



# Breast cancer disparities among sexual and gender minority populations

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Sexual and gender minority (SGM) populations include, but are not limited to, individuals who identify as lesbian, gay, bisexual, asexual, transgender, Two-Spirit, queer, and/or intersex (1). It's essential to recognize that sexual and gender minorities are not all the same. Different subgroups within this community have unique health experiences and needs (2). "Sexual orientation" refers to a person's attractions and behavior toward others and includes lesbian, gay, and bisexual individuals. "Gender minority" refers to those whose gender identity or expression doesn't align with their sex assigned at birth, such as transgender, non-binary, and gender-fluid individuals (1).

Sexual and gender minorities are a known health disparity population who exhibit poorer health behaviors and suffer disproportionately from a broad range of health conditions compared to cisgender patients (2). Research shows that SGM groups are more reluctant to seek healthcare and delay care compared to cisgender heterosexual patients (2). Fears of stigma and discrimination among transgender individuals are thought to drive healthcare avoidance behaviors (3,4). Through a minority stress framework, prior studies suggest that multi-level stigma processes contribute to adverse SGM health outcomes (5). Regarding health care, transgender individuals are less likely to have a primary care physician and exhibit lower screening mammography

rates than cisgender individuals (6). Similarly, behavioral risks and decreased access to health care may negatively affect the outcomes for sexual minorities with breast cancer; however, research is limited by inconsistent reporting of sexual orientation (7). There is a gap in the literature on breast cancer outcomes among SGM patients (8).

SGM populations are vastly underrepresented in cancer research (9). A significant issue in SGM research is the lack of data as a consequence of poor collection of sexual orientation and gender identity (SOGI) information in clinical settings, which effectively makes SGM patients invisible in electronic medical records (EMR) and utterly absent from large national cancer databases (10).

In a recent article published in *The Journal of the American Medical Association Oncology*, Eckhert et al. report on the quality of breast cancer treatment and breast cancer outcomes among SGM patients compared to cisgender heterosexuals (11). This exposure-matched case-control study included 92 patients from SGM groups matched to 92 cisgender heterosexual patients by year of breast cancer diagnosis, age, tumor stage, estrogen receptor (ER) status, and ERBB2 (HER2) status. The study's authors used a keyword search algorithm to find patients from SGM groups who were treated at Stanford University between 2008 and 2022. This study has shown that using search

terms to identify patients from SGM communities in the EMR is effective. Unlike previous studies that relied only on *ICD-10* codes and SGM identity terms, this study included behavioral search terms, leading to a higher yield of identified SGM patients.

Of the 92 patients in the SGM cohort, there were 86 cisgender females [93.5%, including 74 lesbians (80.4%) and 12 bisexuals (13.0%)] and 6 transgender men [6.5%, including 4 who were heterosexual (4.3%), 1 who was gay (1.1%), and 1 who was asexual (1.1%)]. The underrepresentation of bisexuals in this cohort compared to population-level demographics is likely because, without patient self-reported data, bisexual people are undercounted in EMR keyword search algorithms. This is because bisexual individuals are less likely to disclose their sexual identity to healthcare providers compared to gay and lesbian individuals (12).

Eckhert *et al.* found that compared to cisgender heterosexual patients, those from SGM groups experienced a delay in time from symptom onset to breast cancer diagnosis [median time to diagnosis 34 *vs.* 64 days; multivariable-adjusted hazard ratio, 0.65; 95% confidence interval (CI): 0.42–0.99;  $P=0.04$ ], were more likely to decline an oncologist-recommended treatment [35 (38%) *vs.* 18 (20%); multivariable-adjusted odds ratio, 2.27; 95% CI: 1.09–4.74;  $P=0.03$ ], and had a three-fold higher rate of breast cancer recurrence (multivariable-adjusted hazard ratio, 3.07; 95% CI: 1.56–6.03;  $P=0.001$ ). These results reflect multivariable analysis after controlling for race and ethnicity, socioeconomic status, and insurance type. No significant differences were found between SGM and cisgender heterosexual patients on the rate of screening mammography, rate of genetic referrals, time to treatment, lumpectomy *vs.* mastectomy, or appropriate receipt of neoadjuvant or adjuvant therapies.

This study makes several significant contributions to the growing literature on SGM breast cancer disparities. First, the study found that SGM groups experienced a delay in time to breast cancer diagnosis compared to heterosexual patients. This is in accordance with previous research, which found a higher frequency of breast cancer care delays among sexual minority women than heterosexual women. In this study, care delays were significantly associated with a patient-reported history of negative interactions with a healthcare provider in the past (13). Williams *et al.* reported on the outcomes of the National Health Interview Survey and found that compared to non-sexual minority

women, sexual minority women were more likely to seek mammograms due to symptoms rather than for routine screening, leading to delays in presentation to care (14). Negative interactions with healthcare providers and harmful health behaviors among sexual minority women may have contributed to the significant delay in diagnosis found in Eckhert *et al.*, given that sexual minority women comprised over 90% of the SGM cohort. The root cause of care delays among SGM groups is still uncertain. However, Eckhert *et al.* discovered that care delays remained significant even after considering factors like race, ethnicity, socioeconomic status, and insurance type. This finding has important implications for future research in this area. These results suggest that structural inequities, such as stigma, bias, and discrimination about a person's sexual orientation or gender identity (15), play a role in driving care delays among SGM groups. To better understand how structural inequities cause delays in cancer care for SGM subgroups, there is a need for further research through prospective studies.

Refusal of conventional cancer therapy is linked to poor outcomes (16). A large cohort study of 1.9 million patients with curable cancer found that conventional treatment refusal was associated with a two-fold increased risk of death (16). Eckhert *et al.* found that SGM patients refused oncologist-recommended breast cancer-directed therapy more often than cisgender heterosexual patients, with antiestrogens being the most declined treatment. The authors concluded that there is an opportunity for cultural training to better align oncologists' goals with the goals and values of their SGM patients. While this finding has important implications in our understanding of breast cancer care for SGM patients, it is essential to bear in mind that taking an antiestrogen may have negative psychosocial implications for transgender women that may not apply to cisgender sexual minority women (17). Oncology providers should avoid making the flawed assumption that SGM individuals have the same values and goals as one another. Thus, more research is needed to understand the reasons for treatment refusal across SGM groups to optimize patient-provider alignment. Such studies should delineate the reasons for refusal among gender minority *vs.* cisgender women and among cisgender sexual minority women *vs.* cisgender heterosexual women to not conflate SOGI reasons for refusal.

The study by Eckhert *et al.* appears to be the first to report higher breast cancer recurrence rates among SGM groups compared to cisgender heterosexual patients. In the

absence of a clear biologic reason for the disproportionate rate of cancer recurrence, Eckhert *et al.* draw attention to the SGM patient-cancer care provider relationship, which has consistently been shown in the literature to impact disparities in SGM cancer outcomes (8,10). Qualitative data on the nature of SGM patient-oncology care provider relationships found that poor experiences among SGM patients were linked to times when providers made negative assumptions and neglected to listen to their concerns. Positive experiences were related to feelings of autonomy and shared decision-making (18). More research is needed to investigate underlying factors that impact the risk of breast cancer recurrence among SGM groups.

The main weakness of this study was the lack of SGM subgroup analysis. Although sharp distinctions about SGM subcategories were reported in the sample characteristics, these subcategories were collapsed into one “SGM group” throughout the paper. Outcomes were examined by a single measure of all SGM individuals rather than by SOGI. As a result, important subgroup differences may have been masked by this study. Research shows differences between sexual minority and gender minority groups in types of stigmatizing experiences, adverse health outcomes, and health risk behaviors (19). For example, sexual minority women tend to have higher rates of obesity compared to heterosexual women, whereas sexual minority men tend to have similar (bisexual men) or lower rates of obesity (gay men) compared to heterosexual men (20). Individuals who identify as bisexual are more likely to engage in substance use compared to other sexual minority groups (21). It appears that transgender individuals face greater difficulties in accessing healthcare compared to sexual minorities (22). Specific breast cancer-related disparities may disproportionately affect some SGM subgroups more than others. Prior studies suggest that transgender patients are less likely to be screened for breast cancer compared with cisgender women (6,23). Yet findings concerning screening mammography rates among lesbian and bisexual women compared to heterosexual women have been inconsistent. Some studies found lower breast cancer screening rates in sexual minority women compared to heterosexual women, while others reported comparable rates among sexual minority women and heterosexual women (24). Eckhert *et al.* compared SGM groups with cisgender heterosexuals and found similar screening mammography rates among the two cohorts. Since all SGM individuals were grouped into one category, it is impossible to infer what these results mean for SGM

individuals of different sexual orientations and gender identities. Researchers need to acknowledge that SGM individuals encompass a wide range of diverse populations, and how they perceive their genders and sexualities has a significant impact on their healthcare needs and overall health (19). Future research must examine breast cancer screening rates by SOGI to avoid further marginalizing SGM populations.

The primary barrier to meeting the demand for more SGM research is the lack of available data (25). There are ongoing challenges around EMR SOGI data collection, including patient non-disclosure of SOGI to healthcare providers, lack of documentation capability within health systems, and documentation of inaccurate SOGI information (25). If SOGI information is unreliable or missing in EMRs, then research conclusions may be misleading and fail to identify the full scope of SGM disparities. Solutions to mitigate inaccuracies in SOGI documentation include training providers to enter SOGI data through structured forms or—better yet—a system that allows patients to self-report SOGI into structured EMR fields (26).

In conclusion, it is impossible to fix healthcare disparities if they are invisible due to gaps in the literature. Eckhert *et al.* contribute to our understanding of inequities in cancer care for SGM patients. Their investigation has revealed significant SGM disparities in breast cancer care that must be addressed through further research. The reasons for differences in the time it takes to diagnose breast cancer and the rate of recurrence and how these factors affect various SGM groups in the population are still unclear. Closing the gap starts with increasing SOGI data collection in oncology clinics and national cancer registries. Expanding data collection is critical for enhancing diversity, equity, and inclusion of SGM populations in research to address their diverse health needs better and provide high-quality cancer care.

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