (Solotke et al., 2019). Education on terminology also teaches students how to provide respectful sexual and reproductive healthcare (Walker et al., 2016), with knowledge on terminology shown to be positively correlated with favourable attitudes towards LGBTQIA+ patients (Parameshwaran et al., 2017). In addition, imparting knowledge of such identities should be accompanied

by teaching on avoidance of assumptions of gender identity and sexuality (Alpert et al., 2017). Integration of the social and structural determinants of health (SSDOH) and intersectionality into LGBTQIA+ health is also recommended, acknowledging that patients may experience numerous intersecting identities and non-medical influences on health (Alpert et al., 2017; Keuroghlian et al., 2022). CBL may provide an opportunity to explore these SSDOH more closely through consideration of patients in a holistic view. Furthermore, Solotke et al. (2019) propose that an ideal curriculum should explore sexuality and gender within a developmental context, examine the complexities of developing a sexual or gender minority identity and its relevance to health, view sexual and gender diversity as a long-standing global phenomenon and include specific LGBTQIA+ subpopulation health education. Teaching specific to intersex health is crucial, not only because it is not captured by education on gender and sexuality but also to challenge harmful misconceptions, including the framing of intersex people as a population identified by gender or sexuality, amongst others (Carpenter, 2020).

CBL can be used to address specific LGBTQIA+ health problems with standardised patients and case vignettes; this could include identifying barriers to care, relevant referrals and unique sexual health needs (Walker et al., 2016). Furthermore, involving LGBTQIA+ patient actors may facilitate insight into lived experiences and prior healthcare encounters in an affirming and supportive environment (Katz-Wise et al., 2023). This highlights the importance of working with LGBTQIA+ organisations and the wider community to develop a volunteer base willing to participate in CBL. The risk of overburdening volunteers with content can be mitigated through adequate remuneration and the use of standardised cases and teaching plans developed through co-design, while inviting volunteers to share additional lived experiences and perspectives, if they wish. In addition, as CBL involves mock clinical scenarios, the cases and resulting discussion and reflection may also serve as tools for students to identify personal biases that may present as barriers to care for LGBTQIA+ individuals (Walker et al., 2016).

Finally, empowering academic staff and medical students to be involved in curricular development can aid in the integration of LGBTQIA+ health education (Pratt-Chapman, 2020). This may be achieved through staff development modules to facilitate self-efficacy (Keuroghlian et al., 2022), collaborative forums and individual professional development opportunities or formation of staff–student support groups to identify new learning opportunities, promote curricular development and offer feedback on teaching methods (Solotke et al., 2019). A collective approach, where no members are seen as the sole drivers of change, is essential to avoid the risk of overburdening certain individuals. Additionally, empowering LGBTQIA+ allies through the provision of resources and support aids in alleviating fears of being unqualified to effect change (Solotke et al., 2019), which further helps shift the burden from LGBTQIA+ individuals.

Case-based learning in LGBTQIA+ medical education

Within current teaching cases, representation of minorities, including LGBTQIA+ people, is insufficient and often plays into harmful health stereotypes. Across 76 patient cases used by the College of Pharmacy at Dalhousie University, 23.7% had an undefined gender, and none featured a gender diverse individual; on sexuality, 62% were undefined and 2.8% featured a gay male (Wilby et al., 2022). Similar absence of gender and sexually diverse identities in medical teaching cases have been reported in other studies (Bowden et al., 2021; Carroll & Gray, 2021). Without adequate representation, pervasive biases, stereotypes and assumptions on gender and sexuality are unknowingly replicated within medical education (Robertson, 2017; Wilby et al., 2022), negatively impacting the quality of care for LGBTQIA+ people (Alpert et al., 2017). This highlights the importance of analysis of current case diversity and action to improve diversity within CBL used in medical teaching across Australia and Aotearoa New Zealand. Sharing these experiences may also benefit other schools looking to make minority identities visible within curricula.

Integration of LGBTQIA+ health into medical curricula has been trialled through numerous modalities. However, due to some of the unique properties and strengths of CBL discussed so far, we propose that starting further LGBTQIA+ health curricular development with creation of CBL could have significant impacts on the knowledge, skills and attitudes of students. As CBL encourages learners to collaborate, problem-solve and utilise clinical reasoning skills to work through complex scenarios, it is not a passive learning method and requires significant active participation (McLean, 2016). The learner-centred, real-world nature of CBL aligns with experiential learning pedagogies that may facilitate attitudinal change, understanding of LGBTQIA+ health issues and practice of essential clinical skills through providing a safe setting to learn, ask questions and receive constructive feedback (Goodall & Wofford, 2022; Higgins et al., 2019). Engagement with narrative pedagogies through story telling from LGBTQIA+ patients may complement such CBL by eliciting empathy and understanding (Yang, 2021). Attitudinal change and the confrontation of biases and assumptions may be further promoted through the integration of critical pedagogies into CBL and advanced through the inclusion of personal reflective journals or small-group reflexive discussions (Higgins et al., 2019). Furthermore, in developing critical consciousness, students may be encouraged to consider SSDOH (Jain & Krishnan, 2024), a component of CBL that can be emphasised through holistic cases. An emphasis on intersectional pedagogy—an extension of critical pedagogy that considers the interplay of multiple social identities and forms of oppression—is essential in the delivery of curricula inclusive of LGBTQIA+ identities and health (van Heesewijk et al., 2022). Unfortunately, there remains a relatively limited understanding of effective pedagogical approaches for teaching LGBTQIA+ health (Solotke et al., 2019), highlighting the need for further work in this area.

Several studies explore the effects of implementing an LGBTQIA+ health curriculum on the confidence and competence of medical students. Often, case-based modalities were supplemented with lectures, panel discussions, practice with standardised patients or discussion of further case vignettes. Minturn et al. (2021) found that student self-reported confidence in meeting the objectives of an elective LGBTQ health course improved significantly across all seven objectives ($n = 42$, $p < 0.01$), regardless of previous experience working with LGBTQ individuals. Across five questions assessing knowledge, there was a significant improvement in average score ($p = 0.036$), but this improvement was limited (Minturn et al., 2021). This may be due to students with more positive attitudes or greater interest electing to participate in the course. Furthermore, Minturn et al. (2021) detail the use of pre-existing patient cases from MedEdPORTAL, which increase accessibility of such teaching in the absence of new case development. Thompson et al. (2020) focused on designing a transgender and gender diverse healthcare curriculum for preclinical medical students. Through the use of a modified Sexual Orientation Provider Competency Scale (Bidell, 2005), across 77 students, an overall significant increase in competency was found ($p < 0.001$) (Thompson et al., 2020). On examination of subscales, both knowledge and skills significantly improved ($p < 0.001$), however there was no significant difference in attitudes ($p = 0.378$) (Thompson et al., 2020). This may suggest that attitudes are less malleable, even in the presence of improved knowledge and skills. Although neither of these studies solely focused on CBL, effective implementation requires students to have prior knowledge (Hopper, 2018; McLean, 2016). Hence, supplementation with other learning formats likely served to fulfil this prerequisite.

Similar significant improvements in self-reported confidence ($p < 0.001$) were reported in recent studies on the impact of facilitated case-based discussions for health and medical students (Levy et al., 2021; Prasad et al., 2023). The assessed domains included confidence in identifying implicit bias; knowledge of LGBTQIA+ health, disparities and barriers; promotion of culturally competent care; and the creation of an environment conducive to gender identity disclosure (Levy et al., 2021; Prasad et al., 2023). These studies highlight the efficacy of CBL within LGBTQIA+ health education but could be improved by utilising validated scales.

One barrier to introducing LGBTQIA+ health into medical curricula is the lack of experience amongst faculty members (Pratt-Chapman, 2020; Sanchez et al., 2017). Ufomata et al. (2018) present evidence that such case-based curricula can be successfully delivered by non-experts when aided by the provision of discussion questions, supporting resources and detailed answers. Faculty members felt these materials prepared them adequately, and participants agreed that facilitators were prepared and knowledgeable.

These studies suggest that the implementation of an LGBTQIA+ medical curriculum centred around CBL can improve students' confidence, competence and knowledge. However, few studies have comprehensively assessed the impact of implemented curricula, utilised validated scales or included objective assessments. Additionally, these studies offer

limited insight into the efficacy of CBL focusing specifically on intersex and Indigenous queer health. Although there are still few reports on the impact of incorporating LGBTQIA+ health into standalone CBL, it appears there is a trend towards assessing the effect of more comprehensive curricular interventions. However, further research into CBL may still be valuable due to its unique strengths.

Creating and updating case-based learning

In building inclusion of LGBTQIA+ individuals and identities into CBL, medical schools must both create new LGBTQIA+-specific case materials and develop representation of minority identities across pre-existing cases to address identified shortfalls in LGBTQIA+ inclusion and diversity within cases.

Current frameworks support the development of teaching cases that are relevant, realistic, engaging, challenging and instructional (Kim et al., 2006). Prior to this, current student knowledge, goals and objectives must be set to ensure relevant learning opportunities (Cohen et al., 2017; Kim et al., 2006). This requires needs assessments to identify gaps between knowledge and graduate outcomes and to set achievable learning outcomes. Additionally, realistic case-based education should comprise authentic cases, aided by active language and the words of real patients (Cohen et al., 2017; Kim et al., 2006), reinforcing the importance of incorporating LGBTQIA+ voices through community consultation. A co-design methodology, grounded in lived experiences, facilitates the development of rich content with significant consideration of individual patient context and SSDOH, which may also lead to more engaging learning experiences (Kim et al., 2006). Moreover, the inclusion of SSDOH within cases is crucial for addressing barriers to health and wellbeing to replicate real-world challenges (Cohen et al., 2017). Developing knowledge based on previous learning, assessment of students' knowledge and skills, facilitator feedback on cases and student performance, and provision of teaching aids are some strategies to ensure instructional CBL (Kim et al., 2006). These strategies affirm the value of facilitator input and empowering faculty through provision of resources, while also supporting the need to increase the assessment of LGBTQIA+ health within both informal and formal assessments (Sanchez et al., 2017).

When diversifying case vignettes used within medical education, frameworks that support the representation of minority identities should be consulted. These resources empower non-experts to enhance case material through the inclusion of questions to consider when reviewing material, recommendations to improve portrayal and examples of good representation (Krishnan et al., 2019; Sharma et al., n.d.). Several common themes were identified on review of these frameworks. Firstly, medical cases should not inadvertently reinforce stereotypes or prejudice (Rice et al., 2022), instead they should direct attention to unique patient circumstances and SSDOH, while addressing these factors within management plans (Krishnan et al., 2019; Sharma et al., n.d.). Additionally, implicit blame should be shifted from individuals by understanding patient behaviours through

SSDOH and acknowledging health disparities are a result of SSDOH, not the identity of an individual. Furthermore, cases should explore differences in diagnosis, treatment and accessibility of healthcare across various identities; include diverse identities that reflect sociodemographic statistics, rather than being contained to epidemiological examples; and facilitate the discussion of implicit biases and reflection on cultural inequities, where relevant (Krishnan et al., 2019; Sharma et al., n.d.).

Despite the prevalence of CBL across the globe, there are few recent publications that guide the development of such content. When developing CBL specific to LGBTQIA+ health, sharing challenges, the co-design process and key recommendations would provide other medical schools with significant insight and facilitate similar curricular development. Furthermore, while current frameworks for improving representation are comprehensive and generalisable to other minority identities, a guide with various examples specific to LGBTQIA+ identities may serve as a valuable resource for those looking to "queer" medical education.

Conclusion

Currently, the presence of LGBTQIA+ health within medical school curricula is limited and does not adequately reflect the importance of future clinicians being competent in LGBTQIA+-inclusive care. Generally, medical students have positive attitudes towards inclusion of LGBTQIA+ health within curricula, however there remain significant gaps in student confidence and knowledge. CBL is commonly used within medical curricula, and when developed through co-design with LGBTQIA+ individuals, it has the potential to improve students' knowledge, skills and attitudes in LGBTQIA+ health. Additionally, cases throughout medical curricula should be diversified to challenge heteronormativity and cisnormativity by employing inclusion frameworks. Further research on diversifying and creating LGBTQIA+ health CBL is needed and should encompass various areas of curricular development: creation of frameworks to support the inclusion of LGBTQIA+ identities; the co-design of LGBTQIA+ health CBL material; the process and outcomes of training non-expert faculty members to deliver such education; and assessment of the effects on students' attitudes, knowledge and skills, utilising validated scales and objective assessments.

Conflicts of interest and funding

The authors declare no conflicts of interest. There is no funding relevant to this article.

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