SHORT REPORT

Self-perceived confidence and competence of medical students in treating patients with diverse sexualities and genders

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Abstract

Introduction: Insufficient knowledge among health staff about people with diverse sexualities and genders (DSGs) can hinder access to care. This student-initiated project aimed to ascertain medical students' self-perceived confidence and competence in treating patients with DSGs, identify student satisfaction with DSG curricular content and identify discrimination and/or biases.

Methods: In 2022, medical students from an Australian medical program were surveyed using an adapted medical student survey instrument used in the United States and Canada.

Results: The response rate of 15% (n = 91) included 70% heterosexual students. Respondents reported more confidence in treating patients with diverse sexualities (68%) compared to patients with diverse genders (41%). They reported greater competence in identifying their own implicit biases and impact on the delivery of DSG care (75%) but were less competent in describing treatment options (17%). Respondents reported having witnessed or experienced DSG discrimination (26%) and heterosexism (38%). Respondents (93%) want increased DSG content in the medical curriculum.

Conclusion: To address gaps in DSG health knowledge among clinicians, further DSG teaching in the medical curriculum may inform better future practice and patient care.

Keywords: medical education; gender identity; sexual and gender minorities; sexual orientation; social discrimination

Introduction

People with diverse sexualities and genders (DSGs) are reported to have significantly poorer health outcomes than cisgendered heterosexual peers (Hafeez et al., 2017). These are most acutely experienced by people of diverse genders (transgender and intersex people) (Liang et al., 2017). The cycle of these disparities is perpetuated by reduced

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healthcare access, with DSG people less likely to engage with the healthcare system, even in emergencies, due to the significant barriers faced (Lovejoy et al., 2023).

The Australian Medical Association (2021) identified three significant barriers to DSG populations' access to healthcare. First are previous experiences of stigma and discrimination when engaging in healthcare. This includes the use of incorrect names and pronouns, assumptions surrounding sexuality and gender, and offensive comments or language. Second, there is insufficient knowledge about DSG health and behavioural competencies among health staff. This knowledge—particularly related to the language and terminology; legal rights; historical, political and social determinants; history taking; and gender transitioning—is required to provide appropriate and respectful care. Importantly, even those healthcare workers with good intentions and baseline education feel uncomfortable or unprepared when treating patients with DSGs. Finally, there are financial and structural barriers, for example, not all gender-affirming care is subsidised under Medicare, and there are higher rates of unemployment and limited availability of DSG-friendly services, especially in rural and remote areas. The importance of inclusive DSG medical education in preparing the emerging health workforce to close the DSG health gap is similarly echoed by the Association of American Medical Colleges (2014).

Surveys of medical students conducted in the United States (Hayes et al., 2015; Karpel et al., 2023; Liang et al., 2017; Zelin et al., 2018), England (Arthur et al., 2021), Canada (Nama et al., 2017) and New Zealand (Carroll et al., 2023) have highlighted gaps yet to be explored in the Australian context. These gaps include a lack of cultural competencies and DSG healthcare knowledge among staff and students, a lack of sufficient curricular coverage for adequate student competence and discrimination in the workplace. They found less knowledge and competencies surrounding diverse gender care than diverse sexuality care and the need and desire for further curriculum development and effective evaluation tools.

These studies were based on the landmark report from the Association of American Medical Colleges (2014), which offers evidence and practice recommendations for medical schools. At the time of this survey, the Australian Medical Council did not include any DSG-specific health knowledge outcomes for students. Hence, our study focuses on the Association of American Medical Colleges standards.

This pilot student-initiated and student-led study addresses the gap surrounding the second barrier mentioned above, specifically, the knowledge among medical students enrolled at an Australian Public university in 2022. The study's objectives were to: (1) ascertain medical school students' self-perceived confidence and competence in treating DSG people, (2) identify the level of student satisfaction with DSG curricular content and their desired mode of delivery and content focus and (3) identify any discrimination and/or biases in the immediate community of the students. With this baseline data, future research and direction of tailored teaching programs can be implemented and evaluated, helping reduce the DSG heath knowledge deficit.

DSG has been chosen as an all-encompassing term that considers the fluid nature of identity without discriminating against or over-categorising people in the community. Other terms such as sexual and gender minority (SGM) or LGBTQIA+ (and its variations) are also commonly used.

Methods

In mid-January 2022, an anonymous online Qualtrics cross-sectional survey was distributed to all postgraduate-entry MD students enrolled at Flinders University in South Australia. The link to the survey was distributed centrally via student administration. Two reminder emails were sent 1 week apart. The survey was open for 4 weeks. The Flinders University Human Research Ethics Committee (SBREH 4691), and the MD program directorate approved the study.

The questionnaire was adapted from identical surveys conducted in the United States and Canada (Nama et al., 2017; Zelin et al., 2018). The questionnaire was validated with five Flinders medical students for face validity. This involved the students reading through the questionnaire individually before discussing the questions' clarity, comprehensibility, relevance and appropriateness. The MD program director and Advanced Studies Program lead were provided with the questionnaire for comments and approval. Questions relating to observed discrimination or heteronormativity had the option to be answered in free text as well as binary yes–no format. Multiple responses could be selected for questions pertaining to preferred teaching methods and topics, as well as an "other" option for respondents to elaborate on their responses.

Analyses were conducted using R™ software version 4.2. Participants' characteristics were reported as percentages of the respective denominators. Confidence and competence scores were calculated using a 5-point Likert scale for the seven self-reported confidence and 10 competence items. The Wilcoxon rank sum and Kruskal Wallis tests were performed to explore the significant difference in confidence and competence scores by participants' characteristics. The two-sided test was performed for all analyses; 95% confidence intervals were reported; and the significance level was set at $p < 0.05$. Stacked bar plots were used to display the Likert items visually.

Results

Ninety-one completed survey responses were received and included in the analysis. This represented a 15% response rate of the total medical student cohort. Our response rate was comparable to the referenced studies (Nama et al., 2017; Zelin et al., 2018).

As seen in Table 1, the final year (MD-4) had the lowest representation (5.5%), with a near-even split across MD-1, -2 and -3 at 26%, 32% and 36%, respectively. Students aged 24–29 made up 46% of the responses, followed by ages 18–23 (32%), 30–35 (12%) and > 35 (10%). Female-identifying respondents outweighed male-identifying respondents (56% vs 42%), with 2% of the respondents identifying with another gender. When asked

if this gender differed from their assigned sex at birth, 8% said yes. The majority of the respondents self-reported as being heterosexual (70%), followed by bisexual (13%), different (7%), gay/lesbian or homosexual (5%), queer (4%) and prefer not to say (1%).

Table 1

Demographic Characteristics of Medical Student Respondents

Characteristic	Number
Year level	
MD-1	24 (26.4%)
MD-2	29 (31.9%)
MD-3	33 (36.3%)
MD-4	5 (5.5%)
Domestic/International	
Domestic	78 (85.7%)
International	13 (14.3%)
Age (years)	
18–23	29 (31.9%)
24–29	42 (46.2%)
30–35	11 (12.1%)
35	9 (9.9%)
Gender	
Male	38 (41.8%)
Female	51 (56.0%)
Others	2 (2.2%)
Is gender different to the assigned sex at birth?	
No	84 (92.3%)
Yes	7 (7.7%)
Sexual orientation	
Heterosexual	64 (70.3%)
Not heterosexual	27 (29.7%)

Respondents reported higher confidence than competence in completing the DSG health tasks. Figures 1 and 2 show the 5-point Likert scale response to the specific questions. Respondents who identified as heterosexual reported less overall confidence than those who identified as another sexuality (median 21 (IQR 15.5–28.5) vs 28 (IQR 24.0–31.0) out of 35, $p = 0.004$). Respondents who identified as male reported statistically significantly higher confidence in performing the DSG health tasks than any other gender ($p = 0.032$), with a median of 28 (IQR 21.2–31.8), followed by those who identified as another gender (23 (IQR 17.5–28.5)) and females (21 (IQR 17.0–28.0)). In general, respondents reported more confidence in treating patients with diverse sexualities (68%) compared to treating patients with diverse genders (41%), discussing DSG-specific health topics (42%) and discussing sexual practices (46%). There was no statistical difference between year level ($p = 0.500$) or age group ($p = 0.300$).

The median competence score was 27 (IQR21.0–32.2) out of 50. There was no statistical difference between age group (p = 0.400) or gender (p = 0.200), however MD-4 respondents reported greater confidence than any other year level (p = 0.013). When stratified by sexuality, respondents who identified as heterosexual reported less overall competence than those who identified as another sexuality (p = 0.001). Respondents reported greater competency in identifying their own implicit biases and impact on the delivery of DSG care (75%) and less competency in describing treatment options for patients born with different sex developments (14%), legal and policy issues affecting DSG (14%) and treatment options for DSG (17%).

Over a quarter of the respondents (26%) had witnessed or experienced discrimination, and over a third (38%) had witnessed or experienced heterosexism in the last 12 months within their environment. Most of the witnessed discrimination was in the form of language, remarks and comments, followed by more passive implicit biases.

Most respondents (93%) said they would benefit from increased DSG content in their current medical curriculum. Respondents would like the proposed content to focus mainly on DSG-related healthcare practices (92%) and DSG patient experiences (89%), followed by health disparities/determinants of health (65%). Specific topics identified included the use of language, how to discuss sexuality or perceived taboo topics with patients, dispelling myths and misconceptions and knowing more about population-specific risk factors and questions to ask. Students would like this material to be delivered by doctors who work with DSG patients, with input from community organisations.

Discussion

Our pilot study highlights two main topics that students self-reported the least competence in: (1) describing treatment options for patients born with different sex characteristics (including intersex) and (2) describing treatments for gender-diverse patients. Notably, over a third of respondents (38%) had witnessed or experienced heterosexism in the last 12 months, and most (93%) said they would benefit from increased DSG content in their current medical curriculum.

When compared to the literature, this study reported a lower rate of self-reported confidence in treating people with diverse sexualities (68% vs 93% (Zelin et al., 2018) and 96% (Karpel et al., 2023)) and genders (41% vs 68% (Zelin et al., 2018) and 79% (Karpel et al., 2023)) among the medical students surveyed and a higher rate of having witnessed DSG discrimination (26% vs 15% (Nama et al., 2017)) and heterosexism (38% vs 31% (Nama et al., 2017)).

The three topics students reported the least competence in, as seen in Figure 2, parallel published data showing greater self-reported incompetence surrounding diverse gender care versus diverse sexuality care and lack of insight into different sex development needs (Arthur et al., 2021; Liang et al., 2017; Nama et al., 2017; Zelin et al., 2018). It has been

Figure 1

Medical Students' Self-Reported Confidence

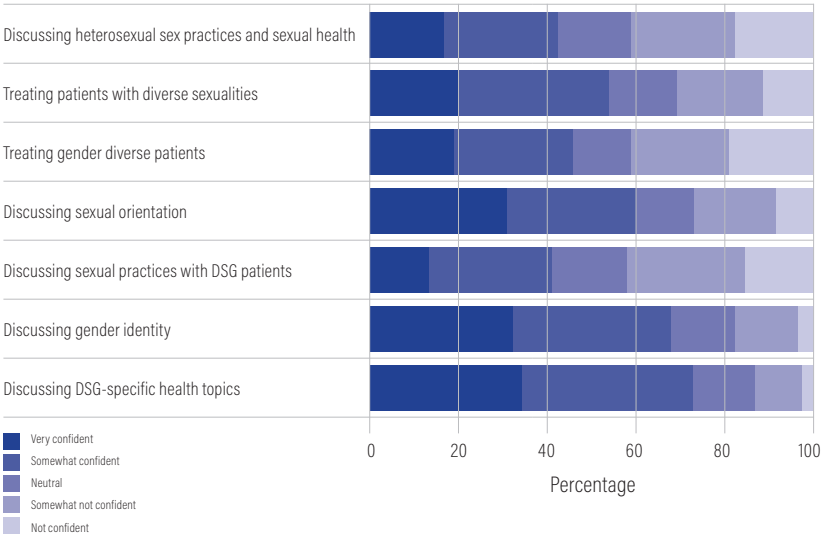
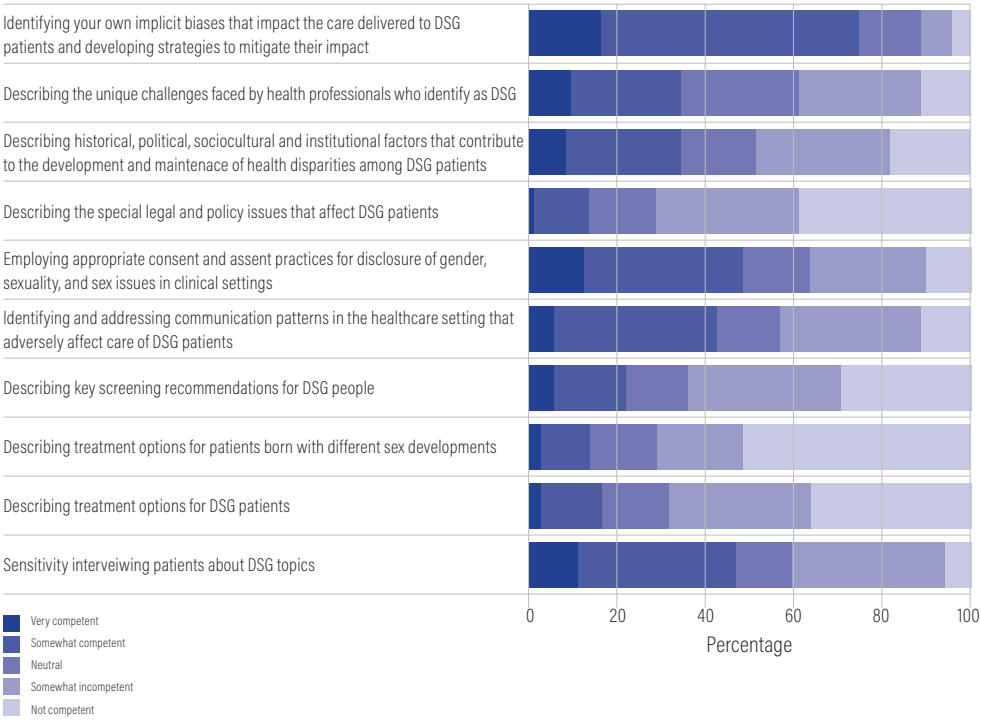


Figure 2

Medical Students' Self-Reported Competence



noted that diverse gender and diverse sexuality patients' experiences are different and should be thought of as separate when aiming to educate emerging health professionals.

Our findings indicated that students are receptive to more DSG content in the curriculum. Sanchez et al. (2017), in their survey of 15 Australian and New Zealand medical school curriculum administrators, concluded that there is limited coverage of DSG health content in the medical curricula and called for better integration of DSG health into core medical training. Our survey respondents appear to be receptive to more integrated DSG content. A backward curriculum design approach, including an audit of assessments, how "mastery"' is obtained, how the DSG content is scaffolded from primary medical degree to specialised training and what opportunities are available, may help to inform curriculum improvement to incorporate and integrate DSG content. Such an approach is congruent with the 2023 revised Australian Medical Council Standards, which specifically identified the LGBTQIA+ community as a community group that experiences health inequities, and medical schools are urged to partner with stakeholders and local communities. Therefore, the co-delivery of DSG content with community stakeholders and experienced clinician-educators may enrich the learners' experience and give a greater contextual focus on diverse genders and different sex development.

This study is limited by sampling bias, with a response rate of 15%, and possibly selection and social desirability bias. Flinders University was among Australia's first tranche of medical schools to offer a 4-year postgraduate-entry medical degree. It is highly probable that the student cohort is more mature and has more lived experience. Furthermore, the university has a social justice and inclusive mandate—its mission is "to change lives and change the world" (Flinders University, 2019) —and it may, therefore, influence the selection of applicants for its medical program. It is plausible that the more mature and reflexive cohort is better aware of the importance of providing responsive and inclusive DSG healthcare. In addition, the proportion of non-heterosexual respondents (30%)—a group that statistically significantly reported higher confidence and competence than those identifying as heterosexual—may also lead to an overestimation of the aggregated data. Limitations with this pilot study do not permit us to generalise the results to other medical programs in Australia.

Conclusion

American and Australian peak medical bodies have highlighted how the gap in DSG health knowledge among health staff may be a significant barrier to accessible healthcare. Our pilot study found that respondents have lower self-confidence and competence in treating patients of diverse genders than patients with diverse sexualities. There was a strong consensus among the respondents for more DSG content, particularly focusing on healthcare practices and patient experience. Respondents also reported that discrimination and heteronormativity were still notable in the learning environment.

Conflicts of interest and funding

This project contributed to CNM's Doctor of Medicine (MD) coursework. Authors EB and SU are paid employees of Flinders University; neither EB nor SU were involved in conducting the survey. Author DL supervised and oversaw all aspects of the project. No commercial or specific funding was received for this project.

References

Arthur, S., Jamieson, A., Cross, H., Nambiar, K., & Llewellyn, C. D. (2021). Medical students' awareness of health issues, attitudes, and confidence about caring for lesbian, gay, bisexual and transgender patients: A cross-sectional survey. *BMC Medical Education*, *21*(1), Article 56. https://doi.org/10.1186/s12909-020-02409-6

Association of American Medical Colleges. (2014). *Implementing curricular and institutional climate changes to improve health care for individuals who are LGBT, gender nonconforming, or born with DSD*. AAMC. https://store.aamc.org/downloadable/download/sample/sample_id/129/

Australian Medical Association. (2021). *LGBTQIA+ Health—2021* https://www.ama.com.au/sites/default/files/2021-11/AMA%20Position%20Statement%20-%20LGBTQIA%2B%20Health%202021.pdf

Carroll, R., Rose, S. B., Garrett, S. M., & Gray, L. (2023). Fifth year medical students' education, confidence and learning needs related to healthcare provision for sexual and gender minority patients: A cross-sectional survey. *Journal of Primary Health Care*, *15*(2), 122–127. https://doi.org/10.1071/HC22082

Flinders University. (2019). *Making a difference: The 2025 agenda*. https://www.flinders.edu.au/content/dam/documents/about/strategic-plan/Flinders-University-2025-Agenda.pdf

Hafeez, H., Zeshan, M., Tahir, M. A., Jahan, N., & Naveed, S. (2017). Health care disparities among lesbian, gay, bisexual, and transgender youth: A literature review. *Cureus*, *9*(4), Article e1184. https://doi.org/10.7759/cureus.1184

Hayes, V., Blondeau, W., & Bing-You, R. G. (2015). Assessment of medical student and resident/fellow knowledge, comfort, and training with sexual history taking in LGBTQ patients. *Family Medicine*, *47*(5), 383–387. https://www.semanticscholar.org/paper/Assessment-of-Medical-Student-and-Resident-Fellow-Hayes-Blondeau/6232ddf50ba419814bb6b9625af4f9b9f43534d3

Karpel, H. C., Sampson, A., Charifson, M., Fein, L. A., Murphy, D., Sutter, M., Tamargo, C. L., Quinn, G. P., & Schabath, M. B. (2023). Assessing medical students' attitudes and knowledge regarding LGBTQ health needs across the United States. *Journal of Primary Care and Community Health*, *14*. https://doi.org/10.1177/21501319231186729

Liang, J. J., Gardner, I. H., Walker, J. A., & Safer, J. D. (2017). Observed deficiencies in medical student knowledge of transgender and intersex health. *Endocrine Practice*, *23*(8), 897–906. https://doi.org/10.4158/ep171758.Or

Lovejoy, C., Fitzgerald, L., & Mutch, A. (2023). Understanding access to healthcare for gender diverse young people: A critical review of the literature. *Culture, Health & Sexuality*, *25*(1), 18–32. https://doi.org/10.1080/13691058.2021.2017486

Nama, N., MacPherson, P., Sampson, M., & McMillan, H. J. (2017). Medical students' perception of lesbian, gay, bisexual, and transgender (LGBT) discrimination in their learning environment and their self-reported comfort level for caring for LGBT patients: A survey study. *Medical Education Online*, *22*(1), Article 1368850. https://doi.org/10.1080/10872981.2017.1368850

Sanchez, A. A., Southgate, E., Rogers, G., & Duvivier, R. J. (2017). Inclusion of lesbian, gay, bisexual, transgender, queer, and intersex health in Australian and New Zealand medical education. *LGBT Health*, *4*(4), 295–303. https://doi.org/10.1089/lgbt.2016.0209

Zelin, N. S., Hastings, C., Beaulieu-Jones, B. R., Scott, C., Rodriguez-Villa, A., Duarte, C., Calahan, C., & Adami, A. J. (2018). Sexual and gender minority health in medical curricula in New England: A pilot study of medical student comfort, competence and perception of curricula. *Medical Education Online*, *23*(1), Article 1461513. https://doi.org/10.1080/10872981.2018.1461513