"Coming Out" Against Cancer: Increasing Rural Nurse Practitioner Students' Awareness Regarding Clinical Cancer Screening in LGBTQ+

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Abstract

Introduction: Clinical cancer screening rates are low among patients who identify as LGBTQ+, especially in rural areas. It is important for rural nurse practitioner (NP) students to be aware of health disparities in cancer screenings among LGBTQ+ and be able to effectively promote cancer screenings in this population.

Purpose: The purpose of this project was to determine rural NP students' knowledge, attitudes, and perceptions of barriers to cancer screenings among LGBTQ+ and to educate NP students on inclusivity related to cancer screenings in this marginalized group.

Sample: Nurse practitioner students at a public, rural, liberal arts university

Method: Rural NP students participated in an interactive, in-person workshop to which the community was also invited. Didactic information was provided regarding barriers to/awareness of the need for cancer screenings among LGBTQ+ individuals. Students also created educational

materials for use in community prevention programming. An anonymized online post-survey assessed NP students' knowledge, attitudes, perceptions, and awareness of cancer screenings among LGBTQ+.

Findings: Over 90% of participants (n=62) reported increased knowledge about the healthcare needs of LGBTQ+ populations. The largest mean level of agreement was observed with the statements, "how knowledgeable are you about the healthcare needs of LGBTQ+ populations?" and "how knowledgeable are you about current terms that should be used to increase inclusivity of LGBTQ+ populations in a healthcare setting?", both resulting in a mean score of 3.52 corresponding with "very knowledgeable". Three qualitative themes included recognizing the significance of culturally appropriate communication, having increased awareness of recommendations for cancer screening in the LGBTQ+ population, and the importance of reflecting on internal personal biases.

Conclusion: Curricular strategies that promote awareness and increase knowledge of LGBTQ+ patient needs are essential to develop a rural NP workforce that can promote health equity and competently care for all patients.

Keywords: Rural, nurse practitioner students, sexual and gender minorities, early detection of cancer, marginalized groups, health equity, nurse leader, cultural competency

"Coming Out" Against Cancer: Increasing Rural Nurse Practitioner Students' Awareness about Cancer and Screenings among LGBTQ+

The American Nurses Association supports the *Healthy People 2030* goals of achieving health equity and has published a position paper affirming the need for nurses to provide culturally congruent care in all clinical settings, inclusive of those identifying as lesbian, gay, bisexual, transgender, or something other than heterosexual (LGBTQ+) (ANA, 2018). This takes on even

greater importance when considering that recent Gallup poll results reveal that the percentage of adults who self-identify as LGBTQ+ has increased to 7.1%, which is double the percentage from 2012. The increase in LGBTQ+ in recent years primarily reflects the higher prevalence among young adults compared with older generations; for instance, approximately 21% of Generation Z American adults identify as LGBTQ+ (Jones, 2022).

Cancer Screening Rate Inequities and the Rural Setting

The importance of cancer screening as an essential part of preventive health in LGBTQ+ populations is intensified due to the known increased burden of cancer diagnoses in these individuals. Data from the 2013-2016 National Health Interview Survey revealed that gay men had over 50 percent increased odds of reporting a cancer diagnosis as compared with heterosexual men, and bisexual women had 70 percent increased odds of reporting a diagnosis of cancer as compared to heterosexual women (Olsen, 2021). Specific types of cancer are also known to have a higher rate of prevalence in this population, such as skin cancer in gay and bisexual men (Singer et al., 2020), and cancers associated with human immunodeficiency virus (HIV) and human papillomavirus (HPV) infections such as cervical cancer in bisexual women (Boehmer et al., 2011) and anal cancer and Kaposi sarcoma (Saunders et al., 2017). As discussed in a recent comprehensive report by the American Cancer Society, multiple clinical and behavioral factors influence these statistics. These factors include increased smoking rates, excess body weight in lesbian and bisexual women, lower rates of leisure-time physical activity, and heavier alcohol intake in bisexual women. Non-clinical factors also influence cancer disparities, such as the LGBTQ+ presumption-of-care gap arising from the fear that a provider will refuse care due to gender identity or sexual orientation (note that it is legal in some states to deny care to LGBTQ+

individuals via legislated conscience clauses encompassing providers, staff, and insurers) (Kratzer et al., 2024).

Clinical cancer screening is low among LGBTQ+ populations. Overall, they are less likely to have had a recent mammogram, anal or cervical Pap test, or a prostate exam (Haviland et el., 2020; Stimpert, 2020). Research indicates that patients who identify as LGBTQ+ are approximately 25% less likely to be up-to-date on cancer screenings, such as colonoscopies, Pap smears, and mammograms (Nelson et al., 2023). There are a variety of factors influencing the inequity in cancer screening rates for LGBTQ+ individuals, including those in rural areas. The social determinants of health (SDOH) that contribute to this inequity in cancer screening rates include identifying as a racial or gender minority, experiencing poverty, having less social support (Davis et al., 2023), lack of knowledge about cancer screenings, discriminatory practices by healthcare providers or the healthcare team, a lack of healthcare insurance, and/or a fear of hostile treatment when they reveal that they are LGBTQ+ (Nelson et al., 2023). Despite many areas of increased risk regarding health issues, the LGBTQ+ population often faces obstacles in accessing care due to stigma, discrimination, issues with health insurance equity, and even denial of care (Kates et al., 2018). In a survey of LGBTQ+ patients, 37% received negative and/or discriminatory treatment from a healthcare provider in the last year (Wesley et al., 2023), and such experiences may lead these patients to not seek needed healthcare services (Rowe et al., 2019).

These discrepancies in cancer screenings for LGBTQ+ individuals are also affected by the rural setting. Persons who identify as LGBTQ+ may have difficulty locating knowledgeable and affirming healthcare providers in rural areas that already have healthcare provider shortages), which may contribute to lower screening rates (Tuttle et al., 2022). Lee and colleagues (2020) found that rates of cancer screening for breast cancer (rural lesbians at 66.8% vs. urban

heterosexuals at 80.0%), cervical cancer (rural lesbians at 64.8% vs. urban heterosexuals at 84.6%) and colorectal cancers (colorectal for males: rural bisexuals at 52.4% vs. urban bisexuals at 81.3%; and colorectal for females: rural heterosexuals at 67.2% vs. rural lesbians at 74.4%) among LGBTQ+ were lower in rural areas, and in a systematic review, living in a rural area negatively affected cervical cancer screening rates among lesbian patients (Kluitenberg Harris et al., 2024).

The United States Census Bureau (n.d.-a) defines "rural" as any population, housing, or territory not located in an urban location. In contrast, metropolitan areas are defined as locations with a population of 50,000 or more. The university where the project occurs is located in a city with a population of 40,609 in 2023 (United States Census Bureau, n.d.-b). Several parts of the county are defined as rural and meet the requirements for Rural Health Grants, and many students who commute to campus live in rural outlying counties designated as rural for the whole county (Health Resources and Services Administration [HRSA], n.d.). For nurse practitioner (NP) programs in rural areas, students are typically drawn from local and outlying rural regions and will often continue to practice in rural areas upon graduation. At our university, 75% of the NP students remain in this rural region after graduation to work in clinical settings, and 83% remain in this southeastern state. Thus, educators in rural programs must innovate curricular initiatives to address known factors affecting health equity.

Provider Knowledge and Bias

Healthcare providers may not be familiar with how to provide care to patients who identify as LGBTQ+, which may be due to insufficient education on LGBTQ+ identity and health needs. Many nurses lack the knowledge and understanding of how to provide care for patients who identify as LGBTQ+, which may lead to an unwelcoming environment (Carabez et al., 2016). Among nurse practitioners, there is confusion about terminology unique to the LBGTQ population

(Davis et al., 2023). Many nurses receive inconsistent, infrequent, or insignificant training on ways to provide inclusive healthcare to the LGBTQ+ population (Carabez et al., 2016), and this lack of training is a barrier to caring for patients who identify as LGBTQ+ (Aisner et al., 2020). This reinforces the need to incorporate such subject content into the curriculum in healthcare programs, including nursing programs at all levels. According to Cahill et al. (2019) and Morris et al. (2019), healthcare providers must reflect on their internal biases and be educated on caring for the LGBTQ+ population. Recognizing and understanding biases are integral parts of intrapersonal awareness, which can assist NPs in developing inclusivity (Murray-Larrier, 2021). Carabez et al. (2016) emphasized the need for cultural humility, self-reflection, and education on gender diversity and transgender identities for healthcare professionals. Thus, educational interventions and curricular activities in healthcare professional programs that increase healthcare professionals' knowledge in this area would underpin advocacy to promote health equity (Vermeir et al., 2018), and would encourage students' knowledge, comfort, and attitudes about LGBTQ+ patients (Morris et al., 2019).

Implications for the Nurse Practitioner Curriculum and Rural Educational Programs

The importance of holistic care in this population is underscored by the known additional health disparities in the LGBTQ+ population, which may also influence cancer screening rates, such as higher rates of depression, suicide, and substance abuse in comparison to cisgender patients (Davis et al., 2023). Patient-centered clinical practice strategies to increase cancer screening rates include providing inclusive care to LGBTQ+, increasing healthcare providers' knowledge about the care of LGBTQ+ patients, reducing personal biases (Heer et al., 2023), and addressing SDOH factors influencing screening uptake rates.

To address these known issues, nurse educators can intentionally include focused didactic content regarding the specific needs for cancer screening in LGBTQ+ individuals. Ideally, this instruction should be expressed in the context of both science and clinical courses, with a message of inclusion throughout the curriculum (Ginaldi & De Martinis, 2024). In addition, educators can consider having students test for unconscious bias with validated instruments (Elboga, et al., 2024). Attention to these curricular components can help future NP providers recognize the complexity of the impact on health and healthcare delivery for LGBTQ+ individuals and promote the conscious creation of a comfortable practice environment for these patients (Teal et al., 2012).

Healthcare educators have piloted curricular innovations to determine the effectiveness of focused curricular content regarding LGBTQ+ healthcare (Pratt-Chapman & Phillips, 2020). The purpose of this project was to determine rural NP students' knowledge, attitudes, and perceptions of barriers to cancer screenings among LGBTQ+, to educate NP students on inclusivity related to cancer screenings in this marginalized group, and to determine the impact of curricular strategies that focus on clinical care of this marginalized group.

Methods

Nurse practitioner (NP) students in the family nurse practitioner and psychiatric mental health nurse practitioner tracks at a public, rural, liberal arts university in the southeast United States participated in an interactive workshop. This nurse practitioner program is a hybrid program, where students must come to campus up to twice per semester as part of clinical coursework. This in-person workshop occurred over two hours, and attendance was required for those NP students enrolled in our graduate Patient Education and Advocacy course. The placement of this course in our graduate curriculum is in the first year of our MSN/DNP programs. The workshop aimed to determine how this curricular experience impacted knowledge, attitudes, and motivation to

implement strategies in healthcare settings that would increase cancer screenings among the LGBTQ+ population. In addition to the NP students, community members, undergraduate nursing students, faculty members, and public health students were invited to attend.

At the workshop, didactic information was provided regarding barriers to care and awareness of the need for improved rates of cancer screenings among the LGBTQ+ population, including colorectal, breast, cervical, lung, prostate, and skin cancers. Didactic information and activities included in the workshop were based on current LGBTQ+ research and data with input from content experts and healthcare providers with years of experience working with LGBTQ+ patients and families. The presentation included a group activity where participants were asked to respond to items from "The Heterosexual Questionnaire" attributed to Martin Rochlin (1977), which was designed to help non-LGBTQ+ persons understand how it feels to be questioned based on "heterophobic" beliefs, rather than homophobic assumptions (e.g., "What do you think caused your heterosexuality?", "Is it possible that your heterosexuality is just a phase you may grow out of?" "To whom have you disclosed your heterosexual tendencies? How did they react?"). Prior to asking these questions to participants, the facilitator explained that when LGBTQ+ youth are beginning to 'come out,' they are often asked questions that are inappropriate or impossible to answer. In order to help participants understand the heterosexist bias in our culture, participants will be asked to respond to the same questions regarding heterosexuality. This activity was followed by a group discussion where participants shared their reactions to being asked the questions and how their own implicit biases may alter how they care for LGBTQ+ patients and families (e.g., "Did you find the questions difficult to answer? "Were some harder than others?, "How did the questions make you feel?"). Inclusive terminology related to the LGBTQ+ population was presented to participants. The Genderbread Person image was used to describe the

different constructs of Gender Identity, Gender Expression, Anatomical Sex, Sex assigned at birth, sexual attraction, and romantic attraction (Killerman, 2017). Participants were also given opportunities to identify personal biases through an interactive game where participants had to defend opinions related to caring for LGBTQ+ patients that may differ from their values and beliefs. This activity resulted in active discussion and healthy debates about personal values and biases. Moreover, the presentation included cancer statistics among the LGBTQ+ population and strategies to increase LGBTQ+ inclusivity in healthcare settings to improve cancer screening rates and health outcomes and support health equity among this population. The presentation concluded with a Jeopardy-style game where NP student and community member participants were divided into teams and responded to questions worth various points.

For the NP participants, the graduate Patient Education and Advocacy course continued the focus on patient education and health literacy included in the workshop. Active learning strategies were based on individual student research and analysis of existing data regarding barriers to care in the LGBTQ+ population. The NP student participants analyzed patient education websites for suitability for low literacy populations to make students aware of the need for appropriate reading level content when referring patients to resources. Another learning activity was the creation of patient education videos appropriate for low literacy populations in a public service announcement format lasting 1-2 minutes. These videos will be provided to local clinics for waiting room use. Topics were drawn from general clinical practice, such as how to use an asthma inhaler, perform self-blood glucose testing, and the importance of exercise.

The NP student participants also created low literacy pamphlets intended for use as community prevention materials with a focus on the need for cancer screenings in LGBTQ+ individuals. The cancer screening topics for the educational pamphlets included colorectal, breast,

cervical, lung, prostate, and skin cancers. Each topic had to be inclusive, provide information for the LGTQ+ population, and at a 5th-grade reading level. These color pamphlets were printed by the university print shop, distributed to local clinical facilities affiliated with the NP program, and served as clinical sites for precepted rotations.

An online, anonymous, voluntary retrospective post-survey was administered to assess nurse practitioner students' knowledge, attitudes, perceptions, and awareness of cancer screenings among LGBTQ+ using a 4-point Likert scale from 1=not at all…4=very knowledgeable/motivated/comfortable. A retrospective post-survey was utilized instead of a traditional pre- and post-survey due to a few important factors. Retrospective surveys have been shown to reduce response shift bias due to participants overestimating or underestimating their initial perceptions and attitudes due to misunderstanding of knowledge at baseline. They can more accurately measure their lack of knowledge after completion of the program. Retrospective surveys have also been shown to have a higher completion rate than pre- and post-surveys. Lastly, due to time constraints, it was not realistic to administer a pre-and post-survey (Klatt & Taylor-Powell, 2005). The retrospective post-survey was administered immediately after the workshop's conclusion. Given that the seminar occurred towards the beginning of the semester, the participants had not yet completed the Patient Education and Advocacy Course. Still, they had begun to work on the abovementioned pamphlets. There were eight knowledge, six demographic, and three open-ended qualitative questions. Reliability analysis was performed on the scale using the four (4) point Likert Scale with the eight knowledge items, and Cronbach's Alpha was 0.88, representing a high internal consistency. The qualitative responses were analyzed by two authors using directed content analysis (Assarroudi et al., 2018), with two authors coding the text responses and a third

author reviewing the responses, and any differences were discussed to obtain consensus. All of the qualitative responses were examined to determine the qualitative themes.

Institutional Review Board approval was obtained from the university prior to data collection. Student completion of the online, anonymous survey was optional and not tied to course grades. The survey's overview, purpose, perceived risks and benefits, and study confidentiality practices were provided as part of the survey, and consent was obtained before participation in the survey.

Results

Demographics

A total of 62 participants completed the online post-survey. Most participants identified as female (86%), White or Caucasian (71%), and 16% identified as Black or African American, 90% non-Hispanic. Almost half (40%) were between the ages of 26-35, and 21% were between 18-25. Nearly half of the participants were enrolled in the graduate level Patient Education and Advocacy nursing course, and over 90% indicated they were currently enrolled as a graduate nursing student. Although students in the Patient Education and Advocacy nursing course were required to attend, many other graduate nursing students attended because of their interest in the topic. Community members, including faculty and healthcare providers in the local area, were invited to attend the workshop. More than one-third of participants indicated working in a clinical setting for more than 10 years, 23% had worked in a clinical setting for 7-10 years, 19% had worked in a clinical setting for 4-6 years with the remaining 19% having worked in a clinical setting for 1-3 years.

Quantitative Responses

Participants were asked to indicate their level of agreement with a series of statements using a 4-point Likert scale from 1=not at all…4=very knowledgeable/motivated/comfortable. More

than 95% of participants indicated increased knowledge about the healthcare needs of LGBTQ+ populations due to their participation in the workshop.

Over 90% of participants indicated that the workshop experience resulted in an increased level of knowledge, comfort, and motivation regarding aspects of healthcare delivery for LGBTQ+ individuals (see Table 1 for survey questions). The largest mean level of agreement was observed with the statements, "Because of your participation in the workshop, how knowledgeable are you about the healthcare needs of LGBTQ+ populations?" and "Because of your participation in the workshop, how knowledgeable are you about current terms that should be used to increase the inclusivity of LGBTQ+ populations in a healthcare setting?", both resulting in a mean score of 3.52 corresponding with "very knowledgeable." The overall average level of agreement with all the statements was 3.47, corresponding with a high level of agreement with each statement.

Table 1

Post-survey Quantitative Results

Knowledge, Awareness and Perceptions Scale (1=not at all…4=very knowledgeable/motivated/comfortable)	**Average Level of Agreement (n=62)**
Because of your participation in the workshop, how KNOWLEDGEABLE are you about the healthcare needs of LGBTQ+ populations?	3.52
Because of your participation in the workshop, how KNOWLEDGEABLE are you about the concepts of sexual orientation, gender identity and behavior?	3.42
Because of your participation in the workshop, how KNOWLEDGEABLE are you about current terms that should be used to increase inclusivity of LGBTQ+ populations in a healthcare setting?	3.52
Because of your participation in the workshop, how KNOWLEDGEABLE are you about strategies that should be used to increase cancer screening behaviors among LGBTQ+ populations in a healthcare setting?	3.48
Because of your participation in the workshop, how COMFORTABLE are you talking about cancer screening behaviors with LGBTQ+ populations in a healthcare setting?	3.50
Because of your participation in the workshop, how COMFORTABLE are you talking about risky sexual behaviors as it relates to cancer screening to LGBTQ+ populations in a healthcare setting?	3.44

Knowledge, Awareness and Perceptions Scale (1=not at all…4=very knowledgeable/motivated/comfortable)	Average Level of Agreement (n=62)
Because of your participation in the workshop, how MOTIVATED are you to talking about cancer screening behaviors with LGBTQ+ populations in a healthcare setting?	3.47
How likely will you use the content in this presentation to assist you in cancer screening behaviors with LGBTQ+ populations in a healthcare setting?	3.39
Overall Mean Score	**3.47**

Qualitative Responses

In addition to the quantitative post-survey questions, participants were also asked three open-ended qualitative post-survey items to measure the impact of the workshop experience. These questions focused on their perception of their ability to deliver competent care to LGBTQ+ individuals, and their awareness of cancer screening disparities in this population. Analysis of participant responses revealed three themes.

Theme 1 – Culturally Appropriate Communication

Participants provided feedback on how this workshop experience would impact their ability to communicate in the clinical setting. Responses included: "I feel confident in using the appropriate terms," "Makes it easier to discuss given the appropriate ways to bring up conversations," and "My communication with this patient population will improve based on this presentation."

Theme 2 – Increased Awareness of LGBTQ+ Recommendations for Cancer Screening

The NP students recognized that they had knowledge deficits regarding this area of clinical practice. Participants stated: "Has provided significant improvement in knowledge base" and "Increased awareness for assisting with access to available resources." Additional comments included: "It helps me understand what screening are applicable to the LGBTQ+," "I was aware

that there were some disparities but not to this extent," and "I had honestly no clue that certain cancers were more prevalent."

Theme 3 – Importance of Reflecting on Internal Biases in Order to Support the Therapeutic Relationship

As a result of the workshop, the NP student participants became aware of the importance of personal biases regarding the impact on patient clinical care. Statements included: "I will be more cognizant of how I make the patient feel," "I will think before I speak, act, care, or judge in my practice," and "Increases ability to talk comfortably."

Conclusion

Limitations to this study include including students at a single university in a one-semester course. Further, there was no pre-survey to obtain baseline information from participants. Demographics on sexual orientation, sexual behaviors, and whether any of the participants identified as LGBTQ+ or had experience caring for members of the LGBTQ+ community were not obtained in the survey, but this would be useful information to include in future studies.

Healthcare educators have identified the need to develop a "fit-for-purpose" curriculum that aligns educational content and strategies with the needs of society, and integrating didactic content and practice competencies in nursing curricula should be prioritized (Yu et al., 2023). The issues in such curricular development include health equity as a didactic component, utilizing competency-based educational strategies, and providing learning activities requiring technological proficiencies (Harden, 2024). Curricular strategies that promote awareness and increase knowledge of LGBTQ+ patient needs are essential to developing a rural nursing workforce that can competently care for these individuals. In this study, our rural NP students expressed receptivity to caring for LGBTQ+ patients and demonstrated a need to increase their knowledge

base regarding the specific needs of these patients. Integrating both traditional didactic approaches as well as incorporating active learning activities such as creating prevention programming materials has the potential to enhance an NP's ability to provide a skilled therapeutic relationship and deliver high-quality care to rural LGBTQ+ populations. Educators should promote learning strategies that improve cultural competency and support understanding of inclusive patient care for LGBTQ+ populations, especially in rural areas.

There has been limited research on factors related to LGBTQ+ health care in the rural south; however, studies have shown that there is an increased stigma and lower utilization of health care services among LGBTQ+ populations living in the rural Southeastern United States. It has been hypothesized that stigma is demonstrated more prominently in rural areas due to limited exposure to the LGBTQ+ community and increased intolerance to lifestyles that are not considered heteronormative (Klotzbaugh & Spencer, 2018). The workshop implemented in this study aimed to increase understanding, cultural competency, and perceptions related to providing health to LGBTQ+ communities. Further, activities implemented in the workshop allowed opportunities for participants to identify individual biases and subsequently identify strategies to prevent those biases from altering how healthcare is provided to LGBTQ+ populations. The interactive activities of the workshop and nonjudgemental discussion of biases allowed a safe space for participants to disclose personal beliefs and work together to achieve ways to provide affirming care to LGBTQ+ populations, particularly in rural communities. The results of our study with NP students in a rural program demonstrate that such curricular approaches benefit developing a rural clinical workforce.

Clinicians may be challenged to step outside a gender-normative paradigm when delivering care to LGBTQ+ patients. For instance, these individuals may use pronouns other than the conventional gendered pronouns used in English and many different languages, and since

providers may not have extensive experience delivering care to this group, research suggests a need to disclose their level of knowledge and be willing to consult with experts as needed (Hendricks & Testa, 2012). Nurse Practitioners need to approach their practice mindfully, being intentional advocates for the LGBTQ+ community to help eliminate discrimination in healthcare and move towards eliminating health disparities. Intrapersonal awareness can help NPs mitigate biases and promote inclusivity, which can result in improved health care for patients who identify as LGBTQ+.

As healthcare providers for LGBTQ+ people, NPs have the potential to improve care and promote better health outcomes, so integration of LGBTQ+ health into the NP curricula is crucial (Manzer et al., 2018). Nurses need to act as healthcare leaders by engaging in advocacy activities to eliminate discrimination, encourage inclusive policies in healthcare organizations, recruit faculty, train nursing students, and provide affirming care to patients who identify as LGBTQ (Fauer et al., 2020). To support these leadership behaviors, nurse practitioner (NP) programs should include curricular content that promotes awareness of the known disparities in cancer screenings among LGBTQ+ and effective ways to encourage cancer screenings among this population (Brown et al., 2020).

Conflicts of Interest

The authors have no conflicts of interests to declare.

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