A Scoping Review of Interprofessional Education Training Aimed to Improve 2SLGBTQ+ Health

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PII: S0002-9459(24)10402-0
DOI: https://doi.org/10.1016/j.ajpe.2024.100683
Reference: AJPE100683
To appear in: American Journal of Pharmaceutical Education

Received date: 6 October 2023
Revised date: 18 February 2024
Accepted date: 7 March 2024


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A Scoping Review of Interprofessional Education Training Aimed to Improve 2SLGBTQ+ Health

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Word Counts: Abstract: 249 Manuscript: 3987
Tables: 2,
Figures: 1
Abstract

Objectives

This scoping review aims to identify and summarize the available literature on two-spirited, lesbian, gay, bisexual, transgender, queer, plus (2SLGBTQ+) interprofessional health education and to identify optimal methods of interprofessional training to improve healthcare professional competency for this patient population.

Methods

A search of Pubmed and Embase was conducted and supplemented with a manual search of reference lists from identified articles. Articles were included if they reported an interprofessional education event on the topic of 2SLGBTQ+ health to at least two or more groups of health care professionals or students. Article screening was completed independently by two reviewers. Data from the included articles were extracted and mapped according to type of participant (healthcare students or working healthcare professionals), type of event (workshop, case-based, course/curriculum, or forum), and type of assessment.

Results

One hundred articles were screened, of which 15 articles met the inclusion criteria. Twelve articles focused on interprofessional health education for entry-to-practice students, with the remaining 3 articles involving practicing healthcare professionals. When mapped by type of event, one-time case-based and workshop style events were the most used to deliver training. All 15 studies used an immediate pre- and post-survey design to evaluate the knowledge and competence of the participants after training.

Conclusions

Interprofessional education for improving 2SLGBTQ+ health is largely delivered within entry-to-practice degree programs via one-time events with knowledge and confidence-based assessments. Further research is needed to determine impact of this training in practice, as well as applicability for training of practicing health care professionals.

Keywords: Sexual and gender minority, interprofessional education, collaborative care, health education, LGBTQ
1. Introduction

Healthcare professionals have an ethical responsibility to provide safe, effective, and informed care for all of their patients.1-4 Two-spirited (a term specific for some Indigenous peoples identifying as having both a masculine and feminine spirit, representing sexual and/or gender diversity), lesbian, gay, bisexual, transgender, queer, plus (2SLGBTQ+) patients experience healthcare disparities more frequently than heterosexual and cis-gendered patients.5 The 2SLGBTQ+ community experiences higher rates of obesity, depression and anxiety, sexually transmitted and other blood borne infections, and testicular cancer.6 They are also faced with additional discriminatory and prejudicial actions from healthcare professionals.6 In a qualitative study by Rossman and colleagues, there were thirteen instances in which patients reported a negative reaction from healthcare professionals when they disclosed themselves as a member of the 2SLGBTQ+ community, and eight instances where healthcare professionals directly discriminated against the patient after the same disclosure.7 In the United States, it is reported that one in six patients belonging to the 2SLGBTQ+ community will avoid seeking care due to fear of being discriminated against.8 This fear creates distrust in the competency of healthcare professionals and 2SLGBTQ+ patients are less likely to seek the care they require.9,10

Healthcare professionals have attributed the perpetuation of stigma and discrimination against 2SLGBTQ+ patients to a lack of specific knowledge and training.11 This sentiment is mirrored in a review by Hudaisa and colleagues in which they highlight lack of healthcare professional knowledge as one of the contributing factors for discrimination, stigma, and poorer health outcomes faced by 2SLGBTQ+ patients.5 It is clear that there is a need for 2SLGBTQ+-specific training among healthcare professionals to equip them to address health disparities faced by members of this community and to improve their health outcomes. Bonvicini extends the necessity of training to include non-clinical members of the interprofessional care team, such as administrative and security personnel, because all staff with direct patient communication should be trained to provide a safe and welcoming environment for 2SLGBTQ+ patients.12
While healthcare professional education is necessary to improve outcomes for 2SLGBTQ+ patients, the most effective method of delivery for this education is not well established. There have been efforts to improve 2SLGBTQ+ competency in single healthcare disciplines. Grubb and colleagues implemented a 2-hour education session for medical students containing pre-readings, a lecture, and a panel with 2SLGBTQ+ community members. Students were evaluated before and after the session and showed a statistically significant improvement in their 2SLGBTQ+ knowledge and competency.13 Tyler and colleagues conducted a study where registered nurses were given a 1-hour lecture on 2SLGBTQ+ health and completed a knowledge test before and after. The participants demonstrated a statistically significant improvement in their knowledge and a desire for more educational material to further improve their skills in providing 2SLGBTQ+ care.14 Lastly, interventions to improve the competency of pharmacists were explored in a study by Knockel and colleagues where second-year pharmacy students were given a lecture on transgender health and evaluated their knowledge difference with a pre- and post-lecture test. There was an average increase of 45.8% in knowledge scores among participants.15 These three study examples show promising results for each respective discipline to provide healthcare professionals with the ability to tailor care to the 2SLGBTQ+ population. However, Nowaskie and colleagues assert that because healthcare is inherently interprofessional, it is necessary to apply interprofessional principles (e.g., interprofessional communication, shared decision-making, patient-centered care) to effectively deliver 2SLGBTQ+ health education training.16 It is unknown, however, what types of interprofessional training exist, what content is covered, and how interprofessional training may improve one’s ability to provide competent and inclusive care for 2SLGBTQ+ people.

This scoping review aims to identify and summarize the available literature on 2SLGBTQ+ interprofessional training events. Specific objectives are to determine the mode of training, concepts addressed, and any reported impact on participants’ knowledge, confidence, skills, or abilities to provide care for 2SLGBTQ+ patients.
2. Methods

A search of the databases PubMed and Embase was conducted up to June 2023 using the following search terms: sexual and gender minority OR 2SLGBTQIA+ OR LGBT* OR gay OR lesbian OR bisex* OR transgender OR homosex* OR asexual* OR intersex* OR queer. The results from this search were combined, using AND, with the following terms: interprofessional education OR inter-professional education OR interprofessional-education OR IPE OR interprofessional collaboration. The search was limited to only include published peer-reviewed articles written in English. An additional manual search through the resulting articles’ references was conducted to include additional publications that were not captured in the database searches.

All search results were uploaded into Covidence, where titles and abstracts were screened independently by two reviewers after duplicates were removed. Discrepancies in screening between investigators were resolved by discussion with a third investigator available for consultation if needed. Full texts of articles deemed potentially eligible for inclusion were assessed independently by the same investigators and discrepancies were also resolved using discussion. Articles were included if they reported on an interprofessional training event, course, or other experience with at least two different healthcare professional groups that targeted 2SLGBTQ+ health. Descriptive articles without any form of assessment of participants’ knowledge, confidence, skills, or abilities were excluded. Articles were also excluded if they were not based on interprofessional training and did not have at least 2 different healthcare professions involved. Finally, articles that reported on training events that were not specifically targeted towards 2SLGBTQ+ health were excluded.

Data were extracted from each article by a single investigator and checked by another. The extracted data included author names, year of publication, populations partaking in the interprofessional education, the type of event, content addressed, methods of evaluating the educational event, and participant outcomes.
due to attending the training. The data was then mapped by type of event and divided into two groups based on whether the participants were students in a health professional program at a university or had already graduated and were practitioners in an interprofessional environment.

For this scoping review, a workshop is defined as a training event that takes place within one day and is composed of a variety of activities such as lectures, small group discussions, or panels. A curriculum, or course, is defined as a series of developed modules to be given over a period longer than one day and is often integrated into existing training in universities or professional institutes. A forum is defined as an online space where participants have continuous access to resources, such as videos and links, where virtual discussion with other participants is highly encouraged. Lastly, case- and simulation-based training refers to events where participants are encouraged to practice their skills with scenarios that closely mimic patient-care situations.

3. Results

The search across PubMed and Embase databases yielded a total of 152 articles, which became 97 articles after 55 duplicates were removed. An additional 3 articles from manual reference searching were added to the initial title/abstract screening phase where 100 total articles were screened. Of those 100 articles, 78 were excluded for the purposes of this scoping review and 22 moved forward into full-text screening.

When full-text screening, 7 articles were excluded for the following reasons: 4 did not report on an interprofessional education (IPE) event, 2 were commentaries or other reports, and 1 was not specific to 2SLGBTQ+ health. The remaining 15 articles were included in this review. Figure 1 outlines a summary of this selection process. The summaries of the selected articles are included in Table 1. Presented in Table 2 are the study mapping results by participant group (healthcare students or current healthcare professionals), and type of event (workshop, forum, curriculum, or cases/simulations).
Fifteen articles were identified that reported on the concepts addressed, type of event, and impact of the training on participants’ knowledge, confidence, skills, or abilities to provide healthcare for 2SLGBTQ+ patients. Three articles reported on interprofessional training events designed for healthcare professionals, while the remaining twelve articles were conducted for students enrolled in a healthcare program at a university. Of the three studies for healthcare professionals, two were a one-day workshop style event, and one was delivered as a course. Of the twelve studies for students, five were a one-day workshop, one was an online forum, one was a course, and five were case-based or simulation style events.

3.1 Workshops for Students

Allison and colleagues\textsuperscript{17} conducted a two-hour workshop with 58 students in Medicine, Nursing, Pharmacy, Public Health, Allied Health, and Graduate Studies from the University of Arkansas for Medical Sciences. Participants received a lecture on affirming care practices and watched a video where healthcare professionals interacted positively and negatively with transgender and non-binary patients. The effect of the workshop was measured with a pre- and post-survey using the Transgender Attitudes and Beliefs scale. Participants demonstrated statistically significant improvements in the knowledge, sex and gender beliefs, and interpersonal comfort subsections of the survey. There was no significant difference in the human value subset of the survey. A similar study did not find statistically significant findings according to a pre- and post-survey using the Transgender, Knowledge, Attitudes, and Beliefs scale.\textsuperscript{18} Linsenmeyer and colleagues\textsuperscript{18} created a one-day workshop composed of lectures, reflections, and discussions with transgender community members for 265 students at Saint Louis University in Medicine, Family Therapy, Dietetics, and Speech, Language and Hearing programs to improve transgender health knowledge. No significant difference in knowledge, beliefs, or attitudes toward non-binary or transgender people was found due to participating in the workshop. Open-ended survey questions were included which demonstrated enthusiasm for learning about transgender care, the need to provide better care for transgender patients, and the impact of learning from transgender patients.
One workshop-based study incorporated mock Objective Structured Clinical Examinations into their methods.\textsuperscript{19} Braun and colleagues\textsuperscript{19} developed a one-day workshop composed of lectures, breakout sessions, and a mock OSCE with an optional networking session for 246 students in Medicine, Dentistry, Pharmacy, Nursing, and Physical Therapy at the University of California, San Francisco. Participants completed a pre- and post-survey using a 6-point Likert scale to assess their perspective, beliefs, and confidence in caring for 2SLGBTQ+ patients. Participants demonstrated a statistically significant increase in comfort and confidence for providing care to 2SLGBTQ+ patients after the workshop. The mock OSCE was not assessed.

Two of these studies incorporated assessments on interprofessional competencies.\textsuperscript{20,21} Mimi Mukherjee and colleagues\textsuperscript{20} developed a lecture on 2SLGBTQ+ health and disparities for 106 Pharmacy and Nursing students at Massachusetts College of Pharmacy and Health Sciences University. Participants completed a pre- and post-survey using the Attitudes Toward LGBTQ Patients Scale and the International Collaborative Competencies Attainment Survey to measure their preparedness and confidence to provide care for 2SLGBTQ+ patients. As a result of the lecture, participants felt more prepared to communicate with 2SLGBTQ+ patients and could communicate more effectively among their care teams. Pechak and colleagues\textsuperscript{21} conducted a three-hour workshop consisting of a presentation on interprofessional education and transgender health and a small-group discussion for 108 students in Physical Therapy, Occupational Therapy, Speech-Language Pathology, Rehabilitation Counselling, Social Work, and Pharmacy at the University of Texas at El Paso. Participants completed a pre- and post-survey using the Readiness for Interprofessional Learning Scale (RIPLS) and the Interprofessional Attitudes Scales (IPAS) to measure participants’ comfort in providing care for transgender patients. There was a significant increase in the RIPLS and IPAS scores after the workshop, but no significant difference in scores was observed between programs. Although these studies measured interprofessional competencies, it is unclear from their design
if they were true interprofessional education events where students were learning with and from each other about the course material.

3.2 Workshops for Professionals

Two studies reported on workshops for professionals. Bristol and colleagues\textsuperscript{22} developed a thirty-minute online lecture and a two-hour cultural competency workshop consisting of presentations, small-group discussions, and short films for 135 Registered Nurses, Care Providers, and Support Services in the emergency department. Participants completed a pre- and post-survey using a 5-point Likert scale to measure the difference in their knowledge, skills, openness, support, and oppression awareness for 2SLGBTQ+ patients. It was found that most participants had not received prior 2SLGBTQ+ education, but after participating in this workshop they had an increased awareness of 2SLGBTQ+ health issues and better attitudes toward their identifying patients. This finding demonstrates the potential value of workplace-based training, as content related to 2SLGBTQ+ health may not be incorporated into many entry-to-practice curricula. Pratt-Chapman and colleagues\textsuperscript{23} created an eight-hour workshop where 29 health professionals, staff, faculty, and students at the George Washington University in Public Health, Medicine, Nursing, Physical Therapy, Occupational Therapy, and Speech Therapy participated in three lectures, a discussion, and a panel with 2SLGBTQ+ identifiers. Workshop participants completed a survey before and after the training to evaluate their confidence, attitude, preparedness, and knowledge of 2SLGBTQ+ patients. A control group was enrolled and completed the same surveys but did not attend the workshop. It was found that the participants who attended the workshop exhibited a significant increase in confidence to care for and recognize 2SLGBTQ+ health challenges. However, there was not a significant difference between groups for preparedness to provide care. Findings may have been limited by decreased power to detect differences between groups.

3.3 Curriculum/Course for Students
One study reported on a curriculum or course for students. Calzo and colleagues developed a curriculum consisting of four modules for postgraduate learners and fellows in Medicine, Nursing, Nutrition, Social Work, and Psychology (all enrolled in an Interprofessional Education in Adolescent Health training program) to improve their ability to take sexual histories, find resources, and counsel 2SLGBTQ+ patients. The curriculum was delivered and evaluated over four years. Participants completed a survey before and after the event indicating their confidence on a 4-point Likert scale. Overall, there was a decrease in participant confidence in terms of obtaining sexual health histories and counselling 2SLGBTQ+ patients, but an increase in confidence for locating 2SLGBTQ+ health resources after the training. The interprofessional aspect of the curriculum allowed participants to practice their skills and highlighted the relevancy of each of their future professions in promoting the care of 2SLGBTQ+ patients.

3.4 Curriculum/Course for Professionals

Donisi and colleagues developed four modules consisting of small group activities, discussions, videos, and reflections for a total of 102 physicians, nurses, and psychologists. The modules were led by trainers who were either 2SLGBTQ+ identifiers or had experience with identifying patients. Participants used a 10-point Likert scale to assess their attitudes towards 2SLGBTQ+ patients and a 5-point Likert scale to assess their knowledge of 2SLGBTQ+ health before and after the curriculum. Participants demonstrated a significant knowledge increase after the training and felt more confident to provide care to 2SLGBTQ+ patients. Participants were more likely to ask about sexual orientation and gender identity than those who did not receive the training. Interestingly, those identifying as heterosexual had lower ‘willingness to inclusive practice’ scores than their sexually diverse counterparts.

3.5 Forums for Students

Neill and colleagues created an online forum using Facebook for students at the University of Arkansas to engage with readings and videos about 2SLGBTQ+ healthcare disparities and inclusive practice, while
completing a daily discussion post. A total of 99 students in the College of Health Professions, College of Nursing, College of Pharmacy, and College of Public Health participated. Participants were asked to complete a pre- and post-survey and they found a significant increase in knowledge of 2SLGBTQ+ health disparities and inclusive care after using the online forum. From the online discussion posts, researchers were able to identify common themes of self-profession, interprofessional teams, and the Quadruple Aims (to improve patient experience and outcomes, to improve population health, to reduce cost of care, and to improve healthcare professional satisfaction and wellness). While a feasible online option, the extent of interprofessional learning that occurred in this format is unclear.

3.6 Cases and Simulations for Students
Lee and colleagues27 conducted a series of three model cases facilitated by 2SLGBTQ+ community members with 50 students from Dalhousie University in Nursing and Medicine. Students completed a survey before and after the case series using the Lesbian, Gay, and Bisexual Knowledge and Attitudes Scale for Heterosexuals and the Riddle Scale to measure their changes in knowledge, perception, and attitude towards 2SLGBTQ+ patients. The survey responses were compared to students who did not participate in the case series and only received the standard education within their curriculum. There was a significant increase in the scores around knowledge of 2SLGBTQ+ health issues and a decrease in the participants’ negative attitudes towards identifiers after the training. Four major themes emerged from the qualitative data collected during the cases: curriculum gaps in 2SLGBTQ+ knowledge, the need for addressing barriers and integrating 2SLGBTQ+ health into training, teaching style, and multiple benefits of improving 2SLGBTQ+ health training. Similarly, Leslie and colleagues28 enrolled 653 students at the University of Louisville and affiliated universities in Medicine, Dentistry, Dental Hygiene, Audiology, Speech Pathology, Pharmacy, Nursing, Social Work, and Public Health to participate in their 75-minute 2SLGBTQ+ patient case study. Students completed the Readiness for Interprofessional Learning Scale and the Health Disparities and Attitudes and Knowledge Scale. Participants reported a significant increase in their knowledge and attitudes towards 2SLGBTQ+ patients and the majority reported they had not
received prior 2SLGBTQ+ health or interprofessional training. The recognition of 2SLGBTQ+ health being an education gap was well reported by these studies.

McCave and colleagues\textsuperscript{39} created a simulation case for 494 students at Quinnipiac University to practice caring for and interacting with a transgender patient presenting to the emergency room. Students were in a variety of programs, including Occupational Therapy, Physician Assistant, Medicine, Physical Therapy, Social Work, and Nursing. Participants completed a 5-point Likert scale assessment to determine the value of the simulation training and their preparedness to address the Interprofessional Education Collaborative competencies. 93\% of participants felt the simulation prepared them to ethically care for a transgender patient while working as a member of an interprofessional team.

Prasad and colleagues\textsuperscript{30} developed three 2-hour online sessions broken up into a 1-hour case study and a 1-hour interprofessional discussion with 109 students at Southeastern University. Participating students were in a variety of programs such as Respiratory Therapy, Biomedical Sciences, Occupational Therapy, and Optometry. Assessment was completed using the Health Disparities Attitudes and Knowledge Scale. There was a significant increase in the participants’ perspective on the necessity of training to improve the care of 2SLGBTQ+ patients. Participants also felt significantly more confident to provide care for identifying patients. Qualitative data was collected during the survey which revealed the following prevalent themes: communication, inclusivity, trust, implicit bias, respect, acceptance, empathy, education, judgement, equality, teamwork, representation, collaboration, and support. They concluded an hour-long session can significantly improve the competency of providing care and recognizing challenges for 2SLGBTQ+ patients while asserting that future interprofessional training is still needed. It is also not clear how the 1-hour discussion fostered interprofessional competencies.

Ruud and colleagues\textsuperscript{31} recruited 33 learners from the University of Minnesota in Midwifery, Obstetrics and Gynecology, and Women’s Health Nursing to complete a two-hour simulation activity composed of
two different cases involving transgender and non-binary patients. Participants completed a survey before and after the simulation to assess their skills and comfort when taking patient histories on a 7-point Likert scale. They also assessed their attitudes towards caring for 2SLGBTQ+ patients using a 5-point Likert scale. Participants felt significantly more comfortable collecting health history and gender identity information and providing care to transgender and non-binary patients after the simulation. There were no significant differences reported in the participants’ attitudes toward 2SLGBTQ+ patients after the training. Qualitative data was collected during the simulation where students suggested more education on inclusive practices and extending the duration of the full group discussion. Participants noted the opportunity to practice using inclusive language in a safe environment was helpful.

4. Discussion

The overall aim of this review was to identify and summarize literature pertaining to 2SLGBTQ+ interprofessional health education. A key finding of this review is that workshops and case-based training events are the most common interprofessional education style for both students and professionals to improve their competency caring for 2SLGBTQ+ patients. These are shorter training events compared to forums and curricula/courses. While all four training styles (workshops, curricula/courses, forums, and cases/simulations) were found to improve knowledge or competencies, differences between types of training events on long-term learning outcomes are still unknown.

A second key finding is that all fifteen studies use a pre- and post-survey method to evaluate differences in knowledge, confidence, skills, and abilities as a result of the training; however, the studies lack long-term evaluation of the impact of the training. The studies do show statistically significant increases in knowledge and confidence immediately following the training, indicating that interprofessional education is effective at improving provider competency. However, the extent of this improvement is unknown as the long-term outcomes of the training are not reported and no feedback from patients or family members was available. This finding aligns with previous literature suggesting interprofessional training evaluation
methods need to shift to include assessment of long-term impacts on patient care and collaboration. Future research is needed to conclude the long-term effect of interprofessional health education, especially for 2SLGBTQ+ populations.

It should be noted that the majority of works in this area focus on students and not practitioners, which may indicate a gap in the literature and/or practice in the development of interprofessional health education for professionals who have already graduated and are currently practicing. As interprofessional collaboration in healthcare settings becomes more common, the concept of learning together about topics such as 2SLGBTQ+ health could be very valuable. It should be noted that these learners are likely different than student learners, as IPE concepts such as role clarification and interprofessional communication may be better developed within a functioning interprofessional team. Future research is therefore needed to determine how IPE targeted to practicing health care professionals can be beneficial for improving 2SLGBTQ+ health.

This review has implications for practice and future research. Although limited outcome data is available, it appears that topics related to 2SLGBTQ+ health may be an area for interprofessional learning. This may provide program administrators with flexibility for curricular integration to adequately address this content while also ensuring interprofessional education competencies are addressed. This review does not signal that interprofessional learning settings would disadvantage students with respect to improving knowledge, attitudes, and awareness. Future research should focus on determining learning outcomes with respect to content but should also assess interprofessional competencies intended to be addressed by the programs. Ideally, longitudinal and impact data would be collected, rather than simply focusing on pre- and post-knowledge and attitude assessments.

This review has limitations that should be mentioned. First, the review is based on published articles and does not account for 2SLGBTQ+ interprofessional health education events that occur without publication.
or learning experiences healthcare students and professionals may gain from interacting with and providing care for 2SLGBTQ+ patients. Second, it is possible that articles meeting the inclusion criteria could have been missed due to limiting the search to two databases and manual searching. Third, where most findings reported on interventions for healthcare students, there is limited guidance on the key training components for healthcare professionals. Fourth, it was not always clear that true interprofessional education occurred with learners learning with and from each other, rather than simply being in the same room at the same time with others. Despite these limitations, this review provides a foundation for development of future IPE initiatives and assessment methods for improving 2SLGBTQ+ health.

5. Conclusion
The findings of this review support the notion that interprofessional education appears to be an effective way to deliver 2SLGBTQ+ health education, but the long-term impacts of this style of training is unknown. Future research should be conducted to identify which components of 2SLGBTQ+ health are best suited for interprofessional education and what type of training is most effective for ensuring long-term learning impacts are made, especially for events targeted to practicing professionals.

Acknowledgements

Samuel Villemure for conducting training on database searching and the use of Covidence software for review management.

Funding: This work was supported by an IWK Summer Studentship Grant
References

   https://policybase.cma.ca/viewer?file=%2Fmedia%2FPolicyPDF%2FPD19-03.pdf#page=1

   https://www.napra.ca/publication/principles-of-professionalism-for-the-profession-of-pharmacy/


16. Nowaskie DZ, Patel AU, Fang RC. A multicenter, multidisciplinary evaluation of 1701 healthcare professional students’ LGBT cultural competency: Comparisons between dental, medical,


Table 1. Characteristics of included studies in the review, including population, type of interprofessional education event, methods of assessment or evaluation and any reported outcomes

<table>
<thead>
<tr>
<th>Author</th>
<th>Population</th>
<th>Type of Event</th>
<th>Methods</th>
<th>Outcomes</th>
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<tbody>
<tr>
<td>Allison</td>
<td>Students (n=58)</td>
<td>Two-hour workshop containing a lecture on affirming care practices, and a</td>
<td>Pre/post-survey using the Transgender Attitudes and Beliefs Scale to evaluate the</td>
<td>After the event, participants showed significant improvements in the Transgender Attitudes and Beliefs</td>
</tr>
</tbody>
</table>
video depicting both positive and negative interactions between healthcare professionals and transgender/non-binary patients, differences in participants’ knowledge, interpersonal comfort, human value, and sex and gender beliefs of transgender and non-binary patients before and after the training event.

• Participants did not demonstrate a significant change in the subset of human value or the subset of health care professional on the Transgender Attitudes and Beliefs Scale.

Braun 2017

Students (n=246) One-day forum composed of plenary sessions, breakout sessions with an objective structured clinical course using a 6-point Likert scale to score statements that measure the participants’ perception of their

• Lack of 2SLGBTQ+ content in the student’s curricula (2.98 on the 6-point Likert scale)

• Significant increase in comfort caring for 2SLGBTQ+ patients
The examination (OSCE) of the student’s choice, and optional networking sessions.

- **Perspective, beliefs, and confidence.**

  - After the forum ($p < 0.01$)

  - Significant increase in confidence when caring for 2SLGBTQ+ patients.

  - Significant increase in finding more information/resources to support 2SLGBTQ+ health ($p < 0.01$)

  - Significant increase in student confidence in conducting a medical history with 2SLGBTQ+ patients ($p < 0.01$)

| Bristol 2018 Emergency department healthcare professionals (n=135) | Thirty-minute online learning module and a 2-hour cultural competency training consisting of presentations, small-group discussions, Pre/post-survey using a 5-point Likert scale to measure the difference in participants’ knowledge and skills, openness and support, and awareness of oppression | 85.3% of participants had not received prior 2SLGBTQ+ education. | Mean increase of 8% in participants’ knowledge, skills, openness, support, and awareness of oppression for |
short films, and presentations specific to the emergency department.

2SLGBTQ+ patients awareness, before and after the event. \( p < 0.001 \)

Calzo 2017 Postgraduate learners and fellows

| Four modules (1-3 hours in length) | Conducted in groups of 6-10 participants, with at least 1-2 from each discipline, consisting of case-based discussions and questions led by instructors. | Pre/post-survey using a 4-point Likert scale measuring participants’ confidence in taking sexual histories, counselling 2SLGBTQ+ adolescents, and locating resources after the training (4 years of evaluation data) | • Decrease in participant confidence in taking sexual health histories (average scores from 3.3 to 3.2 on the Likert scale) and counselling 2SLGBTQ+ patients (average scores from 3.0 to 2.7 on the Likert scale) after the training. • Participants are significantly more confident in locating resources for 2SLGBTQ+ health (average scores from... |
Donisi 2020\textsuperscript{25} \hspace{1cm} Healthcare professionals (n=102) \hspace{1cm} Four modules (each 2 hours) consisting of small group activities, discussion, role playing, case studies, videos, and reflections. Pre/post-survey using a 10-point Likert scale to measure the difference in participants’ attitudes towards 2SLGBTQ+ patients and a 5-point Likert scale to measure their knowledge before and after the training event.

- Before the training, 6.8% of participants scored themselves above a 5 on the Likert scale regarding their attitude towards 2SLGBTQ+ people.
- Participants’ knowledge increased significantly post-training, with a median score increase of 5 to 7 ($p < 0.001$).
- 51% of participants felt they were confident in providing care to 2SLGBTQ+ patients prior to training.

After the training,
Lee 2021\textsuperscript{27} Students (n=50) The intervention group received three training sessions from 2SLGBTQ+ community members, which included three model cases. The control group received the standard training for their curriculum. Pre/post-survey using the Lesbian, Gay, and Bisexual Knowledge and Attitudes Scale for Homosexuals (LGB-KASH) and Riddle scales (5-point Likert scales) to measure changes in knowledge, • Significant increase in the intervention group’s score of knowledge of 2SLGBTQ+ issues and significant decrease in this group’s negative attitudes towards 2SLGBTQ+ people (mean increase in score from 11.5 to 20.5, $p = 0.004$). • There were no statistically significant more likely to ask about sexual orientation and gender identity, and felt they had the necessary skills to care for 2SLGBTQ+ patients ($p = 0.001$).
perception, and attitude before and after the training within each group. Qualitative data collected from focus groups conducted with both the intervention and control groups.

Leslie 2017

Students (n=653) Medical students were assigned to a group of 10 other interprofessional health learners and completed a 75-minute session composed of a Pre/post-survey using the Readiness for Interprofessional Learning Scale and the health disparities attitudes and knowledge scale were used to assess the • Only 31% of participants had received prior training on 2SLGBTQ+ health. • Only 30% of participants had participated in a prior interprofessional training event. • There was a statistically significant changes within the control group.
case study and change in
lecture. knowledge and attitudes of the participants before and after the event. significant improvement in participants’ self-reported knowledge on 2SLGBTQ+ health ($p < 0.001$).

- A significant increase in the awareness of the determinants of health status in 2SLGBTQ+ patients was reported (mean pre-test score of 3.38 with 49% of participants agreeing that heterosexuality is a strong determinant of health, compared to a mean post-test score of 3.96 where 76% of participants agreed).
- 71% of participants became more familiar with 2SLGBTQ+
Linsenmeyer and colleagues (2023) conducted a one-day event composed of lectures, reflections, and discussions with transgender community members to identify the health issues transgender patients face, improve gender-inclusive communication, locate resources and develop strategies to improve case-specific resources and could refer their patients to case-specific resources.

Students (n=265) were engaged in a one-day event which included the following:

- Pre/post-survey using a 4-point Likert scale and the Transgender Knowledge, Attitudes and Beliefs Scale (T-KAB) to measure participants’ knowledge, beliefs, and attitudes towards transgender and non-binary people.

- Total T-KAB results did not show a significant difference pre- and post-training.

- No significant difference in the acceptance of the gender spectrum subscale pre- and post-training.

- There was not a significant difference in knowledge between participants who had received prior training and those who had not.
Students (n=494) Simulation case of a transgender patient presenting to the emergency department, followed by an interprofessional discussion and debrief on the case, discharge planning, and affirmative practice.

| Simulation case of a transgender patient presenting to the emergency department, followed by an interprofessional discussion and debrief on the case, discharge planning, and affirmative practice. | Post-survey using a 5-point Likert scale assessing the value of each component of the event and preparedness to address the Interprofessional Education Collaborative competencies. | 82% of participants found the interprofessional discussions to be a useful component of the training event, while 93% of participants found the standardized patient learning sessions from community members to also be a useful component of the training event. Participants felt more confident addressing the Interprofessional Education Collaborative competencies (90% of participants felt more prepared for
teamwork and effective communication, and 91% felt more prepared to collaborate with their interprofessional teams) when caring for transgender patients as a result of the training.

- 93% of participants felt they were prepared to ethically care for and discharge a transgender patient while working as a member of an interprofessional team.

| Mimi Mukherjee | Students (n=106) | Lecture on 2SLGBTQ+ health and Pre/post-survey using the Attitudes toward | Participants felt more prepared to converse |
disparities, followed by a small interprofessional group discussion on a case. LGBT Patients Scale and International Collaborative Competencies Attainment Survey scale (which are 5-point Likert scales) to measure participants’ preparedness and confidence providing care to 2SLGBTQ+ patients. with 2SLGBTQ+ patients ($p = 0.004$).

• After the education, participants felt that 2SLGBTQ+ patients should not only seek healthcare from 2SLGBTQ+-specific clinics and should be able to seek care from all facilities ($p = 0.008$).

• Participants were better prepared to communicate effectively among their interprofessional teams ($p = 0.02$).

Neill 2021 Students (n=99) Two cohorts joined a closed Facebook group where participants in each cohort Pre/post-survey measuring participants’ knowledge of 2SLGBTQ+ healthcare • Average increase of 27% between both cohorts on the post-survey, indicating an increase in participants’
engaged with readings and videos and completed a daily discussion post. Cohort 2 completed essays reflecting on the Facebook discussions, while Cohort 1 did not.

Qualitative data on Interprofessional Education Collaborative competences and practice was collected using reflectional essays and discussions.

Pechak 2018

Students (n=108) Three-hour event composed of a presentation on interprofessional education and transgender health, and a small-group case discussion Pre/post-survey using the Readiness for Interprofessional Learning Scale (RIPLS) and the Interprofessional Attitudes Scales (IPAS) (both are 5-point Likert)

• Significant increase in RIPLS and IPAS scores between the pre- and post-survey.

• No significant difference in RIPLS and IPAS scores between professional programs.
Participants composed of participants from each program followed by a large-group discussion. scales) to assess participants’ comfort providing care to transgender patients.

- Participants scored their comfort levels higher when providing healthcare services for transgender patients than when interacting with them personally outside of a care setting ($p < 0.001$).

| Prasad 2022\textsuperscript{30} | Students (n=109) | Virtual 2-hour sessions on Zoom repeated 3 times a year consisting of two 1-hour case sessions with interprofessional discussions and prompting questions. | Pre/post-survey using the Health Disparities Attitudes and Knowledge Scale, a 5-point Likert scale, to evaluate the participants’ view on the importance of questions about 2SLGBTQ+ patients, and

- Qualitative data revealed the following themes: communication, inclusivity, trust, implicit bias, respect, acceptance, empathy, education, judgement, equality, teamwork, representation, collaboration, and support. |
their confidence in caring for 2SLGBTQ+ patients and recognizing disparities. Qualitative survey data also collected.

- Significant increase in the participants’ perspective on the necessity of receiving training on the care of 2SLGBTQ+ individuals ($p < 0.005$).
- Participants had significantly increased confidence levels when caring for 2SLGBTQ+ patients after receiving this training ($p < 0.001$).

| Pratt-Chapman 2020$^2$ | Eight-hour symposium composed of 3 lectures, a game of Jeopardy, a panel with 2SLGBTQ+ community | Pre/post-survey using the Lesbian, Gay, Bisexual, and Transgender Development of Clinical Skills Scale | The intervention group exhibited a significant increase in confidence in caring for and recognizing 2SLGBTQ+ health challenges, as well as significant increases in... |
members, a discussion on 2SLGBTQ+ health challenges, and role-play scenarios, which made up the intervention group. The comparison group did not attend the symposium but completed an online survey. The intervention group had higher self-reported scales on the Lesbian, Gay, Bisexual, and Transgender Development of Clinical Skills and the Value of Interprofessional Learning scales than the comparison group.

- There was not a significant difference in the intervention and comparison group’s preparedness after the training.
- The intervention group valued interprofessional
Ruud 2021\textsuperscript{31} Students (n=33) & Two-hour simulation activity composed of 2 different cases followed by a series of small group discussions with the patient, teacher, the faculty and simulation educators, and individual feedback. & Pre/post-survey using a 7-point Likert scale to measure the skills and comfort of learners taking a history of non-binary and transgender patients, and a 5-point Likert scale to measure attitudes towards caring for 2SLGBTQ+ patients. Feedback from learners on their satisfaction and educational outcomes. 

- There was a significant increase in the comfort obtaining health history (p < 0.001) and providing care (p = 0.003) and skill levels providing care, asking about gender identity and health history (p < 0.001) of participants after the simulation training.

- 93.8\% of participants were overall satisfied with the simulation in enhancing their skills and preparedness to care specifically for 2SLGBTQ+ patients.
areas of improvement was collected using a 4-point Likert scale.

- Significant differences were not seen in participants’ attitudes pre- and post-training.

2SLGBTQ+ = Two-spirited, lesbian, gay, bisexual, transgender, queer, and others

Table 2. Mapping of included studies by participant population (students or professionals) and type of event (workshop, curriculum or course, forum, or cases and simulations)

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Figure 1. Flow diagram outlining the search strategy and article inclusion process.

Author Contributions

Madison McLean: data curation, formal analysis, writing-original draft

Darren Bogle: funding acquisition, methodology, supervision, writing-review and editing

Colleen Diggins: formal analysis, supervision, writing-review and editing

Melanie McInnis: conceptualization, supervision, funding acquisition, writing-review and editing

Amanda MacDonald: formal analysis, supervision, writing-review and editing

Kyle Wilby: conceptualization, supervision, project administration, data curation, formal analysis, writing-review and editing

Declaration of interests

☒ The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.
☐ The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: