Investigating the Needs and Concerns of Lesbian, Gay, Bisexual, Transgender, Queer, or Questioning Cancer Patients

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Investigating the Needs and Concerns of Lesbian, Gay, Bisexual, Transgender, Queer, or Questioning Cancer Patients

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ABSTRACT
The needs and concerns of lesbian, gay, bisexual, transgender, queer, or questioning (LGBTQ+) patients with cancer remain poorly understood. This is important as LGBTQ+ patients have an elevated risk of developing certain cancers and have poorer oncologic outcomes compared to non-LGBTQ+ patients. The lack of research may be linked to the complexity of studying the needs and concerns of this patient population. This review aimed to describe the evidence that sought to identify the needs and concerns of LGBTQ+ cancer patients. Studies were extracted using keywords such as “LGBTQ” and “Oncology.” Patient participants were excluded if they did not identify as LGBTQ+ and if they did not have cancer or were not cancer survivors. Healthcare professionals were excluded if they were not oncology specific. A total of 22 studies met our inclusion criteria. LGBTQ+ cancer patients expressed concerns surrounding heteronormative assumptions made by healthcare professionals, a lack of LGBTQ+-specific cancer support groups, and psychosexual concerns such as erectile dysfunction following cancer treatment. Oncology healthcare professionals lacked the knowledge and education that are required to manage this patient cohort. Further research is required to investigate the needs and concerns of LGBTQ+ cancer patients specifically in the radiation oncology setting.

KEYWORDS
LGBT; cancer; needs; oncology; health; diversity; education

Introduction
The term LGBTQ+ is an acronym that represents individuals who identify as lesbian, gay, bisexual, transgender, queer, or questioning (Cherry, 2022). The “+” in the acronym represents those who have other various identities that are yet to be recognized or were not previously included. This enables the community to expand, for language to continue to progress, and for individuals to identify themselves in a way that feels meaningful to them. According to a 27-country Ipsos survey conducted in 2021, 1% of adults identified as transgender or...
“gender-nonconforming,” 3% as lesbian or gay, 4% as bisexual, 1% as asexual, pansexual, or omnisexual, and 1% as “other” (Boyoun, 2021).

Some oncology healthcare professionals (HCPs) currently lack the knowledge and education that are required to cater to the needs and concerns of LGBTQ+ cancer patients and display heteronormative biases in the healthcare setting (Berner et al., 2020; Sutter et al., 2020; Tamargo et al., 2022; Ussher, Perz, et al., 2022; Ussher, Power, et al., 2022). A heteronormative healthcare environment can cause LGBTQ+ patients to feel isolated and invisible, creating distrust toward HCPs, whilst also generating an anticipated fear of discrimination (Webster & Drury-Smith, 2021).

Extensive research on the needs and concerns of LGBTQ+ cancer patients and how they can impact their cancer care is lacking. This is important because this group of patients is reported to have an elevated risk of developing certain types of cancers (J. Brown et al., 2023; Desai et al., 2021; Jackson & Hammer, 2023; Jackson et al., 2021; Nash et al., 2018; Tang et al., 2004) and suffer from poorer cancer-related outcomes compared to the non-LGBTQ population (Lehavot et al., 2016; Peitzmeier et al., 2017; Peitzmeier, Khullar, et al., 2014; Peitzmeier, Reisner, et al., 2014; Seay et al., 2017). Explaining this documented higher risk of developing certain types of cancers is challenging. Behaviors change with time and are not specific to the LGBTQ+ population. In certain subpopulations it may be attributable to certain behavioral risks such as increased rates of tobacco use (Daling et al., 2004; Gruskin et al., 2007; Tang et al., 2004) and men participating in receptive anal intercourse with other men, exposing them to a potential HPV infection (Daling et al., 2004; Tseng et al., 2003). Tang et al (Tang et al., 2004) found that more than 25.3% of lesbian women who partook in the study smoked, which was 70% higher than the heterosexual women participants. Receptive anal intercourse is associated with an elevated risk of developing anal cancer among men who are not strictly heterosexual (Daling et al., 2004; Tseng et al., 2003).

LGBTQ+ patients have poorer cancer-related outcomes that could be attributed to low rates of early detection, lack of access, and poor uptake of cancer screening services (Peitzmeier, Khullar, et al., 2014; Peitzmeier, Reisner, et al., 2014; Seay et al., 2017), but persist in adjusted analyses (Jackson et al., 2021). Reduced screening uptake among LGBTQ+ individuals is linked to multiple factors, such as a lack of understanding regarding the need for cancer screening, the psychological distress associated with cancer screening for transgender patients (Peitzmeier et al., 2017), and previous experiences of discrimination by HCPs (Kano et al., 2022). Experiencing dysphoria from getting a cervical smear test represents another potential barrier (Berner et al., 2021; Peitzmeier et al., 2017). Transgender men are less likely to be up to date on cervical screening tests and have significantly longer latency periods between such tests compared to women who are not transgender (Peitzmeier, Khullar, et al., 2014; Peitzmeier, Reisner, et al., 2014; Seay et al., 2017). One study found that although previous experiences of discrimination from HCPs predicted LGBTQ+
patients’ cancer diagnosis, it still contextualized cancer care encounters and created a barrier for LGBTQ+ patients to access effective cancer care due to medical mistrust (Kano et al., 2022).

Studying the needs and concerns of LGBTQ+ cancer patients is challenging. Several methodologies are often required, such as interviews, focus groups, and surveys. Surveys are often beneficial to gather a concise response from large sample sizes and results are often easier to present and analyze (Jones et al., 2013), whereas focus groups and interviews are useful to generate lived experiences from a group of participants. Qualitative and quantitative research combining all 3 methodologies involving both HCPs and LGBTQ+ cancer patients’ perspectives are likely required to investigate the needs and concerns of this patient population. Adding to this complexity is the heterogeneity in needs and concerns that arise from the societal challenges faced by the LGBTQ+ community across different regions of the globe (Byne, 2015; Chan Asw Cpsychol, 2023; Cochran & Mays, 2017; Rice & Schabath, 2018; Yeo et al., 2023).

Outside of the cancer setting, one study sought to investigate the needs and concerns of LGBTQ older adults using both qualitative (interviews and focus groups) and quantitative methodology (needs assessment surveys) (Orel, 2014). Seven areas of concern were identified. These included legal, spiritual, family, mental health, social, medical/health care, and housing needs.

The identification of the needs and concerns and implementation of adapted care and targeted interventions could improve the currently poor oncologic outcomes reported among the LGBTQ+ population. Tailoring cancer care is already proving successful in improving outcomes in other vulnerable patient groups. An example are women from the black ethnicity community. The 5-year survival rate for these patients with early-stage breast cancer increased from 89% prior to the ACCURE intervention, to 94% following its introduction (Jaber, 2021).

Purpose and scope

This paper aims to review the evidence and different methodologies used that sought to identify the needs and concerns of LGBTQ+ cancer patients.

Methodology

Search strategy for identification of studies

A comprehensive search was conducted using the databases PubMed and Embase. Medical Subject Heading (MeSH) and Emtree facilitated finding keywords and expanding search terms. AND/OR qualifier tools were used. The search terms used included combinations such as “Oncologists,” “LGBTQ,” “Oncology,” “Radiation Therapy,” “Cancer,” “Inclusive,”
“Attitudes,” and “Behaviours” (Table 1). The last search was conducted on the 1st July 2023.

**Type of studies**

All types of studies were eligible for this review (e.g., qualitative, quantitative, mixed methods). Evidence was gathered spanning from 2000 to the present day to ensure that the most relevant data was retrieved. This also considered major law changes that were introduced in recent times surrounding LGBTQ+ rights. Sources that were included were full-text articles that were available online and written in English. Sources were excluded if they did not include LGBTQ+ patients or oncology HCPs as their participants or in their purpose, or if they were not cancer related.

**Type of participants**

Patient participants were included if they identified as LGBTQ+. Patients were included from any age range and ethnic group. Patients were only included if they had cancer or were cancer survivors. Any cancer type was included in this review. Healthcare professional participants were excluded if they were not oncology specific. Healthcare professionals were included from any age range. HCP participants consisted of oncologists, nurses, radiation therapists, and advanced practice providers, all specific to oncology.

**Type of interventions**

The research methodology that investigators used to identify the needs and concerns of LGBTQ+ cancer patients included surveys, interviews, and focus groups.

**Type of outcomes and data analysis**

**Qualitative**

Qualitative outcomes consisted of the development of themes. Qualitative data analyses that were used by the investigators to generate themes include thematic and content analysis. These analyses were used to analyze qualitative survey responses, open-ended survey questions, interviews, and focus group responses. Iterative analysis was used in certain cases to
compare codes, group similar content into broader themes, or describe linkages at both dyadic and individual levels.

**Quantitative**
Quantitative outcomes consisted of quantifying survey responses using descriptive statistics (frequencies and percentages).

Logistic regression models were often used in surveys assessing the attitudes, knowledge, and behaviors of healthcare professionals toward LGBTQ+ cancer patients. These analyses were used to analyze interactions between demographics and subgroups who responded using Likert-scale responses (quantitative responses).

**Description of included studies**
The final search was conducted by one reviewer on October 8th, 2022. The search strategy yielded 499 articles. Once duplicates were removed, 487 studies remained. After reading the titles and abstracts of the studies based on inclusion and exclusion criteria this reviewer identified suitable 52 studies. Full texts of the studies were analyzed, and 22 studies were deemed suitable for this review (Figure 1). Owing to the diversity of the methodologies and research designed in the studies reviewed, a formal assessment of the quality of the research design of individual studies could not be conducted.

While the search sought to include participants of all age, all included studies involved patients over the age of 18. Of the 10 studies identified that recruited LGBTQ+ patients, 5 reported their race or ethnic group (Capistrant et al., 2016; Kamen et al., 2019; Kano et al., 2022; Leone et al., 2023; Thomas et al., 2013). Eleven out of the 12 included studies involving HCP reported their race or ethnic background (Banerjee et al., 2018; Berner et al., 2020; Chan et al., 2021; Leone et al., 2023; Schabath et al., 2019; Shetty et al., 2016; Sutter et al., 2020; Tamargo et al., 2017, 2022; Ussher, Perz, et al., 2022; Ussher, Power, et al., 2022). Overall, the majority of included participants were of white/Caucasian origin.

**Focus groups with LGBTQ+ patients**
Two qualitative studies recruited LGBTQ+ cancer patients to participate in focus groups (Thomas et al., 2013; Filiaul et al., 2008). Participants identified as gay or bisexual men and had a prostate cancer diagnosis. Ten patients were recruited in one focus group, and two in the other. The age of patients ranged between 47–70 years old. One focus group was run on an online anonymous platform (Thomas et al., 2013), whereas the other was conducted in person, and participants were digitally recorded (Filiaul et al., 2008). Participants were recruited by word of mouth through prostate
cancer support groups and through announcements at a local center for gay men’s health. Respondents provided informed consent and basic demographic details. The online focus group ran for 4 weeks, and during this period, the forum moderator posted structured questions to identify the needs and concerns of gay and bisexual men with prostate cancer. An example of the questions asked includes: “How did the diagnosis of prostate cancer impact you initially?”

Data were analyzed in both focus groups using thematic analysis and key themes emerged. Eight areas of concern emerged from the online focus group. These included: help/support needs, the impact of incontinence, sexual changes on identity, sexual relationships, finding the right HCPs, current needs to improve care quality, response to the diagnosis, and reevaluating life. Three areas of concern from the in-person focus group included: Relationship changes, sexual function, and heteronormativity.
Authors in both studies found that gay and bisexual men expressed psychosexual concerns surrounding erectile dysfunction, loss of ejaculatory function, loss of libido, and the loss of the prostate gland as a site for sexual pleasure following cancer treatment (Table 2). Reluctance to engage in new sexual relationships following a prostate cancer diagnosis was a common theme in the discussions. Treatment-induced erectile dysfunction can result in gay and bisexual men altering their sexual role (from insertive to receptive), which can impact patients from a psychosexual viewpoint, as sexual roles can be a significant part of their identity (Hart et al., 2014; Rosser et al., 2020; Ussher et al., 2017).

Participants in both focus groups highlighted their concerns surrounding a heteronormative environment created by HCPs. Patients reported that HCPs often assumed they were heterosexual upon the first encounter, and the potential side effects of cancer treatments were rarely discussed, alongside the potential psychological impact of such treatments.

The online focus group yielded 5 additional areas of concern compared to the in-person focus group. This may be attributed to the larger sample size ($n = 10$ vs $n = 2$), meaning there were more perspectives and experiences to
Table 2. Summary of included studies.

<table>
<thead>
<tr>
<th>Author (year) [reference]</th>
<th>Methodological intervention</th>
<th>Participant number (N)</th>
<th>Age</th>
<th>Cancer type</th>
<th>Outcomes</th>
<th>Main conclusions</th>
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<tbody>
<tr>
<td>Thomas, C., et al. (2013) Tseng et al. (2003)</td>
<td>Focus groups with thematic analysis.</td>
<td>10 gay and bisexual men.</td>
<td>47–70 years. 59.9 years (mean).</td>
<td>Prostate.</td>
<td>Participants expressed psychosexual concerns surrounding erectile dysfunction, loss of libido, and concerns regarding a heteronormative environment created by HCPs.</td>
<td>Further research is required to assess the degree of distress experienced by gay and bisexual men with prostate cancer and to generate interventions to improve outcomes in this patient population.</td>
</tr>
<tr>
<td>Filliault, S.M., et al. (2008) Kano et al. (2022)</td>
<td>Focus group with thematic and inductive phenomenological analysis.</td>
<td>2 gay men. N/A</td>
<td>Prostate.</td>
<td>Participants expressed psychosexual concerns surrounding erectile dysfunction, loss of libido, and concerns regarding a heteronormative environment created by HCPs.</td>
<td>Further research with HCPs who work with gay men with prostate cancer must coincide with a more comprehensive understanding of their concerns surrounding relationships and sexual functioning and treatment options.</td>
<td></td>
</tr>
<tr>
<td>Fish, J., et al. (2018) Yeo et al., (2023)</td>
<td>Interview with thematic analysis.</td>
<td>15 LGBTQ+ patients.</td>
<td>41–71 years. 54 years (mean).</td>
<td>Prostate. Sutter et al., (2020); breast Ussher, Perz, et al., (2022); lymphoma Boyon, (2021); skin Cherry, (2022); bowel Cherry, (2022); and ovarian Cherry, (2022).</td>
<td>3 areas of concern were identified: Disclosing SOGI in cancer care, suboptimal care, and lack of inclusive support groups.</td>
<td>The inclusion of LGBTQ+ research to provide information surrounding patient experience, cancer risks, and psychosocial concerns is urgently needed in the health care curricula.</td>
</tr>
<tr>
<td>Capistrant, BD., et al. (2016) Rice &amp; Schabath, (2018)</td>
<td>Interview with inductive and deductive thematic analysis.</td>
<td>30 gay and bisexual men.</td>
<td>48–74 years. 62.4 years (mean).</td>
<td>Prostate.</td>
<td>4 areas of concern were identified: the need for inclusive support groups, support before treatment, support during treatment, and support after treatment.</td>
<td>More quantitative and qualitative research is required on prostate cancer among gay and bisexual men. This research needs to conceptualize social support networks broadly and should focus on the relationship between patient outcomes and social support received.</td>
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### Table 2. (Continued).

<table>
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<tr>
<td>Kano, M., et al. (2022) Lehavot et al., (2016)</td>
<td>Interview with thematic and iterative analysis</td>
<td>10 LGBTQ+ patients.</td>
<td>66.8 years (mean).</td>
<td>Breast, colorectal, lung, pancreatic, ovarian, non-Hodgkin’s lymphoma, and others.</td>
<td>- Patients desired LGBTQ+ specific cancer support groups. - Patients felt their partners or carers were unacknowledged by HCPs.</td>
<td>Increasing the collection of SOGI will facilitate the provision of care at an individual level for LGBTQ+ patients and contribute to the development of an inclusive healthcare environment.</td>
</tr>
<tr>
<td>Fish, J., et al. (2019) Cochran &amp; Mays, (2017)</td>
<td>Interview with thematic analysis.</td>
<td>30 LGBTQ+ patients.</td>
<td>24–77 years.</td>
<td>Breast, prostate, thyroid, bowel, ovarian, skin, lymphoma (HIV+).</td>
<td>Patients reported their partners being unacknowledged by HCPs and assumed that they were siblings or friends.</td>
<td>Creating conditions that signify inclusivity can encourage LGBTQ+ patients to disclose their SOGI status and LGBTQ+ identity. Further research that asks professionals about strategies to achieve these conditions is warranted.</td>
</tr>
<tr>
<td>McConkey, RW., et al. (2018) Byne, (2015)</td>
<td>Interview with Gørgi’s descriptive phenomenological method.</td>
<td>8 gay men.</td>
<td>49–66 (age at diagnosis).</td>
<td>Prostate.</td>
<td>Patients reported that support groups were often heteronormative in nature and didn’t discuss their specific needs.</td>
<td>Gay men with prostate cancer have unmet information and supportive care needs. Issues associated with heteronormativity and stigma may influence how gay men perceive their cancer care. Prostate cancer education programmes should be updated.</td>
</tr>
<tr>
<td>Brown, MT., et al. (2018) Thomas et al., (2013)</td>
<td>Survey with descriptive statistics, bivariate crosstabulations, chi-square tests, t-tests, and thematic analysis.</td>
<td>68 LGBTQ+ patients.</td>
<td>18–75 years.</td>
<td>Breast.</td>
<td>- Patients reported the importance of combining mastectomy with gender reassignment surgery. - Some patients reported that HCPs did not understand the importance of not undergoing breast reconstruction for some patients and displayed gender policing and heterosexist opinions.</td>
<td>HCPs would benefit from education and training surrounding patients’ SOGI status as they often relate to treatment choices for LGBTQ+ cancer patients.</td>
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Table 2. (Continued).

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<tr>
<td>Kamen, CS., et al. (2019) Capistrant et al., (2016)</td>
<td>Survey with thematic analysis and data saturation.</td>
<td>273 LGBTQ+ patients.</td>
<td>N/A</td>
<td>Breast, lymphoma, lung, anal, colon, prostate, endometrial/ovarian.</td>
<td>-Patients reported the importance to combine mastectomy with gender reassignment surgery. -Transgender patients experienced unique forms of mistreatment from HCPs such as misgendering and discrimination. HCPs should inquire and respond professionally to patients’ SOGI status and include their support networks to provide relevant care for LGBTQ+ cancer patients.</td>
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<tr>
<td>Banerjee, SC., et al. (2018) Kamen et al., (2019)</td>
<td>Survey with descriptive statistics, stratified analyses, and independent sample t-tests.</td>
<td>1253 HCPs</td>
<td>Age group: 18-24: n = 26 25-34: n = 326 35-44: n = 358 45-54: n = 234 55-64: n = 136 65+: n = 30</td>
<td>N/A</td>
<td>-5% of HCPs answered all 7 knowledge-item questions about LGBTQ+ patients correctly. Only 46.4% and 36% of the HCPs were able to answer questions related to transgender patients’ needs. -19.5% were confident in their knowledge of the needs of transgender patients post-survey. -38.9% felt comfortable and confident in their knowledge of the needs of LGB patients post-survey. -70.4% were interested in education regarding the unique needs of LGBTQ+ cancer patients. -34.3% felt it wasn’t necessary to know the sexual orientation of patients to provide the best care. -15.5% felt no need-to-know gender identity to provide the best care. HCPs lack medical knowledge surrounding LGBTQ+ healthcare. More education and training are needed to increase HCP awareness and sensitivity toward LGBTQ+ cancer patients.</td>
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<td>Schabath, MB., et al. (2019) Leone et al., (2023)</td>
<td>Survey with descriptive statistics, paired sample t-tests, exploratory factor analysis, stratified analyses, Pearson’s χ², pairwise analyses, and factorial analyses of variances</td>
<td>149 HCPs</td>
<td>47.2 years (mean).</td>
<td>N/A</td>
<td>-15.5% felt no need-to-know gender identity to provide the best care. HCPs display limited knowledge about LGBTQ+ health and their cancer needs but a high interest in receiving more education.</td>
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<tr>
<td>Banerjee et al., (2018)</td>
<td>Survey with descriptive statistics, Fisher’s exact test, and multifactorial ordinal logistic regression.</td>
<td>258 HCPs</td>
<td>43 years (mean)</td>
<td>N/A</td>
<td>-75% agreed they would benefit from further education on the needs of LGBTQ+ patients. -84% felt they were comfortable treating LGBTQ+ patients. -59% said they never asked about gender identity and 64% never asked about patients’ preferred pronouns. -8% felt confident in their knowledge of the unique needs of LGBTQ+ patients in cancer. -75% felt it was not the responsibility of the clinician to know patients’ sexual orientation. -87% always or often assumed that a patient was cisgender.</td>
<td>Oncologists felt comfortable treating LGBTQ+ cancer patients but may fail to identify these patients in their clinic. Enhanced clinician education and research have the potential to reduce the inequalities experienced by LGBTQ+ cancer patients.</td>
</tr>
<tr>
<td>Ussher, JM., et al. (2022)</td>
<td>Survey with inductive thematic analysis and chi-squared tests.</td>
<td>357 HCPs</td>
<td>47.29 years (mean)</td>
<td>N/A</td>
<td>-The majority assumed patients’ gender was the same as that assigned at birth (56%). -23% assumed patients were heterosexual upon the first encounter.</td>
<td>More education and health system changes are needed to overcome barriers to the provision of culturally competent care for LGBTQ+ cancer patients.</td>
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<tr>
<td>Tamargo et al., (2017)</td>
<td>Survey with descriptive statistics and content analysis.</td>
<td>108 HCPs</td>
<td>Age group: 25–34; n = 1 35–44; n = 22 45–54; n = 9 55–64; n = 3 65–74; n = 1</td>
<td>N/A</td>
<td>–91.7% of oncology providers said they were comfortable treating LGBTQ+ patients. –36.1% actively enquired about sexual orientation. –72.2% of oncologists assumed a patient was heterosexual upon the first encounter –36.1% of HCPs identified that LGBTQ+ patients avoid accessing healthcare due to difficulty communicating with HCPs. –77.8% agreed there should be more education for LGBTQ+ patients’ needs.</td>
<td>HCPs lack knowledge of LGBTQ+ patients’ unique health issues and needs. More education and training of HCPs are required to manage this cohort of patients.</td>
</tr>
<tr>
<td>Shetty et al., (2016)</td>
<td>Survey with descriptive statistics, content analysis, Fisher’s exact test, and stratified analyses.</td>
<td>108 HCPs</td>
<td>Nearly 53% of HCPs were less than 44 years.</td>
<td>N/A</td>
<td>–94% of HCPs felt comfortable treating LGBT patients. –28% felt that they were informed on the needs of LGBT patients. –26% of HCPs enquired about patient sexual orientation. –24% of HCPs identified a higher risk of lesbian women getting breast cancer compared to heterosexual women. –78% felt there needed to be more education on LGBTQ+ patients’ specific needs.</td>
<td>Cultural competency training would aid oncology HCPs to understand the reasons why knowing LGBTQ+ patients’ SOGI status is important.</td>
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<td>Chan et al., (2021)</td>
<td>Survey with descriptive and inferential statistics, thematic analysis, and independent sample t-tests.</td>
<td>214 HCPs</td>
<td>44 years</td>
<td>N/A</td>
<td>-90.6% of RTs felt comfortable treating LGBTQ+ cancer patients. -86.9% were interested in receiving more education -34.5% never or rarely adapted their practice behaviors even if their patient identified as LGBTQ+. -Over 70% of RTs were unfamiliar with all terms associated with LGBTQ+. -70.6% of HCPs were unsure if specific resources were available for LGBTQ+ patients at their cancer center.</td>
<td>There are knowledge gaps and inconsistencies among HCPs treating LGBTQ+ cancer patients. More training is required among oncology HCPs to bridge these gaps in knowledge.</td>
</tr>
<tr>
<td>Sutter, ME., et al. (2020)</td>
<td>Survey with descriptive statistics, chi-squared tests, paired sample t-tests, moderation analyses, correlations, and one-way ANOVAs.</td>
<td>78 HCPs</td>
<td>42.8 years</td>
<td>N/A</td>
<td>-67.9% of HCPs were confident about the needs of LGB patients, and 53.8% on the needs of transgender patients. -44.9% said knowing the patient’s SOGI was important -An average of 2.56 knowledge items were answered correctly out of 6. -29.5% of HCPs assumed a patient was heterosexual upon their first meeting. -79.5% of HCPs were interested in education about LGBTQ+ patients’ unique health needs.</td>
<td>HCPs reported being comfortable providing care for LGBTQ+ cancer patients, but significant knowledge gaps surrounding their needs and concerns were present.</td>
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<tr>
<td>Ussher et al., (2017)</td>
<td>Survey with thematic discourse analysis/decomposition.</td>
<td>357 HCPs</td>
<td>47.29 years (mean)</td>
<td>N/A</td>
<td>-HCPs often recognized their own deficits in knowledge surrounding the needs and concerns of LGBTQ+ cancer patients. -Many HCPs reported wanting more education and training on the needs of LGBTQ+ patients. -A large portion of HCPs did not see the relevance of asking patients about their SOGI status. -A small minority of HCPs displayed open hostility toward LGBTQ+ cancer patients.</td>
<td>Building healthcare professionals’ knowledge and communicative competence are essential to provide better care for LGBTQ+ cancer patients.</td>
</tr>
<tr>
<td>Sutter, ME., et al. (2021) Rosser et al., (2020)</td>
<td>Survey with inductive and content analysis, and the constant comparison method.</td>
<td>86 HCPs</td>
<td>46.4 years (mean)</td>
<td>N/A</td>
<td>-Oncologists reported a lack of knowledge and understanding of transgender cancer patients’ unique needs. -Most oncologists did not enquire about patients’ SOGI status. -Some oncologists reported feeling uncomfortable being listed as LGBTQ±friendly providers for fear of offending other patients.</td>
<td>Oncologists recognized their deficits in knowledge and require strategies to overcome microaggressions and communication barriers to facilitate better care for LGBTQ+ cancer patients.</td>
</tr>
<tr>
<td>Tamargo, CL., et al. (2022) Hart et al., (2014)</td>
<td>Survey with inductive and deductive content analysis and the constant comparison method.</td>
<td>228 HCPs</td>
<td>48.3 years (mean)</td>
<td>N/A</td>
<td>-97 out of 184 responses reported wanting more education and training to care for LGBTQ+ patients. -Respondents cited a lack of exposure to transgender patients.</td>
<td>HCPs had minimal experience caring for LGBTQ+ cancer patients but desired more training to cater to their needs and concerns.</td>
</tr>
</tbody>
</table>

(Continued)
<table>
<thead>
<tr>
<th>Author (year) [reference]</th>
<th>Methodological intervention</th>
<th>Participant number (N)</th>
<th>Age</th>
<th>Cancer type</th>
<th>Outcomes</th>
<th>Main conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leone et al., (2023)</td>
<td>Two surveys with descriptive statistics and clustering analysis.</td>
<td>305 HCPs 105 LGBTQ+ patients</td>
<td>41.1 years (mean) 30 years (mean)</td>
<td>N/A</td>
<td>Fifty-six HCPs have witnessed discriminatory attitudes by colleagues against LGBTQ+ patients. Only 7% of HCP responders declared to be able to establish effective communication with LGBTQ+ patients. One-third of the LGBTQ+ responders revealed to be unable to find health-related information specific to the transgender population. LGBTQ+ responders indicated lack of experience (63%) and lack of knowledge (63%) about their health issues as the major reasons behind discriminatory attitudes.</td>
<td>Discrimination against LGBTQ+ individuals in oncology medical settings contributes to lack of trust in health care services.</td>
</tr>
<tr>
<td>Gannon et al., (2022)</td>
<td>Semi-structured interviews with thematic analysis</td>
<td>8 HCPs</td>
<td>39 years (median)</td>
<td>N/A</td>
<td>Disclosure of LGBTQ+ identity was a common recurring theme throughout all interviews. Lack of confidence in knowledge on LGBTQ+ identities and healthcare was a common theme throughout the interviews.</td>
<td>The authors created a framework to help improve cancer care for LGBTQ+ young people.</td>
</tr>
</tbody>
</table>
highlight various needs and concerns. In addition, the online focus group ran for four weeks. This may have given participants more time to develop their needs and concerns, compared to a focus group that ran for one day. Additionally, the online focus group was anonymous, meaning participants may have felt more comfortable voicing their needs and concerns knowing that their identities were not compromised.

It must be noted that due to the homogeneity of the participant group (gay and bisexual men) and cancer diagnosis (prostate) among patients analyzed in the focus groups, the psychosexual needs and concerns of patients may not encompass the concerns regarding sexual function among all LGBTQ+ cancer patients.

**Interviews with LGBTQ+ patients**

LGBTQ+ cancer patients were recruited in five studies to participate in interviews (Capistrant et al., 2016; Fish & Williamson, 2018; Fish et al., 2019; Kano et al., 2022; McConkey & Holborn, 2018). Four had a qualitative design, and one had a multi-methods design (Kano et al., 2022). The authors conducted semi-structured interviews to investigate the needs and concerns of patients. The number of participants interviewed ranged from eight to thirty. Participants ranged from 24 to 71 years old across studies. Two studies interviewed gay and bisexual men with prostate cancer only (Capistrant et al., 2016; McConkey & Holborn, 2018). The three remaining studies interviewed a range of LGBTQ+ patients (lesbian, transgender, queer, etc.), with various cancer types such as breast, lung, and lymphoma. Patients were recruited via social media, community-based organizations, cancer charity websites, or national cancer support networks. Interviews were conducted via telephone, videoconference, or in person. Examples of the topics discussed include patients’ experiences with a cancer diagnosis/treatment and support systems/coping mechanisms. Interviews lasted between 1–2 hours. All interviews were audio-recorded and transcribed for analysis. Data were analyzed using thematic analysis in four of the studies to identify key themes surrounding the needs and concerns of patients. One study adopted a qualitative methodological approach utilizing Giorgi’s descriptive phenomenological method to analyze data (McConkey & Holborn, 2018).

Investigators in four studies found that patients expressed the need for LGBTQ±specific cancer support groups (Capistrant et al., 2016; Fish & Williamson, 2018; Kano et al., 2022; McConkey & Holborn, 2018) (Table 2). Patients emphasized the importance of HCPs recognizing that their support networks may differ from their heterosexual counterparts, due to varying factors such as familial alienation (Capistrant et al., 2016; Kano et al., 2022). Patients described their experiences in mainstream cancer support groups as “feeling out of place” as the environments were often “heteronormative” and
“isolating” in nature which did not facilitate disclosure of LGBTQ+ status (Fish & Williamson, 2018; McConkey & Holborn, 2018). Patients reported the desire to discuss their sexual function and emotional needs. In one study, LGBTQ+ patients reported attending mainstream cancer support networks as they were well-resourced in terms of staffing and information, however, generally did not meet their emotional and sexual support needs (Fish & Williamson, 2018).

Two studies reported on the concerns of LGBTQ+ cancer patients regarding the inclusion of their partners as their sources of support by healthcare professionals (Fish et al., 2019; Kano et al., 2022) (Table 2). Patients highlighted their dissatisfaction regarding HCPs assuming that their partners were their siblings or friends. In the wider literature, patients’ spouses play a pivotal role in the shared decision-making and consultation process for their partners (Zeliadt et al., 2011). In one study which evaluated the degree to which heterosexual partners of prostate cancer patients took part in shared decision-making, there was an enhanced rate of satisfaction reported with treatment options when patients’ partners were actively included (Zeliadt et al., 2011). Such assumptions made by HCPs can contribute to feelings of alienation among LGBTQ+ cancer patients. If staff assume that patients’ partners are their friends, this can impede the disclosure of patients’ sexual orientation and gender identity (SOGI) status and sensitive information, harboring patient dissatisfaction and creating a barrier to effective cancer care (Burki, 2021).

### Surveys of LGBTQ+ patients

Authors in three studies recruited LGBTQ+ cancer patients to partake in surveys (M. T. Brown & McElroy, 2018; Kamen et al., 2019; Leone et al., 2023). One study had a cross-sectional design (M. T. Brown & McElroy, 2018), one was qualitative (Kamen et al., 2019), one was quantitative (Leone et al., 2023). All surveys were conducted online. The average number of participants surveyed was 170. Patients’ ages ranged from 18–75 years in one study and were not specified in the other (M. T. Brown & McElroy, 2018). One study surveyed breast cancer patients (M. T. Brown & McElroy, 2018), and the others analyzed patients with any cancer type (Kamen et al., 2019; Leone et al., 2023). Participants were recruited via social media, LGBTQ+-specific websites, and newsletters. Patients answered a series of open-ended survey questions. An example of a question asked includes: “If you were to give a class to HCPs focused on cancer care, what would you tell them about being an LGBTQ+ patient diagnosed with cancer?.” Open-ended survey questions were analyzed using thematic analysis.

The results of the surveys were predominately heterogeneous in nature. This is likely due to the variation in the participants recruited and the topics discussed. For example, one study surveyed LGBTQ+ breast cancer patients...
who declined breast reconstructive surgery (M. T. Brown & McElroy, 2018), whilst the other analyzed patients with various cancer types, with 50.9% (Kamen et al., 2019) and 44% (Leone et al., 2023) of participants identifying as male. Therefore, the needs and concerns expressed by patients often varied.

One overarching concern that emerged was the lack of specific knowledge of HCPs surrounding transgender cancer patients. Transgender patients often experienced unique forms of mistreatment from HCPs, such as misgendering and a lack of understanding surrounding their unique needs. Transgender patients reported having specific needs such as the importance of transition-related surgeries overlapping with oncologic surgeries (M. T. Brown & McElroy, 2018; Kamen et al., 2019) (Table 2). For example, transgender men undergoing a bilateral mastectomy during their breast cancer treatment can impact them positively in terms of body image and gender identity. One patient described how their oncologist couldn’t understand why they didn’t desire a breast reconstruction following a mastectomy and referred them to a psychiatrist to justify their decision (M. T. Brown & McElroy, 2018).

**Surveys of HCPs**

Authors in twelve studies recruited oncology HCPs to participate in surveys (Banerjee et al., 2018; Berner et al., 2020; Chan et al., 2021; Leone et al., 2023; Schabath et al., 2019; Shetty et al., 2016; Sutter et al., 2020, 2021; Tamargo et al., 2017, 2022; Ussher, Perz, et al., 2022; Ussher, Power, et al., 2022). Two were qualitative studies (Sutter et al., 2021; Tamargo et al., 2022), two were cross-sectional (Sutter et al., 2020; Ussher, Power, et al., 2022), one was mixed methods (Ussher, Perz, et al., 2022), and seven were quantitative studies (Banerjee et al., 2018; Berner et al., 2020; Chan et al., 2021; Leone et al., 2023; Schabath et al., 2019; Shetty et al., 2016; Tamargo et al., 2017). All surveys were web-based. The average number of participants was 300. Healthcare professionals that were surveyed consisted of oncologists, radiation therapists, and nurses all specific to oncology. Respondents were recruited via social media, professional networks, and cancer-related community organizations. The average age of healthcare professionals was 47 years old. Participants answered demographic questions including their age, ethnicity, and sexual orientation prior to the survey.

Surveys typically measured the attitudes, knowledge, and practice behaviors of oncology HCPs toward LGBTQ+ cancer patients. Three to four open-ended questions were answered by respondents following the quantitative survey questions, which ranged from 22–52 questions. The attitudes, knowledge, and behaviors of HCPs toward LGBTQ+ patients were typically measured using a 5-point Likert scale. An example of an item on the survey assessing respondents’ attitudes is: “I believe that LGBTQ+ patients are more difficult to treat.” HCPs would select a response to the statement that related to them. Options ranged from “strongly disagree” to “strongly agree.”
Participants’ knowledge was often assessed surrounding the health-related information about the LGBTQ+ population. An example of a question asked is: “the risk of developing cancer differs depending on sexual practice.” Participants responded with options ranging from “don’t know,” or “agree,” to “disagree.”

An example of an item on the survey assessing respondents’ behaviors is: “I collect a patient’s sexual orientation and gender identity as part of my consultation.” Participants answered “yes” or “no” in some studies or had the option to select “rarely” or “sometimes” in other studies.

The topics discussed in the open-ended survey items varied. However, common themes included participants’ personal experiences caring for LGBTQ+ cancer patients, and suggestions for improving care for this cohort of patients.

Thematic and content analysis and the constant comparison method were used to guide the analysis of qualitative data. Descriptive statistics were used to quantify the survey responses, alongside various other statistical tests, such as t-tests, and logistic regressions to assess interactions between key demographic and response subgroups (Table 2). 4 themes emerged.

**Lack of knowledge**

Healthcare professionals reported a lack of confidence in their ability to treat transgender patients and were unaware of their specific needs in oncology (Banerjee et al., 2018; Berner et al., 2020; Schabath et al., 2019; Sutter et al., 2021; Tamargo et al., 2022; Ussher, Perz, et al., 2022). Schabath et al (Schabath et al., 2019) found that only 19.5% of oncologists were confident in their knowledge of transgender patients’ specific needs (Table 2). In addition, HCPs consistently scored low on the knowledge questions surrounding LGBTQ+ cancer patients. Banerjee et al (Banerjee et al., 2018) found that only 5% of oncology HCPs who partook in the survey answered all 7 knowledge-item questions correctly. When HCPs lack knowledge of LGBTQ+ cancer care, patients tend to have higher unmet needs in cancer survivorship (Seay et al., 2018), impacting their QOL. For example, Berner et al (Berner et al., 2020) found that only 14% of oncologists reported being confident in counseling transgender cancer patients about fertility options, and only 51% knew where to refer them for fertility treatment.

**A desire for more education**

Most HCPs surveyed were comfortable being listed as LGBTQ±friendly providers and recognized their deficits in knowledge. HCPs reported desiring more education to better understand this cohort of patients and their specific needs (Berner et al., 2020; Chan et al., 2021; Schabath et al., 2019; Shetty et al., 2016; Sutter et al., 2020; Tamargo et al., 2017; Ussher, Perz, et al., 2022; Ussher,
Power, et al., 2022). Chan et al (Chan et al., 2021) found that 90.6% of radiation therapists felt comfortable treating LGBTQ+ patients with cancer, however, 56.1% believed they were not adequately educated to care for these patients comfortably. 86.9% were interested in receiving more education to cater to these patients’ needs (Table 2).

**Lack of collection of SOGI data**

Many HCPs reported that they were “equal” and “fair” and treated every patient the same, regardless of their SOGI status (Banerjee et al., 2018; Berner et al., 2020; Chan et al., 2021; Schabath et al., 2019; Shetty et al., 2016; Sutter et al., 2020, 2021; Tamargo et al., 2017; Ussher, Perz, et al., 2022; Ussher, Power, et al., 2022). Participants who displayed this attitude did not see the relevance of asking patients about their sexual orientation or gender identity. Shetty et al (Shetty et al., 2016) found that only 43% of HCPs felt it was important to know patients’ sexual orientation to provide optimal care, and only 59% felt it was important to know the patient’s gender identity (Table 2). HCPs who treat all patients the same demonstrate a form of microaggression known as microinvalidation, whereby both their non-verbal and verbal communication invalidate the existence of LGBTQ+ patients (Sutter et al., 2021). Microinvalidations eradicate the personal identities of LGBTQ+ patients and are a barrier to forming therapeutic relationships between HCPs and patients (Sutter et al., 2021).

**Heterosexism**

Heterosexism toward LGBTQ+ cancer patients was a prevalent concern reported (Berner et al., 2020; Shetty et al., 2016; Sutter et al., 2020; Tamargo et al., 2017; Ussher, Perz, et al., 2022). In one study, 72.2% of oncology providers assumed that a patient was heterosexual upon first meeting them (Tamargo et al., 2017). A heterosexist healthcare environment can cause LGBTQ+ patients to feel isolated and invisible, creating distrust toward HCPs, whilst also generating an anticipated fear of discrimination (Webster & Drury-Smith, 2021). The anticipated fear of stigmatization can inhibit patients from disclosing their sexual orientation or gender identity due to fear of receiving substandard care based on their LGBTQ+ status (Brooks et al., 2018).

Several limitations are associated with these studies. Firstly, seven out of the eleven surveys were conducted in the USA (Banerjee et al., 2018; Schabath et al., 2019; Shetty et al., 2016; Sutter et al., 2020, 2021; Tamargo et al., 2017, 2022), meaning the results may not necessarily be indicative of the European or UK population, due to differing policies, protocols, and healthcare systems. Secondly, the response rates across several of the surveys were consistently
poor, with one survey reporting a response rate of 11% (Chan et al., 2021; Schabath et al., 2019; Shetty et al., 2016; Sutter et al., 2020; Tamargo et al., 2017, 2022). This may not provide a true representation of the attitudes, knowledge, and behaviors of all oncology HCPs surrounding the needs and concerns of LGBTQ+ cancer patients. Finally, the use of Likert scales to gather responses from participants may not be appropriate in all cases. For example, in one survey, 3% of HCPs stated they were uncomfortable treating LGBTQ+ cancer patients (Berner et al., 2020). Investigators were unable to determine if this was due to discrimination or a lack of confidence in the participants’ own knowledge and ability, due to the closed nature of the questions.

**Interviews with HCP**

One study used semi-structured interviews to examine the knowledge, attitudes and behaviors of pediatric, teenage, and young adult oncology HCPs treating LGBTQ+ patients (Gannon et al., 2022). While this work confirmed the trends reported by surveys, the 8 HCP enrolled identified concerns specific to care of LGBTQ+ patients in pediatrics, such as the influence of the parent-carer dynamic, that will warrant further investigation.

**Conclusion**

The needs and concerns of LGBTQ+ cancer patients have been analyzed using three methodologies: focus groups, interviews, and surveys. Focus groups and interviews were useful to gather a range of perspectives from patients. These methodologies encouraged patients to engage in self-disclosure (Wilson, 1997) and to explore their own cancer experiences. Investigators were able to gather a broad and deep understanding surrounding the needs and concerns of patients, as opposed to a quantitative summary (Thomas et al., 2013).

Surveys were beneficial to gather concise information in large quantities regarding the perspectives of healthcare professionals surrounding LGBTQ+ cancer patients. Investigators were able to determine the deficits in knowledge of HCPs utilizing Likert scale responses and data were often easier to present and analyze (Jones et al., 2013). The validity of surveys in some cases was compromised due to the poor response rates, and oftentimes, participants were unable to expand on their responses due to the closed nature of the questions.

The main needs and concerns expressed by LGBTQ+ cancer patients coincide with the perspectives of healthcare professionals (Figure 2. Patients highlighted the need for more LGBTQ± specific support groups and highlighted their concerns surrounding heteronormative assumptions made by HCPs. Patients also highlighted their psychosexual concerns following cancer treatment and the lack of understanding of the specific needs of transgender cancer
patients from HCPs. These findings correspond with the perspectives of healthcare professionals. HCPs highlighted their lack of knowledge surrounding the needs of transgender cancer patients and their overall deficit in knowledge surrounding the concerns of LGBTQ+ patients with cancer. HCPs desired more education to care for this patient population. Healthcare professionals demonstrated heteronormative behaviors by assuming a patient was heterosexual upon the first encounter, and by not inquiring about their SOGI status.

The results highlight an overall deficit in knowledge surrounding the needs and concerns of LGBTQ+ cancer patients among oncology HCPs such, a needs assessment survey would be appropriate to gather healthcare professionals' specific challenges in communicating with LGBTQ+ cancer patients and to understand what they require to better understand this patient cohort. The inclusion of LGBTQ+ health education in medical curriculums may further address this deficit (Cooper et al., 2018; Salkind et al., 2019; Vengalil et al., 2022).

Investigators in two studies with healthcare professionals combined surveys with interviews (Ussher, Perz, et al., 2022; Ussher, Power, et al., 2022). The themes identified were more developed compared to surveys alone, as participants had a wider scope to add context to their responses. More research into developing focus groups and interviews targeting oncology HCPs would be beneficial to generate more detailed insights into their perspectives on caring for LGBTQ+ cancer patients.

RT was rarely cited in the literature, with only one RT-specific study focusing solely on LGBTQ+ cancer patients (Chan et al., 2021). Further evidence is required to generate evidence-based recommendations and to analyze how RT affects LGBTQ+ patients from a survivorship and side effect management perspective.

A limitation of the data collected for this review surrounds the type of LGBTQ+ cancer patients captured. Reports outside oncology patients highlight a heterogeneity of needs across the LGBTQ+ community that this study was not able to capture (Cochran & Mays, 2017; Crenitte et al., 2023; Gonzales & Lavey, 2023; Heyworth, 2023). For instance, transgender patients were included as participants in limited studies and in small numbers. For example, out of 273 LGBTQ+ cancer patients surveyed in one study, 9 were transgender (Kamen et al., 2019). More studies considering LGBTQ+ identity as a research variable are needed. These studies should be designed to target specific subgroups within the LGBTQ+ cancer patients, such as those conducted with transgender participants (Leone et al., 2023). The needs and concerns of adolescent LGBTQ+ cancer patients were not adequately gathered as most patient participants were required to be 18 years or above to partake in the studies included. This patient population has unique concerns that differentiate them from adult LGBTQ+ cancer patients, like the complexity of disclosing
their SOGI status to HCPs due to a family-centered approach in the oncology setting (Allen et al., 1998; Gannon et al., 2022). Studies included within this review were limited to the English language, which can impact the generalizability of the results, even within Western Europe, as cultural attitudes toward this patient population may differ between countries. Finally, by excluding studies that are not oncology-specific, findings in the palliative care setting may also have been missed.

The success of tailoring cancer care in the black and ethnic minority patient population is inspiring. This was driven by report that women with breast cancer from a black ethnic background are less likely to undergo timely completion of radiation therapy (RT) following breast-conserving surgery compared to white women (52.6% vs 77.6%) (Powers et al., 2015) and are 48% more likely to omit RT during treatment (Mandelblatt et al., 2002). Multiple strategies such as the NAVAH (Navigator-Assisted Hypofractionation) intervention provide patients from the black ethnic group with better access to breast cancer support groups and increase their access to hypofractionated whole-breast radiotherapy (McClelland et al., 2020). The ACCURE (Accountability for Cancer through Undoing Racism and Equity) strategy works to understand and respond to the struggles black patients face in cancer care, such as medical mistrust and miscommunication with their oncologists (Jaber, 2021). Nurse navigators are alerted if patients miss an appointment or don’t meet an anticipated treatment milestone (like surgery within 90 days of their first appointment). The 5-year survival rate for black patients with early-stage breast cancer increased from 89% prior to the ACCURE intervention, to 94% following its introduction. This approach has the potential to be replicated in the LGBTQ+ community as both populations report certain needs and concerns that are alike.

Both ethnic minority groups and the LGBTQ+ community experience medical mistrust and miscommunication with HCPs and often have poorer uptake of cancer screening or treatment services (Mandelblatt et al., 2002; Peitzmeier, Khullar, et al., 2014; Peitzmeier, Reisner, et al., 2014; Powers et al., 2015; Seay et al., 2017). Targeted interventions like training programs to educate HCPs on how to understand and respond to the struggles cancer patients face such as medical mistrust and heterosexism would be beneficial. Importantly, implementing such interventions would vary depending on the country (Byne, 2015; Yeo et al., 2023). The papers and examples explored within this review would likely be most appropriate for most middle-high income countries. The challenges faced by the community likely vary significantly in countries where identifying as LGBTQ+ is illegal or patients are provided with no legal rights or protection. Furthermore, evaluation of the impact of race within the LGBTQ+ is warranted (Giwa & Greensmith, 2012; Kim et al., 2017; Nowaskie et al., 2022; Roberts & Christens, 2021).
It is important to note that one unspoken barrier to the uptake of education surrounding the needs and concerns of LGBTQ+ cancer patients by HCPs is that the evidence is limited in this field (partly due to a lack of qualitative data). Therefore, there is a need for higher-quality research e.g., studies with larger sample sizes and more robust research methodology in order to better educate HCPs on the needs and concerns of LGBTQ+ cancer patients. Having designated members of staff like nurse navigators in the ACCURE intervention (Jaber, 2021) to monitor LGBTQ+ cancer patients’ support networks would also be advantageous.

**List of abbreviations**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>LGBTQ+</td>
<td>Lesbian, gay, bisexual, transgender, queer, or questioning.</td>
</tr>
<tr>
<td>RT</td>
<td>Radiation therapy.</td>
</tr>
<tr>
<td>HCPS</td>
<td>Healthcare professionals.</td>
</tr>
<tr>
<td>SOGI</td>
<td>Sexual orientation and gender identity.</td>
</tr>
<tr>
<td>QoL</td>
<td>Quality of life.</td>
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<tr>
<td>os</td>
<td>Overall survival.</td>
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<tr>
<td>MeSH</td>
<td>Medical Subject heading.</td>
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<tr>
<td>NAVAH</td>
<td>Navigator-Assisted Hypofractionation.</td>
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<tr>
<td>ACCURE</td>
<td>Accountability for Cancer through Undoing Racism and Equity.</td>
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