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Factors Associated with Breast and Cervical Cancer Screening in Sexual and Gender Diverse Populations

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ABSTRACT

Compared to their heterosexual counterparts, sexual and gender diverse populations (SGD; also known as LGBTQ+) are less likely to be screened for breast and/or cervical cancer. This is despite evidence that sexual minority women (lesbians and bisexuals) and transgender men (who have a cervix) have an increased risk for cervical cancer. Similarly, breast cancer risk is higher in transgender women (on hormone replacement therapy) compared to cisgender men. Unique barriers play a role in low screening rates, and interventions tailored to address these barriers in SGD/LGBTQ+ adults eligible for breast and cervical cancer screenings are imperative for cancer health equity. The study objective was to identify variables (e.g., barriers, facilitators) associated with uptake of breast (mammography) and cervical (Pap test) cancer screenings in SGD populations aged 25-70 years of age. N=13 individuals identifying as part of the SGD community were recruited from a large metropolitan area in the Southern United States. An interview guide using theoretical underpinnings of minority stress model was developed and used to conduct in-depth interviews to systematically identify multi-level factors associated with screening practices. Thematic analysis identified three major themes: barriers, identity-related stress, and facilitators to screening. Limited cancer screening knowledge, low perceived risk, previous negative experiences with gynecological care, trauma, stigma, and identity concealment negatively impacted screening engagement. Affirming and trauma-informed providers and inclusive healthcare environments were facilitators that increased trust to participate in recommended cancer screenings. Results indicate the need to develop and test multi-level trauma-informed interventions for this population.

KEYWORDS: Breast cancer, Cervical cancer, Sexual and Gender Diverse, LBTQ+, Stigma, Minority Stress

Globally and in the United States (U.S.), cancer remains a leading cause of death (Dizon & Kamal, 2024; National Cancer Institute, 2025a, 2025c). Screenings are an evidence-based secondary prevention strategy that play a critical role in the early detection of and intervention for

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cancers such as breast and cervical cancer. According to the National Cancer Institute (National Cancer Institute, 2025b), routine Pap testing can reduce cervical cancer incidence and mortality by 80%. Similarly, mammography is associated with a 41% reduction in breast cancer-related mortality among women who complete screening (Duffy et al., 2020). Despite the effectiveness of these screening strategies, more than 2 million new cancer cases are expected to be diagnosed in the U.S. in 2026, and 618,120 people will die from the disease (National Cancer Institute, 2025a). Particularly concerning is the disproportionate burden of breast and cervical cancer-related morbidity and mortality among marginalized subgroups, including Sexual and Gender Diverse (SGD) adults.

SGD populations include but are not limited to lesbian, gay, bisexual, transgender/gender non-conforming, queer/questioning, intersex, asexual individuals (commonly referred to as LGBTQIA+) (Obedin-Maliver et al., 2024). Together, they represent roughly 23 million (7.1%) of the current U.S. population (Jones, 2022). Research to address cancer disparities in this population remains limited largely because of the lack of standardized measures to collect sexual orientation and gender identity (SOGI) data, the exclusion of SOGI measurements from national cancer registries, and an inadequate understanding of the diverse, intersecting, and complex experiences that contribute to disparities among SGD populations (Adsul et al., 2022; Jackson et al., 2023). When data does exist, research points to low screening rates in SGD adults who are eligible for breast and cervical cancer screenings. Compared to their heterosexual counterparts, sexual minority women (lesbians and bisexuals) and transgender men (with a cervix) are less likely to be screened for cervical and breast cancer. A recent study found that only 1.7% of transgender individuals who were assigned female at birth had a mammogram within two years of age 40 and only 13.3% within two years of 50 years of age (Mayer et al., 2025). Despite recent evidence suggesting that transgender women on hormone replacement therapy have a higher risk of breast cancer compared to cisgender men (Corso et al., 2023), screening rates remain low (Oladeru et al., 2022).

Routine breast and cervical cancer screening among eligible SGD adults is hindered by several unique barriers. These include healthcare providers' limited knowledge of screening guidelines for SGD adults (Allen et al., 2025) and patients' own lack of knowledge (Haviland et al., 2020). SGD adults also face internalized stigma (Sileo et al., 2022) and real or perceived discrimination in healthcare settings (Henriquez & Ahmad, 2021), which can negatively impact health-seeking behavior. These experiences may also make patients less likely to disclose their SOGI status, reducing opportunities to discuss specific health concerns during patient-provider interactions (Rahman et al., 2023). Transgender adults face additional challenges. For individuals on the trans-masculine spectrum, avoidance of natal reproductive structures and anxiety about pelvic examinations contribute to lower cervical cancer screening uptake (Dhillon et al., 2020).

Existing SGD health research has historically focused disproportionately on sexual minority cisgender men and on HIV and sexually transmitted infections, leaving major gaps in preventive oncology and cancer screening research. For example, reviews of National Institutes of Health-funded studies and published literature have demonstrated that only a very small proportion of SGD-focused health research addresses broader health concerns beyond HIV/AIDS, with lesbian and bisexual women substantially underrepresented in this body of work (Boehmer, 2002; Coulter et al., 2014). In addition, there remains a paucity of qualitative research examining how individual, interpersonal, healthcare system, and structural factors may intersect to influence screening behaviors in SGD populations eligible for breast and cervical cancer screening. The current study addresses these critical gaps by examining multilevel factors associated with cancer screening in this target population. By centering the lived experiences of populations historically

marginalized in cancer prevention research, this study seeks to generate nuanced insights into factors associated with preventative cancer screenings. Findings may inform the development of culturally responsive interventions, provider training efforts, and health system strategies aimed at reducing cancer screening inequities in these populations.

Theoretical Framework

Our conceptual model is based on minority stress theory (Frost & Meyer, 2023) and the health equity promotion model (Fredriksen-Goldsen et al., 2014), which together provide a comprehensive multi-level lens to determine factors that impact uptake of preventative cancer screenings in our population. Introduced by Virgina Brooks in 1980 (Brooks, 1981) as it relates to lesbian women and extended to gay men by Meyer (Meyer, 1995), the minority stress model was developed to explain the impact of internal and external stressors on health outcomes in minoritized populations. Specifically, it posits that health disparities in SGD populations are primarily driven by factors originating from their stigmatized minority status in society relative to their heterosexual counterparts, which in turn impacts how SGD individuals and society interact with each other (Frost & Meyer, 2023). Minority stress differs from general stress because it stems from stigma, prejudice, and overt and covert discrimination. For instance, a hostile interaction in a doctor's office can be a general stressor or a minority-status-related stressor, depending on whether it is motivated by prejudice in response to disclosure of sexual or gender identity or provider burnout that impacts all patients regardless of sexual and gender orientation. Furthermore, the theory distinguishes between distal and proximal stressors' impact on health outcomes (Meyer, 2003). Examples of distal factors are anti-LGBT healthcare policies, denying healthcare due to a minority status, acute life events (e.g., violence), and covert forms of discrimination or microaggressions (e.g., non-inclusive intake forms, misgendering, dead naming patients). Proximal factors are a result of socialization and can result in internalized stigma, rejection sensitivity arising from persistent expectations of social rejection, and identity concealment. With the context of cancer screening, internalized (Milner & McNally, 2020) and externalized homophobia (Alizaga et al., 2022; Hastings et al., 2021) create negative healthcare experiences, which in turn can impact cancer screening behaviors. In healthcare, identity concealment becomes a complex issue. While concealment can protect patients from prejudice, discrimination, and hostility (Holman et al., 2022), disclosure of sexual and gender identity can allow for tailored healthcare. In fact, SGD individuals who hide their identity are less likely to receive necessary, age-appropriate screenings and screenings for specific risks (e.g., HPV, HIV), leading to later diagnoses (Koch et al., 2023). Collectively, these minority status-related stressors place SGD individuals at risk for negative healthcare outcomes compared to their cisgender/heterosexual counterparts. Next, the health promotion model (Fredriksen-Goldsen et al., 2014) guides our conceptual framework by applying a multi-level lens to examine health equity. Building on minority stress theory, the health equity promotion model considers the interplay among individual, structural, and environmental contexts and their influence on health behaviors. Combined with stigma, individual factors, including knowledge and risk perception for cancer, are known to impact health behaviors (Noman et al., 2021; Otto et al., 2021). Similarly, evidence points to social factors (social capital, social networks) as protective of health (Giebel et al., 2021). Social factors such as community and social connections are important means of mobilizing people with disparate experiences around a set of issues and problems (National Academies of Sciences Engineering and Medicine et al., 2020). As such, minoritized groups, including SGD populations, are more likely to share similar experiences

when accessing health services, health knowledge, and norms related to healthcare access and satisfaction. Thus, the overall impact on preventive behaviors such as cancer screenings, while affected by the negative effects of stressful experiences, can be mitigated by individual factors, social support, and capital.

Methodology

Research Design

The study used a convergent parallel mixed-methods cross-sectional design (Edmonds & Kennedy, 2017) to identify variables associated with the uptake of breast (mammography) and cervical cancer (Pap test) screening among SGD adults aged 25-70 years who were eligible for these screenings. Quantitative data from standardized questionnaires and qualitative data from semi-structured interviews were integrated to capture both measurable patterns and lived experiences related to screening behaviors. The interview guide was developed using core principles from the theoretical framework which guided the research question. Questions explored how stigma, social context, and personal beliefs influence participants' screening decisions and behaviors.

Ethical Considerations

The University's Institutional Review Board (IRB approval # 007030) approved the study. Participants were informed that participation was voluntary and that they could withdraw at any time without penalty.

Sample

Inclusion criteria were (a) adults aged 25-70 years who identified as one or more of the following: lesbian or bisexual women, transgender men, and non-binary adults assigned female at birth, and transgender women on hormone replacement therapy who are at risk for breast cancer (de Blok et al., 2019), (b) the ability to speak and read English, (c) live in the Greater Tampa Bay area, and (d) have access to a computer or mobile phone with internet capability. Exclusion criteria included individuals who had undergone a full hysterectomy and/or double mastectomy, those with a prior diagnosis of breast and/or cervical cancer, and adults assigned male at birth who did not have breast tissue (i.e., had not undergone gender affirming therapies or surgeries).

Recruitment

Participants were recruited through word-of-mouth referrals, online and in-person flyer distribution at locations frequented by the SGD community, and community-based networking. Flyers with study information and a QR code linking to the eligibility screener were distributed throughout the Greater Tampa Bay area, posted on Facebook and Instagram, and displayed at relevant events and/or locations, such as Pride events, gay bars, and SGD/LGBTQIA+-friendly businesses and community spaces. Study team members also contacted existing SGD community stakeholders (Metro Inclusive Health, Diversity Health Center of Tampa Bay, USF Pride Alliance)

to expand outreach through peer networks. Recruitment materials included the inclusion criteria, a brief study description, and a secure REDCap link via QR code.

Procedures

Participants who scanned the study QR code completed the eligibility questionnaire through REDCap, a HIPAA-compliant web-based research data capture platform (REDCap). Eligible participants were contacted by telephone to confirm identity and interest in the study procedures, provided verbal consent, and scheduled for an interview. Staff then emailed participants a copy of the consent form, along with a link to complete baseline assessments (see below) before the interview. Using a semi-structured interview guide, a trained research staff member conducted interviews online via Microsoft Teams. Participants were compensated with a $5 e-gift card for completing the baseline assessments and $45 for completing the interview. All interviews were video recorded.

Research staff were trained in ethical conduct, cultural sensitivity, and inclusive language to ensure participants' safety and comfort. Training included following the manual of procedures, participating in interview training, and recording mock interviews with a standardized participant. Additionally, all research staff completed the "LGBTQIA+ and Inclusive Language" training course provided by the Western Region Public Health Training Center (Root & Nair, 2022).

Baseline Assessments

Baseline assessments included participant demographic information (age, education, race/ethnicity, sex/gender), sexual and gender orientation, history of breast and cervical cancer screenings (Centers for Disease Control and Prevention (CDC), 2024), barriers to breast and/or cervical cancer screenings, self-efficacy for breast and/or cervical cancer screenings (Fernandez et al., 2009), and social support for cancer screenings using an adapted version of social network assessment questionnaire (PhenX Toolkit, 2025).

Data Collection

The study team developed eligibility and baseline questionnaires in REDCap using standardized variable names and branching logic to guide participants to the appropriate questions based on their responses. Before data collection began, the research team pilot-tested the survey internally to ensure cultural relevance, usability, and clarity. Interviews were transcribed verbatim and de-identified before analysis.

Data Analysis

We used several strategies to ensure rigor, credibility, and validity of our methods and analyses. First, we documented the research process in memos, notes, and interview summaries (Patton, 1990). We used memos to record procedural decisions made during data collection, instrument development, and analysis. Field notes from the interviewers and research team meetings were used to review project materials and identify additional topical areas to be examined. Interview summaries were linked to the interview transcripts and provided additional documentation for comparison in data analysis. Together, these data sources provided a comprehensive perspective on the proposed project (Patton, 1990). We then compared different

data sources (e.g., transcripts, interviewer summaries) to identify similarities and differences in our analyses (triangulation).

Transcripts were entered, coded, and analyzed using NVivo 15 (Lumivero, 2023), a qualitative data management and analysis program. Two research staff independently read 25% of the transcripts for overall content and coded the data according to topics in the interview guide. The transcripts were selected to include diverse perspectives for team members to identify a broad range of initial codes. Each team member also formulated codes that represent patterns or topics of interest that emerge directly from the data. Through an iterative consensus process, the research team compared, discussed, and refined a foundational list of codes (i.e., codebook). The codes were entered into NVivo, and then all transcripts were read and coded by the two-research staff. During the coding process, new codes or emic patterns that emerged were added to the codebook. Once the data were coded, text segments that refer to a particular code or issue (e.g., barriers to Pap test) were retrieved for further analysis. Patterns in the data were presented in matrices and used as a basis for describing and comparing data (Harkness, 2002).

Quantitative data were analyzed using SPSS (ver.30) (IBM, 2024). Demographic characteristics were summarized using descriptive statistics, means and standard deviations for continuous variables and frequencies and percentages for categorical variables. Linear regression was used to examine associations among cancer screening history, self-efficacy, and social support variables.

Results

Of the 13 participants, a majority of participants (92%) were assigned female at birth, 61.5% were cisgender women, and over 76% reported having an associate's or college degree. On average, participants were 26.5 (SD=3.5) years of age. About 30% identified as lesbian, 23.1% as bisexual, 23% as queer, and 15% identified as being pansexual. Approximately 92% indicated they had a mammogram, 71% reported having a Pap test, and 61% reported receiving an HPV vaccination. Half of the participants had not received a recommendation from their primary care provider for cervical or breast cancer screening.

Primary reasons for not being screened for breast and/or cervical cancer included not receiving a recommendation from their doctor (35.7%), not knowing where to go for screenings (37%), and fear, worry, and embarrassment around screenings (21.4%). A majority of participants said they would get screened if their doctor recommended it (85%). Most participants (92.3%) reported feeling very close to other members of the LGBTQ+ community. When asked to name three individuals who had a significant positive impact on their life, about half of the individuals (n=7) identified at least one person who was part of the LGBTQIA+ community. On average, participants identified as being very close to their social network [M=4.2 (SD=.7)].

Qualitative Findings

Thematic analysis uncovered three major themes to screening: 1) Barriers to Screening; 2) Identity-Related Stress; and 3) Facilitators to Screening, each comprising of subthemes that highlight the unique and interconnected factors that shape breast and cervical cancer screening experiences among our participants.

Barriers to Screening. Barriers to screening was a prominent theme encompassing three subthemes: knowledge, perceived risk, and structural factors.

Knowledge. A recurring pattern across interviews was limited cancer-related knowledge. Most participants (n=9) expressed little awareness of recommended screening guidelines or lack of knowledge regarding the causes of breast or cervical cancer and guidelines for screening. When asked what they thought caused cervical cancer, several described their understanding as minimal or nonexistent (n=8), with one participant noting that she *"didn't really know anything about it."* When participants did provide an answer about cancer etiology, responses frequently reflected misinformation or uncertainty rather than an accurate understanding. For example, cervical cancer causation was attributed to heredity, hormonal, environmental, or infectious factors. Breast cancer was mentioned as a disease associated with family history, with participants stating that it is a disease that "runs in the family" and referenced the BRCA1 and BRCA2 gene mutations. Alongside these explanations, participants also mentioned a range of causes they had read about or through informal sources, including hormone-disrupting chemicals, microplastics, smoking, radiation, or birth control.

Perceived Risk. Closely linked with limited knowledge was participants' low or absent sense of personal risk for breast or cervical cancer. Most participants (n=11), when asked what they thought about their risk for getting breast or cervical cancer, either stated they were uncertain about their risk or described themselves as unlikely to get breast or cervical cancer. One participant stated her risk for breast cancer as, "That one feels more like a dice roll, so I guess the same odds as anyone else" (Cisgender woman, lesbian, PID 16).

The reasons for not being screened included having no family history or having previously received a normal screening result. A notable pattern emerged around participants' reliance on a parent's genetic test results as a proxy for their own risk. A few participants (n=4) described learning that their mother had tested negative for breast cancer gene mutations and interpreting this as reassuring evidence of their own low risk. As mentioned by one participant, "She does not have any of the genetic markers, which is fantastic because I am the genetic carbon copy of my mother. So that is definitely a good sign for myself" (Cisgender woman, bisexual, PID 37).

Structural Barriers. Participants identified structural barriers that complicated or precluded engagement with cancer screening. Access to care was a primary concern, specifically obtaining health insurance and locating providers who were knowledgeable about and affirming of LBT patients. Participants described the healthcare system as being difficult to navigate, a perception confirmed by the absence of LBT-specific risk and screening recommendations from mainstream guidelines.

Healthcare was deemed inaccessible despite not experiencing many of the systemic barriers, such as insurance, transportation, and language, suggesting a structural barrier within the healthcare system. One participant stated, "I have insurance, I have a car to go to the appointments, I speak English. All of that is accessible to me, but still, with all of the barriers removed, it's [healthcare] very inaccessible" (Cisgender woman, bisexual, PID 37).

Participants also described the current political climate as a contextual stressor, particularly in terms of gender affirming care and not specifically related to obtaining breast or cervical cancer screening. This concern underscored the way participants understood and engaged with the healthcare system more generally.

Identity-Related Stress. The theme of identity-related stress describes the psychosocial burden that LBT individuals face in relation to their sexual and gender identities within healthcare contexts. Rather than each of the subthemes being their own distinct categories, they are interconnected, each contributing to and shaping the others in ways that collectively impact breast and cervical cancer screening behavior.

Trauma. Trauma emerged not as a discrete subtheme but as a thread woven through participants' experiences of identity-related stress. Many participants (n=10) reported that past experiences of discrimination, stigma, and mistreatment in healthcare settings led to lasting emotional and psychological responses that shaped how they engaged with healthcare providers. Instead of experiencing healthcare encounters as neutral events, participants described being hypervigilant and mentally and emotionally preparing themselves for potential discrimination before appointments. They viewed this anticipatory stance as a protective response to prior harm. One participant shared, "I try to mostly or only use female doctors because I feel safer that way and personally due to trauma" (Cisgender woman, lesbian, PID 25).

Gynecological care was especially challenging for participants. Given the physical intimacy of these visits and participants' negative healthcare experiences, they emphasized the importance of sensitivity and clear communication. When providers rushed or failed to acknowledge the sensitivity of what was happening during the Pap test, participants described feeling dismissed or exposed. Conversely, when providers were patient and respectful, the same type of visit was more tolerable.

Repeated negative or distressing encounters contributed to reluctance toward future gynecologic care. One participant shared, "But now at this point I'm, like, I'm not itching to go back because every time that I've been, it's been physically painful and emotionally painful. And then now I'm adding on, like, the LGBTQ aspect of it" (Cisgender woman, bisexual, PID 18). This highlighted how discomfort associated with screening was multilayered, combining the invasiveness of gynecological procedures with identity-related stressors.

Stigma. Stigma emerged as a uniquely LBT-informed source of minority stress in healthcare interactions, often rooted in providers' limited knowledge of LGBTQIA+ health needs and the persistence of heteronormative clinical assumptions. For example, one participant stated, "I always write down that I'm transgender … I think it's possible that the doctor based on my gender identity has not been recommending things like breast cancer screening, even though I have a family history of it" (Gender non-binary, pansexual, PID 22). This suggests that healthcare providers may still be unsure about the proper guidance applicable to gender-diverse individuals.

Some participants described feeling dismissed or rushed during clinical visits. One participant explained that providers with less experience treating LGBTQIA+ patients *"…might kind of, like, not be as thorough, and they might be a little more dismissive, they might kind of, like, rush you out the door, so to speak"* (Cisgender woman, bisexual, PID 15), suggesting that gaps in provider competency contributed to differential quality of care.

Beyond general dismissal, participants highlighted how heteronormative assumptions directly shaped clinical decision-making, particularly in the context of sexual health and cancer screening. Participants noted that providers often equated "sexual activity" with penis-vagina intercourse, resulting in the exclusion of queer individuals from appropriate screening recommendations. One participant shared, "A lot of times when they ask if you're sexually active, they mean penis to vagina, and so they might not consider queer relationships and might exempt you [from a Pap test] just because you're not having that particular sex" (Cisgender woman, queer, PID 19). These assumptions reflect broader structural gaps in clinical frameworks that fail to account for diverse sexual behaviors, ultimately contributing to the under-screening of LBT populations.

Mistrust. Mistrust of providers and healthcare institutions emerged as participants described their healthcare experiences. The current political climate, particularly in Florida, has introduced additional fear and skepticism about which providers can be trusted to deliver affirming,

unbiased care. As one participant stated, “Not knowing about your doctor’s, like, political views ... it’s very difficult to feel comfortable … when you don’t know a lot about the person and it’s … a very intimate exam” (Genderqueer/Gender non-conforming, queer, PID 23). This uncertainty contributed to a broader sense of vigilance, where participants felt the need to assess potential risk within healthcare interactions before fully engaging in care. Participants reported vetting potential providers by doing their own internet research, reading reviews, and soliciting recommendations from family, friends, and community members to manage the risk of being discriminated against.

Mistrust was not uniformly expressed through identity concealment. For some, disclosure was conditional and dependent on perceived safety and rapport within the clinical interaction. One participant shared, “Honestly, when it’s, like, female providers and I have built a rapport with them, I’m fine” (Cisgender woman, bisexual, PID 15), highlighting how trust could be developed over time and influence willingness to disclose. In contrast, some participants who reported a distrust of providers chose to disclose their sexual or gender identity, stating, “I think it’s important to be totally honest with my healthcare providers” (Cisgender woman, lesbian, PID 25), suggesting that the relationship between mistrust and concealment is more nuanced.

Concealment. Identity concealment emerged as one of the more multifaceted subthemes. When asked how often they conceal their gender identity or sexual orientation when seeking healthcare, participants reported thinking carefully and often about whether to disclose their sexual or gender identity to a provider. Rather than a single decision, disclosure was described as an ongoing calculation depending on the situation and the provider. Participants paid attention to cues such as the provider’s gender, communication style, and the general feel of the clinical setting, and used these signals to decide how much to share, with one participant explaining, *“it depends ... there have been certain situations where I feel like I might not get the best care if I’m completely open about things. So, I do kind of judge the doctor ... if I think that maybe they’re a bit more Republican leaning or if it’s a man, then I’ll probably hide it”* (Cisgender woman, lesbian, PID 21). Many participants were open with providers they had come to trust but remained discreet with those they were unsure about.

Participants identified several reasons for concealing their identity. Some withheld their sexual identity because it did not feel relevant to the visit, particularly when they were not currently sexually active. Others chose not to disclose to avoid the potential provider bias or discomfort. Intake forms introduced additional challenges. Some participants were uncertain whether disclosing their sexual orientation on a form was necessary or safe and either left those questions blank or chose “prefer not to answer.” Several said they would feel more comfortable with questions focused on sexual behavior rather than identity labels, describing this approach as less exposing and more relevant for their actual care. Participant 19 shared, *“I pretty much don’t bring it up ... I’m not seeing anybody, so it doesn’t really matter if I’m straight or queer or, you know, identify as whatever” (need citation).* Another participant (Cisgender woman, lesbian, PID 27) shared their frustrations of dismissal: *“I'm curious about whether they're gonna make me go on a birth control [again] even though, I'm not like having sex that can get me pregnant.”* The ongoing work managing disclosure produced what participants described as exhaustion or fatigue from having to explain themselves repeatedly, particularly when care felt urgent or the interaction was “transactional.”

The current political climate further complicates interactions with healthcare providers, especially for transgender or gender-diverse participants. For them, disclosing their identity felt risky, and for others, disclosing identity was more manageable when providers were affirming and discreet. Gender-diverse participants also described a distinct distress arising from the mismatch

between their identity and healthcare systems that operate around a binary understanding of sex and gender. The structural misalignment was notable in gynecologic care, where procedures, language, and clinical environments are often implicitly gendered. As a result, routine screenings such as Pap tests were not only physically invasive but also psychologically distressing, at times triggering or exacerbating gender dysphoria. One participant stated, "I am very dysphoric of my top. If I was able to have a person that was screening me that understood the dysphoria, I would probably not drag my feet as much as I am right now" (Transgender Male/Trans man/FTM, Pansexual, PID 32). This highlights how compounded discomfort tied to gender dysphoria can result in delays, avoidance, or reluctance to seek out and follow through with recommended screenings.

Facilitators to Screening. In addition to identifying personal and structural barriers to screening, participants described several factors that motivated screening uptake. Facilitators to screening were organized into two primary subthemes: trust and safety, and health information and messaging.

Trust and Safety. In contrast to the barriers to screening described above, participants identified key facilitators to screening engagement. Trust and safety emerged as foundational conditions for healthcare engagement across all interviews. Participants consistently mentioned healthcare providers as the most trusted source of health information. Participants perceive providers as authoritative and trustworthy. One participant stated, *"I'm a type of person who, whenever a doctor says this is the amount of time you need to come in, I will come in at that time, you know? So, whether it's for my conditions or just general, you know, do the yearly eye exam"* (Gender non-binary, queer, PID 30). Participants provided clear expectations of what a trustworthy provider relationship encompassed, including knowledge and demonstrated competence with LGBTQIA+ patients, alignment between the provider's approach and the patient's identity, and assurance of respectful, trauma-informed care delivery: *"Maybe just being more considerate and careful about like the terminology used so that people who have breast tissue of like whatever gender might understand that they might benefit from getting this … also give people like the option of, like, how would you like us to refer to this like anatomical body part?"* (Cisgender woman, lesbian, PID 27). These expectations appear to be shaped by participants' prior healthcare experiences and reflect a broader desire for affirming and inclusive care.

Health Information and Messaging. Participants identified access to clear, credible, and LGBTQIA+ specific health information as another key facilitator. This subtheme was defined by both what health information participants felt was missing and what they wanted. Many participants expressed feeling overwhelmed by the amount of available health information and were uncertain about how to evaluate its credibility.

Provider recommendations emerged as key to shaping participants' understanding of screening guidance. One participant stated, *"I really don't even fully understand what cancer is like, so I do feel like in that regard, like I, I don't even know what I'm looking for to, like, be informed enough to know when I should get tested"* (Cisgender woman, queer, PID 19). Participants frequently mentioned that they want individual guidance on when and how to get screened, and what the process would entail.

Equally important to the health messaging content is its delivery to the broader LBT population. Participants expressed a preference for information communication by someone who is relatable, ideally a person with shared experience and connection to the queer community, as one participant stated, "Clearly, like, someone who allies with the community" (Cisgender woman, bisexual, PID 15). Another participant stated, "Probably like people that you know, like, similar

age demographic, similar sexual orientation, like, demographic… You know, like, diversity, but also no one wants to hear these things coming from a straight person, you know?" (Cisgender woman, lesbian, PID 16). These responses suggest that messenger credibility is inseparable from identity alignment.

Overall, key findings showed breast and cervical cancer screening experiences are shaped by a combination of knowledge gaps, structural barriers, identity-related stress, and facilitators related to affirming and trustworthy healthcare relationships.

Discussion

The goal of the study was to identify factors associated with breast and cervical cancer screenings in SGD populations. Overall, results from our thematic analysis showed variables that have consistently been associated with screening behaviors across populations, such as knowledge, perceived risk, and structural barriers (insurance, healthcare access). However, sexual and gender-identity related stressors (trauma, identity concealment, heteronormativity in healthcare practices) emerged as a factor impacting cancer screenings that were unique to this population. While each of these stressors has been viewed separately as a barrier to cancer screenings, we conceptualize these psychosocial factors as part of a larger construct that is inherently tied to the SGD-identity. This conceptualization is aligned with the minority stress model (Meyer, 1995), which posits that minorities experience unique stress as a direct result of their identity.

Identity-related Stress

Given its ubiquitous nature, trauma exists across all aspects of healthcare, including the cancer care continuum. The impact of trauma is often exacerbated in SGD populations given the disproportionate impact of psychosocial challenges the community encounters (e.g., family estrangement, discrimination inside and outside the healthcare setting, violence) (Ramos & Marr, 2023; Sinko et al., 2024). This is compounded by higher rates of sexual violence in lesbian and bisexual women compared to their heterosexual counterparts (Canan et al., 2021). Healthcare visits, particularly gynecological care, can re-trigger past trauma and increase symptoms of anxiety and stress (Sbragia & Vottero, 2020), making routine cancer screenings a significant negative experience. Heteronormative experiences within the healthcare setting were another factor that impacted screening. Heteronormativity refers to the pervasive societal assumption that heterosexuality or a strict binary gender identity is the default (Warner, 1991). Queer theory suggests that the binary nature of heteronormativity, through institutional practices, creates systematic discrimination against those who do not conform to traditional gender roles. These assumptions, in turn, lead to overt and covert prejudices and biases. Closely interrelated with heteronormativity and trauma is concealment or fear of disclosure of one's sexual and gender status. Research shows the impact of concealment on reduced social support (Christie, 2021) and increased stress and anxiety (Dennis & Davis, 2026) and while disclosure can be protective, in an unsafe setting, it can expose minoritized individuals to prejudice and hostility (Holman et al., 2022). Disclosure of gender and sexual identity is an integral part of healthcare provision since it can facilitate conversations around preventative practices including cancer screenings. Taken together, these findings indicate that the onus of reducing cancer-related morbidity and mortality may lay heavily on changing practices within the healthcare system than on the patients themselves.

Barriers and facilitators

A majority of participants expressed lack of knowledge of either screening guidelines or causes of breast and cervical cancer. Relatedly, perceived risk for cancer was another factor impacting screening behaviors. These results are consistent with previous research showing similar patterns in knowledge of screening guidelines (Haviland et al., 2020) and risk factors for cancer (Bustamante et al., 2021) as significant factors impacting engagement and adherence to screening guidelines. Cognitive factors related to the screening procedures themselves (fear of pain, worry about the procedures, embarrassment) are often cited as barriers in previous studies (Bustamante et al., 2021; Milner & McNally, 2020) . While approximately 21% of the population stated this as a barrier to screening in the quantitative results, it did not emerge as a theme in our qualitative findings. This may suggest that, among SGD individuals, concerns surrounding discrimination, identity disclosure, mistrust, dysphoria, and prior negative healthcare experiences overshadowed more commonly reported procedural concerns, reframing screening-related distress through a broader context of minority stress. Previous research shows that structural factors (navigating the healthcare system, access to care) are barriers to screening in minoritized populations (Brown-Savita & Jabson Tree, 2026; Gurayah et al., 2026). The shift in the current political climate has emerged as a factor impacting cancer care. For the past few years, both state and federal policies have limited funding for gender-affirming health care. Also known as political determinants of health (PDOH) (Dawes et al., 2022), such restrictive policies and political actions can significantly impact health outcomes of individuals from diverse backgrounds and can risk deepening the marginalization and discrimination faced by SGD adults. A recent study examining the relationship between state policies and SGD health revealed a significant inverse link between protective (high) state policy scores and poor self-rated health, mental, and physical health (Akré et al., 2025). Our results extend the impact of anti-SGD policies on cancer screening behaviors in this population.

Feelings of trust and safety within the healthcare setting and access to SGD-inclusive health messaging information were facilitators to cancer screening behaviors. Healthcare providers are viewed as credible sources of information; however, SGD-focused content is distinctly absent from medical school curricula. Only 30% of residency programs offer SGD related training and there is a disconnect between didactics and clinician competency and comfort in caring for SGD patients in medical education (Hsiang et al., 2025). Moreover, the scope of delivery of educational content is variable across and within specialty programs (Hsiang et al., 2025; Pregnall et al., 2021). Future research is needed to build consensus on content to be covered during medical residency and training focused on cultural humility when working with SGD populations.

Finally, taken together, results underscore the imperative need to utilize trauma-informed care approaches into all forms of cancer care for SGD participants and particularly within the context of cancer screenings. According to the Substance Abuse and Mental Health Services Association (SAMHSA), being trauma-informed involves realizing the widespread impact of trauma, recognizing the signs and symptoms of trauma, responding with trauma-informed care, and actively resisting traumatization (Substance Abuse and Mental Health Services Administration, 2014). A recent article by Sinko et al. (Sinko et al., 2024) added a reflection component, in which healthcare providers reflected on their own biases, trauma histories, and organizational climate to understand strategies for equitable care. While this article provides a comprehensive report on how trauma-informed care strategies can be applied to oncology settings (Sinko et al., 2024), within the context of screenings, this includes gathering demographic information on SGD patients, creating inclusive intake forms, and assessing potential symptoms of healthcare-related trauma throughout

the patient's care journey. Trusting patient-provider relationships where providers are perceived as being trustworthy, supportive, and non-judgmental are associated with improved patient health outcomes (Agency for Healthcare Research and Quality, 2020; Drossman & Ruddy, 2020; Russo et al., 2026). Within the context of SGD health, there is also a need to build supportive environments that allow patients to safely disclose their sexual and gender identity during healthcare encounters. Gender is co-constructed in a healthcare setting through open-ended communication, documentation practices, and clinical decision-making between patients, providers, and healthcare systems. Providers can support inclusive care by recognizing that gender identities and expressions are diverse, fluid, and socially situated rather than fixed categories.

While this study was designed to address significant gaps in cancer screening research in SGD adults, several limitations should be acknowledged. First, the study faced challenges recruiting a socio-demographically and geographically diverse sample, particularly given the current sociopolitical climate. Given this information, findings may be underrepresented among ethnically diverse SGD individuals and those in different geographic regions across the United States. Second, while the study focused on identifying multilevel factors from an individual's perspective, the primary data sources were from SGD individuals. This may limit insight into provider- and system-level barriers. Third, the study was conducted at a single site, and findings may not be generalized to other geographic locations or the larger SGD adult population. Finally, we relied on participants' self-reported data regarding screening history, healthcare experiences, and identity-related factors. These reports may be subject to recall or social desirability bias, particularly when discussing sensitive topics such as discrimination, trauma, or personal health practices.

Lesbian, gay, bisexual, transgender/gender non-conforming, queer/questioning, and other individuals in the SGD population continue to experience significant disparities in breast and cervical cancer screening, driven by a complex interplay of individual, interpersonal, provider, and structural barriers. Findings from this study will lay the groundwork for a culturally responsive and identity-affirming strategy to improve cancer prevention among populations that have historically been underserved and overlooked in both research and clinical practice. In doing so, this work contributes to the broader goals of health equity and reinforces the importance of inclusive, evidence-based approaches to cancer prevention and care for SGD populations.

Declarations

Author Contributions

UN and JK collaboratively conceptualized and designed the study design and methodology. NR, TT, and HS conducted participant interviews, HS transcribed participant interviews, JK led data analysis with assistance from NR and TT. All co-authors were involved in data interpretation. UN wrote the first draft of the manuscript with assistance with JK.NR, TT, and HS were involved in manuscript editing.

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Institutional Review Board Statement

The research was approved by the University's institutional review board.

Informed Consent form

A document outlining the objectives of the study and contact information of the PI was provided to participants. Prior to the interview, this information was discussed verbally, along with the participant's right not to answer certain questions, to terminate the interview at any time without giving a reason, and to withdraw from the study without having to provide a justification. All participants signed an electronic copy of the consent form prior to beginning the interview.

Data availability statement

Additional details about analysis processes and de-identified data are available in response to reasonable requests addressed to the corresponding author.

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Conflict of Interest Statement

The authors declare that there are no conflicts of interest regarding the publication of this paper.

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