Gender Minority People's Experiences with Cancer Care Compared to Those of Cisgender Sexual Minority People

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Thesis

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Preface and Acknowledgments

Thank you to all of those who helped me along my medical school journey, and thank you to the Primary Care-Population Medicine program for enriching my medical education.

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Introduction

Sexual and gender minority people face high levels of stigma and discrimination while accessing healthcare, including cancer care, compared to cisgender, heterosexual peers.[1–9] Although data on sexual and gender minority people are often reported in aggregate,[2,3,6,10,11] the experiences of the groups are likely different. Furthermore, little published data exists that contextualizes how race and racism contribute to the experiences of patients holding gender diverse and racially diverse identities.[10] Understanding the intersectional experiences of racial, sexual, and gender minority patients with cancer is critically important to creating health systems that better meet the needs of all patients.

Sexual and gender minority patients experience barriers to cancer screening. Previous studies have demonstrated that transgender patients are less likely to receive guideline-concordant cancer screenings than cisgender people;[4,7,11] and hypothesize this is due to social and economic factors, such as discrimination, stigma, lack of cultural sensitivity, and discomfort caused by gender-labeled oncological services. Disclosing sexual orientation was positively associated with obtaining cervical cancer screening in one study of sexual minority women.[12] The relationship between disclosure and obtaining cancer screening among gender minority people relative to cisgender people has not been studied. Furthermore, the gap in knowledge on cancer screening guidelines for gender minority patients may also lead to fewer cancer screenings.[13]

There are specific mental health needs in sexual and gender minority patients with cancer. In one previous study, gender nonconforming cancer survivors had higher levels of depression compared to cisgender men and cisgender women.[14] Another study identified the negative

impact of cancer on mental health in LGBTQ+ (Lesbian, Gay, Bisexual, Transgender, Queer+) populations in general.[3] A further study found disclosure and support factors were associated with higher self-rated health in LGBTQ+ populations.[15] However, the comparison of vulnerabilities and strengths between sexual minority and gender minority patients with cancer has not been explored in previous studies.

Disclosure of sexual and gender minority status is complicated among LGBTQ+ patients with cancer. In a previous study of LGBTQ+ patients with cancer, 3% of whom were transgender, researchers found 21% of LGBTQ+ patients did not disclose identity to more than one cancer care provider. Of those who did disclose identity, 52% of patients introduced identity disclosure themselves as a way to correct heterosexual assumptions, whereas only 15% of patients reported their provider directly asking about identity.[15] This study did not analyze whether gender minority patients were more or less likely to disclose compared to their cisgender peers, though does demonstrate precedent of difficulty disclosing LGBTQ+ identity overall to cancer care providers. A different study of oncologist participants provides suggestions for how their colleagues could initiate conversations around disclosure, including direct questions regarding sexual orientation, use of the term "partner," and using correct pronouns.[16]

Questions remain regarding the varying experiences of racial, sexual, and gender minority patients with cancer. These include the health care experiences that may contribute to the lower cancer screening rates among transgender people compared to cisgender people, how the physical environment of health care centers can be inclusive of sexual and gender minority patients, how gender minority patients with cancer experience unique resilience, and how self

disclosure or non-disclosure of gender minority status impacts cancer care. Our study sought to explore how patients of diverse racial, sexual, and gender identities describe these experiences. Through elevating the patient narrative of those who identify among multiple marginalized communities, we aim to transform cancer care to be just for all patients.

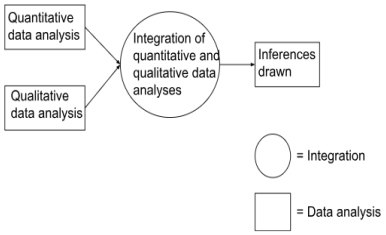
Methods

Study Design

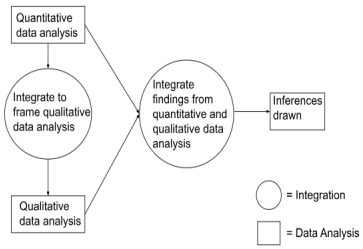
We used a modified convergent mixed methods approach in which we utilized quantitative and qualitative data that were collected concurrently and, unlike in traditional convergent designs, based our qualitative inquiries on quantitative findings.[17] We performed template style thematic analysis, which uses hierarchical and structured coding of text with a base template based on *a priori* (i.e. deductive) themes.[18] We chose template analysis in order to explicitly document and standardize the analytic process in order to integrate multiple coders and maintain internal validity. Our data are drawn from *Out: The National Cancer Survey* (New England IRB Protocol:1291764), including over 2700 LGBTQ+ people with cancer, which was conducted from September 2020 to March 2021 by the National LGBT Cancer Network. Quantitative results from *Out: The National Cancer Survey* demonstrated gender minority participants with cancer were less likely than cisgender sexual minority participants to undergo cancer screenings, have a positive outlook on future health, accept a healthcare environment as inclusive without environmental cues, and disclose identity.[19] Based on these findings, our *a priori* themes were: cancer screening experiences, environmental indicators of inclusion, future outlook on health, cancer impacts, advice for the field of oncology, and advice for LGBTQ+ patients with cancer.

Figure 1: Flowchart of adapted convergent parallel design

Traditional convergent parallel design:



Adapted convergent parallel design:



Transformative Lens

To ensure the results of this project could be used to lay the groundwork for interventions to improve cancer care for gender minority individuals with cancer, we used a transformative lens,[20] considering the experiences of participants at the intersection of racism, transphobia, and queerphobia along with other axes of oppression.[21,22] This respects the autonomy of participants by honoring the identities they claim and elevating the voices of those who are most marginalized to inform how cancer care must improve to be inclusive for all. We also used a strength-based orientation, identifying participants' modalities of resilience to identify potential routes of intervention and liberation.

Project Sample

Eligibility criteria for survey participation included previous diagnosis of cancer, Lesbian, Gay, Bisexual, Transgender, Queer, Intersex+ (LGBTQI+) identity, 18 years or older, and US residence. Participants were included in the qualitative analysis if they answered at least one free response question. Participants were able to select multiple racial categories. We identified Black, Indigenous, and other participants of color (BIPOC) as anyone who selected at least one option other than "White/European American." Participants were only able to select one option each for sex and gender identity. We classified respondents as cisgender if they responded

“male” or “female” for their gender identity and reported the same answers for sex. We identified gender minority respondents as those who responded “transgender,” “genderqueer/ gender non-conforming,” “nonbinary," or “another gender identity (please specify)” for their gender identity. Participants who selected “male” as their sex and “female” as their gender or vice versa were excluded in order to respect participants’ autonomy and not impose cisgender or gender minority status if they did not identify as such. We classified 246 respondents as gender minority participants and 2,482 participants as cisgender.

Given there were over 200 responses from gender minority participants, we attempted to match this number and identify 200 cisgender respondents (100 white and 100 BIPOC, 50 who identified as lesbian, gay, bisexual, and other) by purposive sampling. If participants selected multiple sexual orientations, we placed them in the category that we identified first in our sampling frame (i.e. lesbian, gay, bisexual, other) to ensure no duplicate responses in different samples. We only identified 23 BIPOC cisgender participants who listed “other” for their sexual orientation. The total sample of cisgender people in our study was thus 198.

A total of 166 participants classified as gender minorities answered at least one free response question. Of the 166 gender minority participants, 36 were BIPOC: 13 transgender, 8 genderqueer/gender non-conforming, 12 nonbinary, and 3 “another gender identity” participants. To obtain a gender minority sample that did not skew to center the experiences of white participants, we purposively sampled 36 of the remaining 130 white gender minority participants: 9 transgender, 9 genderqueer/gender non-conforming, 9 nonbinary, and 9 “another gender identity” participants.

Table 1: Demographic questions and response options from *Out: The National Cancer Survey.*[19]

What sex were you assigned at birth?	What is your gender identity?	What is your sexual orientation? (select all that apply)	Please select the choice(s) that most accurately describes your racial identity. (select all that apply)
● Male ● Female ● I prefer not to share this information.	● Male ● Female ● Transgender ● Genderqueer/Gender Non-Conforming ● Nonbinary ● Another gender identity (please specify) ● I prefer not to share this information	● Lesbian ● Gay ● Bisexual ● Asexual spectrum ● Straight ● Pansexual ● Queer ● Another orientation (please specify) ● I prefer not to share this information	● Alaska Native ● American Indian ● Asian/Asian American ● Biracial/Multiracial ● Black/African American ● Middle Eastern North African ● Native Hawaiian/ Pacific Islander ● White/European American ● A racial identity not listed here (please specify) ● I prefer not to share this information.

Table 2: BIPOC Participants' Selected Races and Sexual and White Participants' Selected Sexual Orientation

Cisgender Sexual Minority BIPOC Participants' Racial Identity				Gender Minority BIPOC Participants' Racial Identity and Sexual Orientation				Cisgender Sexual Minority White Participants' Sexual Orientation				Gender Minority White Participants' Sexual Orientation			
Lesbian	Gay	Bisexual	Other Sexual Orientation	Transgender	Genderqueer/ Gender Non-Conforming	Nonbinary	Another gender identity	Lesbian	Gay	Bisexual	Other Sexual Orientation	Transgender	Genderqueer/ Gender Non-Conforming	Nonbinary	Another gender identity

3 American Indian 1 American Indian, Black/ African American 1 American Indian, Asian/ Asian American, Biracial/ Multiracial, Black/ African American, Middle Eastern/ North African, White/ European American 6 American Indian, White/ European American 1 Asian/ Asian American 2 Biracial/ Multiracial 1 Biracial/ Multiracial, Not listed, "Jewish" 4 Black/ African American 1 Middle Eastern/ North African 3 Middle Eastern/ North African, White/ European American 2 Not listed, "Jewish"	7 American Indian, White/ European American 2 Asian/ Asian American 4 Biracial/ Multiracial 10 Black/ African American 1 Middle Eastern/ North African, White/ European American 1 Not listed, "White/ American Indian/ Hispanic"	2 Alaska Native, White/ European American 1 American Indian, Biracial/ Multiracial, Middle Eastern/ North African, White/ European American 3 American Indian, White/ European American 1 Asian/ Asian American, Biracial/ Multiracial, White/ European American 1 Asian/ Asian American, White/ European American 1 Biracial/ Multiracial, White/ European American 7 Biracial/ Multiracial 1 Biracial/ Multiracial, Black/ African American, White/ European American 6 Black/ African American 1 Middle Eastern/ North African, White/ European American 1 Not listed, "Puerto Rican & German"	2 American Indian (Asexual spectrum) 1 American Indian, Biracial/ Multiracial, Black/ African American (Pansexual) 1 American Indian, Biracial/ Multiracial, Black/ African American, White/ European American (Asexual spectrum, Queer) 2 American Indian, Biracial/ Multiracial, White/ European American (1 Another orientation, "Two spirit"; 1 Queer) 1 American Indian, Black/ African American, White/ European American (Straight, Queer) 1 American Indian, Not listed, "Hispanic" (Pansexual) 2 American Indian, White/ European American (1 Another orientation, "Gay before cancer Asexual spectrum) after"; 1 Another orientation, "I'm not really sure anymore as the cancer and it's treatment have taken all sexual interest") 1 American Indian, White/ European American, Not	1 American Indian, Biracial/ Multiracial, White/ European American (Pansexual, Queer) 4 American Indian, White/ European American (1 Gay, Pansexual, Queer; 2 Lesbian; 1 Lesbian, Gay, Asexual spectrum, Queer) 1 Biracial/ Multiracial (Queer) 1 Biracial/ Multiracial, Middle Eastern/ North African, White/ European American (Lesbian) 4 Black/ African American (1 Straight, Queer; 1 Bisexual, Straight; 1 Queer; 1 Straight, Pansexual) 1 Not Listed, "Rroma" (Pansexual, Queer)	1 American Indian (Lesbian) 1 American Indian, Black/ African American, White/ European American (Gay, Bisexual) 1 Asian/ Asian American (Gay, Queer) 1 Biracial/ Multiracial (Bisexual) 1 Black/ African American (Lesbian) 1 Not listed, "Mutt" (Lesbian) 1 Not Listed, "Central Asian (Uzbek/ Yakutsk/ Ukrainian)" (Lesbian, Bisexual, Pansexual, Queer) 1 Not listed, "Jewish" (Lesbian)	1 American Indian, Biracial/ Multiracial, White/ European American (Pansexual) 2 Asian/ Asian American (1 Lesbian; 1 Bisexual, Asexual spectrum, Pansexual) 1 Not listed "Ashkenazi Jewish" (Bisexual, Asexual spectrum, Pansexual) 1 Biracial/ Multiracial, Not Listed, "Mixed Indigenous, Black and European" (Queer) 1 Black/ African American (Asexual spectrum, Pansexual) 1 Middle Eastern /North African (Queer) 1 Middle Eastern/ North African, White/European American (Lesbian, Queer) 1 Not listed, "Latinx" (Pansexual, Queer) 1 Not listed, "Chicana" (Queer) 1 Not listed, "Spain and Norway" (Pansexual) 1 Not	1 American Indian, White/ European American; (Queer, Another orientation, "Not being cismale, it's not quite straight but I'm into femme people"; Another gender identity, "Intersex male") 1 Biracial/ Multiracial; (Another orientation, "Straight female in a male body"; Another gender identity, "Female between the ears, male between the legs") 1 White/ European American, Not listed, "Jewish"; Lesbian, Bisexual, Queer; Another gender identity, "Gender fluid/gender agnostic/femme non-binary"				2 Another orientation, "polysexual", "demisexual" 2 Asexual 1 Asexual spectrum, Queer 4 Pansexual 3 Pansexual, Queer 12 Queer	1 Bisexual, Queer 1 Gay 1 Gay, Pansexual, Queer 4 Lesbian 2 Queer	1 Another orientation, "all of the above" 1 Bisexual, Queer 5 Lesbian 1 Lesbian, Asexual spectrum 1 Queer	1 Another orientation, "Unsure" 1 Bisexual, Asexual spectrum, Pansexual, Queer 1 Lesbian, Asexual spectrum 1 Lesbian, gay, Queer 2 Pansexual 1 Pansexual, Queer 2 Queer	1 Bisexual; Another gender identity, "agender" 1 Gay; Another gender identity, "Butch" 4 Lesbian Another gender identity, 1 "trans masculine/ non-binary"; 1 "Butch lesbian"; 1 "Female with transgender experience"; "I identify as a womyn for gender. My sex is female." 1 Pansexual; Another gender identity, "Agender" 1 Pansexual, Queer; Another gender identity, "'Transgender' is not a gender identity... this question should be phrased better and you should allow participants to select more than one option. I'm transmasculine and nonbinary." 1 Queer; Another gender identity, "many people identify with multiple identities listed above- i am both trans and

			listed "Safardic Jew" (Pansexual) 1 Asian/ Asian American (Queer) 1 Asian/ Asian American, White/European American (Queer) 4 Biracial/ Multiracial (1 Asexual spectrum; 2 Queer; 1 Straight) 1 Biracial/ Multiracial, Black/ African American, Not listed, "Creole" (Pansexual) 5 Black/ African American (3 Queer; 1 Another orientation, "Man who has sex with men/ msm"; 1 Another orientation "Same Gender Loving")			listed, “Spanish (Spain.) and Norwegian ” (Pansexual)									genderqueer”

25	25	25	23	14	8	12	3	25	25	25	25	9	9	9	9

Data Analysis

Qualitative Analysis

Using the sampling described above, we compiled free text responses into an Excel spreadsheet for coding. Using the *a priori* themes as a template, the two coders individually coded the data, starting with responses from a single subgroup (e.g. white, transgender participants); we then met to compare our coding, refine the deductive themes and develop subthemes and inductive themes, and reconcile areas of disagreement through discussion and consensus.[23] In that manner, we iteratively applied the revised template to the data by subgroup, developing the final template after coding all subgroups.

Integration

We integrated quantitative and qualitative data first through the development of *a priori* themes using the quantitative results. After completion of the final template, we performed further integration through a matrix designed to compare quantitative and qualitative thematic content, including template iterations and representative quotes, for cisgender sexual minority and gender minority people with cancer.[11,15] Integration of quantitative and qualitative content provided the foundation for proposed interventions and further studies that continue to strive for health justice for those who experience racism, homophobia, transphobia, and other marginalization.

Table 3: Section headings and free response questions from Out: The National Cancer Survey[19]

- SECTION 1: STRATEGIES TO ENHANCE EXPERIENCE(S) OF LGBTQI+ CANCER PATIENTS
    - What would be a tip you might tell other LGBTQI+ people with cancer to help them navigate this experience?
    - What is one thing you would like to tell cancer healthcare providers about how to provide a more welcoming and affirming experience for LGBTQI+ people?

- SECTION 2: COVID-19 & CANCER
  - Is there anything else you would like to share with us about how COVID-19 has impacted your cancer care or experience?
- SECTION 3: CANCER DIAGNOSIS & TREATMENT EXPERIENCE
  - Would you like to share more about why the notification of your cancer diagnosis was somewhat or very disrespectful?
  - Is there anything else you would like to share with us about your cancer diagnosis and treatment experience?
- SECTION 4: SOCIAL NETWORKS AND SUPPORT
  - What is the main reason you have not accessed any cancer survivor social support?
  - Is there anything else you would like to share with us about your social networks and support during your cancer care or treatment?
- SECTION 5: IMPACT OF CANCER
  - How has cancer changed the way you view yourself?
  - How has cancer changed the way you view yourself as an LGBTQI+ person?
  - How has cancer changed your intimate relationships with others?
  - Is there anything else you would like to share with us about how cancer has impacted you?
- SECTION 6: CANCER SURVIVORSHIP RESOURCES
  - Is there anything else you would like to share with us about developing post-treatment care plans for LGBTQI+ individuals?
- SECTION 7: CANCER SCREENING EXPERIENCES
  - Is there anything else you would like to share with us about your cancer screening experiences?
  - This concludes our questions related specifically to cancer. Before we move to the final sections, is there anything else you would like to share about your experience as an LGBTQI+ cancer survivor?

Results

Qualitative Themes

Theme 1: Gender minority patients with cancer describe barriers to cancer screening and care that cisgender sexual minority people do not describe.

White cisgender participants describe clinicians who accepted their sexual orientation, allowing access to cancer screening and care, whereas those with increasing axes of oppression (e.g. Black, nonbinary, and gay) describe barriers to obtaining cancer screening and care. Humor and professionalism incited confidence in participants' providers, and acceptance of patient families was a prime way providers could demonstrate acceptance. In contrast, those with multiple axes of oppression, including BIPOC gender minority participants, report difficulty accessing screening and care due to discrimination and the disproportionate impact of COVID-19.

White cisgender participants describe affirming and accessible cancer screening and care. A gay white cisgender participant (#39) states, "My experience has been amazing. My oncologist,

surgeon, primary care physician, nurses, radiation therapists, and many others were caring, professional, humorous and made me feel comfortable and confident in their care." Another gay white cisgender participant (#225) explicitly articulates the impact of this on cancer screening, "PCP is very welcoming and affirming. Asks key questions about sexual health which can help with determining types and timing of screenings." Humor, professionalism, and affirmation ensure many white cisgender sexual minority patients obtain recommended cancer screenings.

White gender minority patients, who experience sexual and gender oppression but not racial oppression, and BIPOC cisgender sexual minority participants, who experience sexual and racial oppression but not gender oppression, also commonly describe having accepting care. They articulate how including family was an important way to demonstrate acceptance. A cisgender Biracial/Multiracial gay participant (#458) says of his providers, “They have all been supportive of me as a patient and my spouse as my partner.” Similarly, a genderqueer/gender nonconforming white participant (#175) says, “I was very fortunate in the healthcare provider I had during my cancer diagnosis and treatment experience. They were welcoming and warm. They accepted my family as any other and our experience was a positive one."

In contrast, BIPOC gender minority participants describe facing discrimination and disproportionate effects of COVID-19 impacting their ability to obtain cancer screening and care. A nonbinary Latinx patient (#3265) narrates:

> I was first diagnosed at age 14, I am 30 now, and I continue to have frequent difficult experiences with how doctors and healthcare staff treat me. [...] I’ve encountered a

> pattern of lack of bedside manner and have [...] heard similar experiences from friends of mine who [are] survivors as well.

This participant describes maltreatment over time, both as a youth and as an adult. They also share this is not a unique experience to them, but this commonly occurs among their community. Additionally, an American Indian, Biracial/Multiracial, white/European American nonbinary participant (#2158) discussed how they believed their poor care, exacerbated by COVID-19, will lead to shortening their life. They discussed how their concerning symptoms of potentially recurring Hodgkin's lymphoma were dismissed through transmisogynistic comments via telehealth given their case was not the priority during the pandemic. They describe:

> My providers delayed routine follow up in March - October 2020 after I finished chemo/radiation in January 2020. By December 2020 I was diagnosed as having [recurrent] Hodgkin's Lymphoma stage 3a. My doctors were dismissive via telemedicine about significant signs and symptoms (extreme facial swelling, swollen lymph nodes, neck & shoulder pain, and difficulty swallowing) for almost 3 months as my cancer spread because "getting you in isn't a priority right now." There were repeated trans misogynistic micro aggressions that I was "over reacting" and "it didn't seem that bad" - all of this without ever drawing blood, doing a CT/MRI, or physical exam. I am furious that this pandemic has given providers even more excuses to be dismissive and rude!

COVID-19, transphobia, and racism intersect to create unique barriers for BIPOC gender minority patients attempting to access cancer screening and treatment that those with fewer axes of marginalization do not describe.

Theme 2: Sexual and gender minority patients with cancer express that they have limited experience with environmental indicators of inclusion and advise healthcare workers to place more signs of support.

Sexual and gender minority patients with cancer have limited experience with visibly inclusive environments, and they advise providers to have more physical signs of acceptance. Sexual minority patients advise providers to place general signs of support, such as flags, brochures, and posters with representative community members. Gender minority patients additionally request gender neutral bathrooms and separation of gender from sex on intake forms and other medical paperwork.

The participants who comment on visible signs of inclusion describe how those signs would have improved or did improve care. One white cisgender bisexual participant (#545) describes the impact of no environmental indicators of inclusion: “If there had been visible signs of support, I would have been more trusting.” Another white womyn (#4176) describes how rainbow pins contributed to the best care they had, “It’s ironic that the best emergency care I’ve gotten has been at a Catholic hospital. The nurse and doctor both had rainbow pins on their lanyards, as well as Wonder Woman scrub hats.” Sexual and gender minority participants with cancer indicate visible signs of acceptance make them feel more accepted.

Sexual and gender minorities advise cancer care providers to include physical symbols of LGBTQ+ acceptance and normalization in clinics, while gender minorities specify the need for treatment centers to have gender neutral bathrooms and to have gender inclusive language on intake forms and medical documentation. One American Indian, white/European American cisgender lesbian (#2129) says, "Use photos, brochures, etc. that expresses your support of the community." While this demonstrates the need for general markers of inclusivity, one white genderqueer/gender non-conforming participant (#175) gives even more specific examples of how to improve the clinic environment relevant for gender minority patients: "Place visual cues that your clinic or practice is a safe place. These can be in the form of an HRC sticker or a rainbow sticker or even on your intake forms: They should be INCLUSIVE of all genders and identities. Set up gender neutral bathrooms." Likewise, an American Indian, white/European American transgender participant (#2656) describes additional needed indicators of inclusion on paperwork: "Make medical forms where assigned sex at birth and gender are different fields and prominently displayed." No cisgender sexual minority participants discussed gender neutral bathrooms. Some cisgender sexual minority participants also discussed making medical forms more inclusive, though gender minority participants were more specific about ensuring sex and gender are asked separately. All subpopulations agree environmental and visual cues of acceptance are important, though gender minority populations are more specific in their need for gender-inclusive bathrooms and gender-inclusive medical documentation.

Theme 3: Sexual and gender minority people with cancer describe experiencing physical and emotional vulnerability, and gender minority describe uniquely building resilience and self-acceptance.

Sexual and gender minority people with cancer express both strength and vulnerability, often simultaneously, through their cancer experience. Gender minority people additionally describe how cancer and subsequent treatment led to greater self-acceptance and identity development, often to the participants' surprise. In gender minority patients with cancer, accepting gender identity and accepting cancer diagnosis often happened in parallel.

Sexual and gender minority people have a complicated relationship with cancer, where they describe feeling physically weak due to the cancer and treatment, though have greater confidence in their ability to overcome adversity. One white cisgender pansexual and queer participant (#4) elucidates why these appear together, "It is a double edged sword. Sometimes I feel like I am bulletproof, at this point, what could really break me? At other times I feel very weak, fragile. I am less type a and more gentle with myself. My big picture view of the world has undergone a massive upheaval." Many participants across subpopulations describe this contradicting duality of recognizing the endurance and determination required to undergo cancer treatment while acknowledging the physical toll cancer and its treatment takes on patients.

Gender minority subpopulations express perseverance and self-acceptance through the experience of having cancer. One white nonbinary participant (#781) describes their surprise at learning to accept themself, "Oddly, it has allowed me to become more myself, more comfortable in my body." An American Indian, Biracial/Multiracial, White/European American

transgender participant (#950) similarly says, “I live more authentically life is [too] short not to," demonstrating how cancer gave them perspective to embrace their identity. A Latinx nonbinary participant (#3265) paints how they cope through viewing their bodily changes as transformation, “I’ve developed a perspective to view myself as a transforming butterfly in order to be able to embrace the severe and permanent body changes that have occurred.”

Many gender minority patients describe their experience with cancer as facilitating, expediting, or otherwise influencing their gender transition, whereas cisgender patients did not express cancer impacting their identities. One white genderqueer/gender non-conforming person (#103) articulates their self-acceptance, “it was definitely a part of my path to further coming out- to myself - to others.” Another white nonbinary participant (#326) discusses how cancer makes one realize how time-limited life is and to not take any moment for granted, "I came out as nonbinary/trans after the diagnosis and I think it is related to the diagnosis [...] it made me realize life is short and I have to connect with what I really want for myself.” While the cancer diagnosis helped patients socially transition and disclose identity, some also swiftly pursued medically transition for the similar reason of having limited time left. One Black/African American transgender participant (#3859) says, "My journey caused me to consider and begin medical transition (FTM). You only have one life to live. Live it fully as your authentic self." Sexual and gender minority patients with cancer experience contradicting feelings of vulnerability and strength, while gender minority patients additionally describe their cancer diagnosis as integral to their own self-acceptance, including of their gender identity.

Theme 4: Gender minority patients with cancer face barriers to disclosing identity to providers that cisgender sexual minority patients do not face, yet acknowledge the importance of identity disclosure.

Gender minority participants experience difficulty with disclosing their gender minority status in ways cisgender participants do not describe. Gender minority participants face many barriers to disclosure, such as never having opportunities to disclose, worsening care or invalidation after disclosure of their gender identity, and oncologist inexperience on the intersection of life-saving gender and cancer care. Despite the many challenges gender minority patients undergo when disclosing their gender identity, they advise other gender minority patients with cancer to be honest about who they are with their providers. Gender minority patients with cancer advise others to disclose early in care, so providers can make patients as comfortable as soon as possible, and if providers are not willing to be supportive, gender minority patients can still find other accepting providers before they lose stamina further in their cancer experience.

Some gender minority participants from the *Out: The National Cancer Survey* decided not to disclose their gender identity due to fear of how transphobia may impact their cancer care. One white non-binary patient (#326) tells how they were never asked what their gender identity or pronouns were, so they were subsequently incessantly misgendered. They described how this impacted them during their cancer treatment, "I was scared speaking up for myself regarding my orientation and gender identity would put my cancer care in jeopardy. I did not want to piss off the person who was treating me." Other gender minority participants describe how their care worsened once their gender identity was known. An American Indian, Biracial/Multiracial, white/European American (#2158) nonbinary participant described how a diversity of providers

were overtly transphobic and performed unnecessary genital exams and procedures without consent:

> I have repeatedly encountered oncologists, radiation techs, nurses, and primary care doctors who are impatient, seen offended, or are openly hostile to me when I am alone at appointments. When my brother, father, or husband attend with me - it is a completely different tune. They immediately act surprised that a trans woman has a husband, dad, or brother who care for them. In all - cancer treatment has been the absolute worst setting for hostility, transphobia, outright aggression, and violence! I have several times had my genitals examined, fondled, or catheters inserted without my consent - and when filing complaints with hospitals been dismissed outright despite many of these instances being unnecessary, or [purely] to satisfy the "curiosity" of the doctors!

Her attempts of reporting her experiences to the hospital have been futile, demonstrating how the individual medical providers as well as the overarching medical system have failed her. The experience of this transgender participant may demonstrate one way many gender minority patients may have difficulty disclosing their identity, especially transgender women of color facing intersectional misogyny. Another American Indian, Biracial/Multiracial, white/European American transgender participant (#950) described what happened after they disclosed their identity, "The dr was very dismissive didn't believe intersex status or respect I am Ftm." This quote discusses another potential consequence of disclosing identity: they may not be believed.

After disclosing identity, participants across white and BIPOC gender minority subpopulations describe lack of medical knowledge in how to provide potentially life-saving gender care and potentially life-saving cancer care. One white transgender participant (#34) describes their experience with lack of surgical and medical knowledge of how to treat gender minority patients with cancer:

> Admit when you do not know the answers to questions about interactions with drug treatments/chemotherapy, adjuvant therapies, and cross-sex hormones [...] surgical outcomes need to be discussed in more detail, for sure, as well as impact of anti-estrogen drugs. [...] There isn't enough data on the intersections of trans identities and cancer, particularly breast/ovarian cancer. It's also hard to be seen as a patient in a breast cancer clinic as a trans man.

This experience addresses how gender minority patients receiving gender care cannot safely navigate cancer treatment, particularly hormonally responsive cancers. Furthermore, transgender patients may be told they must stop hormonal therapy, even if removal of gonads producing the same hormones would not be indicated in cisgender populations with the same cancer. As a Middle Eastern/North African nonbinary participant (#2968) says, “Don’t assume that HRT is bad for everyone just because we are trans.” Patients may not disclose their identity due to the gap in knowledge in how the necessity of often life-saving gender care intersects with the necessity of often life-saving cancer care, and their gender care may be viewed as less important or critical compared to cancer treatment.

Other participants highlighted how cisgender and gender minority patients have overlapping but different needs, as they are different groups. One white transmasculine and nonbinary participant (#3130) says, "It's important to acknowledge that trans people and LGB people have different needs. Sometimes their needs can be overlapping, but they are separate groups." While there is a real umbrella community of LGBTQ+ needs, there are specific needs within each subpopulation. In particular, gender minority needs, such as surgeries and interactions between cancer treatments and hormonal therapies, need to be understood if patients are to feel safe disclosing their gender identity.

Gender minority patients may face barriers with disclosure, though many also address the vitality of being open and honest about identity with providers. One Asian/Asian American nonbinary participant (#1135) addresses the gravity of this, "Be upfront about your identity immediately. It's your life that's at stake." A white transgender participant (#44) discusses how gender minority people in particular should be upfront about identity, "Be open and honest with doctors, especially if you are trans." Cisgender subpopulations agree. A white cisgender lesbian participant (#47) says, "If they don't ask, come out, stay out, and insist on being treated with dignity and respect, or get out and go somewhere else." Likewise, a Black/African American cisgender lesbian participant (#398) empowers other patients with cancer to report any bias, as having cancer is enough to handle:

> Definitely don't be afraid to be open about your identity and/or sexual orientation. If the medical personnel you are dealing with even seem to show any bias, then you need new

> people treating you. Also, don't be afraid to report any discrimination that you experience. Being diagnosed with cancer is hard enough without adding other nonsense.

All subpopulations agree having a cancer diagnosis is incredibly challenging, and overlying marginalization often makes the experience more difficult. Patients inevitably become vulnerable while undergoing cancer treatment, and the ability to share all of who you are to providers is paramount to receiving the best care and feeling the most validated.

Integration

We performed integration of the quantitative and qualitative findings from *Out: The National Cancer Survey* in *Matrix 1*. The matrix groups together a specific quantitative finding, the *a priori* theme informed by that quantitative finding, the inductive subthemes under each *a priori* theme, the final qualitative thematic template, and examples of representative quotes as evidence of the qualitative themes. The integration of the quantitative and qualitative data analysis allowed us to propose interventions with explicit documentation of our rationale.

Quantitative analysis found gender minorities were less likely to receive recommended cancer screenings possibly due to barriers accessing culturally competent care. Qualitative analysis provided insight into how humor, professionalism, and acceptance of patient families currently provides an environment conducive to effective cancer screening and comfortable treatment for those with few marginalized identities. In contrast, those with numerous marginalized identities describe discrimination those with fewer marginalized identities do not describe, including how COVID-19 has exacerbated disparities. From this integration, we propose ensuring providers across the spectrum of cancer treatment are well-informed and have experience practicing

cultural competency for racial, sexual, and gender minority patients, including how intersectional modalities of oppression work to prevent accessible care for those who are most marginalized. One way to demonstrate acceptance described across many sexual and gender minority subpopulations is to accept, include, and embrace the families of sexual and gender minority patients, whether biological or chosen.

The next quantitative finding described how gender minority patients with cancer more greatly prioritize environmental indicators of accepting care. Qualitatively, gender and sexual minority patients described how environmental indicators of accepting care either did or would have improved their care. Gender and sexual minority patients further advised cancer care providers to use posters, photos, brochures, flags, and other symbols to demonstrate acceptance of sexual and gender minorities. Gender minority patients with cancer additionally requested inclusive physical spaces, such as bathrooms, in treatment centers, and inclusive intake forms and medical documentation. We propose what patients directly advise: general visual symbols of allyship, physical spaces inclusive of gender minority patients with cancer, and medical documentation that accounts for all gender identities.

Furthermore, quantitative analysis showed gender minority patients with cancer were more pessimistic regarding future health than sexual cisgender minority patients. Qualitative analysis demonstrated both strength and vulnerability in regard to how both sexual and gender minority patients conceptualized their health and identity. Gender minority patients describe finding unexpected self-acceptance in the face of their mortality, sometimes including self-discovery of gender identity through cancer diagnosis. We propose cancer care providers learn how cancer

diagnosis and treatment can impact acceptance of gender identity and acknowledge the unique resiliency of gender minority patients.

Finally, quantitative findings included that gender minority patients with cancer are twice as likely not to disclose identity as cisgender sexual minority patients, and those who do disclose are three times as likely to face worse care after. Our qualitative analysis suggested patients have a variety of barriers to disclosure that inform the decision whether or not to disclose identity. These include anticipatory transphobia, personal history of transphobia in health care environments, dismissal of the importance of gender identity, limited opportunities to disclose identity, and lack of medical knowledge on how gender and cancer medical and surgical care interact. However, gender minority patients still emphasize to other sexual and gender minority patients to disclose identity in order to have a comfortable cancer treatment experience with providers who accept aspects of their identity. We propose cancer care providers give a plethora of opportunities to disclose identities in a safe space, identify risks and benefits of gender and cancer care in different cancers, and allow patients to guide decision-making acknowledging how cancer care and gender care can both be uniquely life-saving.

Matrix 1: Integrated quantitative results and qualitative results with representative quotes and proposed interventions

Quantitative Findings	***A Priori*/ Deductive Qualitative Theme**	**Inductive Qualitative Subtheme**	**Final Qualitative Theme**	**Representative Quotes**	**Proposed intervention**
Question: About how many of the [insert provider type] that you encountered during your cancer diagnosis and treatment provided culturally competent care? *Statistically Significant Results:* All or most primary care providers: 68% gender minority, 87% cisgender	Experiences of cancer screening, treatment, and post-treatment	Generally accepting providers and positive health care experiences		"My experience has been amazing. My oncologist, surgeon, primary care physician, nurses, radiation therapists, and many others were caring, professional, humorous and made me feel comfortable and confident in their care." (#39 cisgender white gay) "PCP is very welcoming and affirming. Asks key questions about sexual health which can help with determining types and timing of screenings." (#225 cisgender white gay) "They have all been supportive of me as a patient and my spouse as my partner." (#458 cisgender Biracial/Multiracial gay) "I was very fortunate in the healthcare provider I had during my cancer diagnosis and treatment experience. They were welcoming and warm. They accepted my family as any other and our experience was a positive one." (#175 genderqueer/gender nonconforming white)	→ Continuously ensure all involved in cancer care (including primary care physician, oncologist, surgeon, nurses, medical assistants, lab technicians, etc.) are able to respectfully and meaningfully care for gender and sexual minority patients. →Accept, include, and support the families of gender and sexual minority patients,

sexual minority male, 81% cisgender sexual minority female All or most nurses: 69% gender minority, 88% cisgender sexual minority male, 82% cisgender sexual minority female All or most healthcare support staff: 66% gender minority, 86% cisgender sexual minority male, 80% cisgender sexual minority female *Conclusion:* "Gender expansive folks are less likely to receive recommended cancer screenings - possibly due to barriers accessing culturally competent healthcare providers."		COVID-19 impacting care/ surveillance, including delays, isolation, and fear	Theme 1: Gender minority patients with cancer describe barriers to cancer screening and care that cisgender sexual minority people do not describe.	"My providers delayed routine follow up in March - October 2020 after I finished chemo/radiation in January 2020. By December 2020 I was diagnosed as having [recurrent] Hodgkin‚Äôs Lymphoma stage 3a. My doctors were dismissive via telemedicine about significant signs and symptoms (extreme facial swelling, swollen lymph nodes, neck & shoulder pain, and difficulty swallowing) for almost 3 months as my cancer spread because "getting you in isn't a priority right now." There were repeated trans misogynistic micro aggressions that I was "over reacting" and "it didn't seem that bad" - all of this without ever drawing blood, doing a CT/MRI, or physical exam. I am furious that this pandemic has given provides even more excuses to be dismissive and rude!" (#2158 nonbinary American Indian, Biracial/Multiracial, white/European American)	whether biological, by marriage, or otherwise chosen. →Recognize the intersectional identities of patients, the impact of institutional racism, transphobia, and homophobia on cancer care, and the disproportionate impact of COVID-19 on those with multiple marginalized identities.
		Inappropriate comments or behavior from providers and/or not feeling heard by providers		"I was first diagnosed at age 14, I am 30 now, and I continue to have frequent difficult experiences with how doctors and healthcare staff treat me."; "I've encountered a pattern of lack of bedside manner and have [...] heard similar experiences from friends of mine who [are] survivors as well." (#3265 nonbinary Latinx)	
Question: How important or unimportant is it to you that there are environmental indicators (e.g. rainbow flag, affirming posters, flyers or leaflets, etc.) of welcoming care for LGBTQI++ patients at the places where you receive cancer treatments? *Statistically Significant Results:* Somewhat or Very Important: 74% gender diverse, 39% cisgender sexual minority male, 58% cisgender sexual minority female *Conclusion:* "Environmental indicators of welcoming care are significantly more important for gender expansive folks in identifying safe spaces to receive cancer treatment and care."	Experiences of environmental indicators of inclusion	Noted absence of environmental indicators of inclusion	Theme 2: Sexual and gender minority patients with cancer express that they have limited experience with environmental indicators of inclusion and advise healthcare workers to place more signs of support.	"If there had been visible signs of support, I would have been more trusting." (#545, cisgender white bisexual)	→ Use visual indicators of sexual and gender minority inclusion, such as representation in clinic materials, brochures, pride flags, or other explicit signs demonstrating support of sexual and gender people, including those of color. → Ensure a basic gender inclusive environment with gender neutral bathrooms and other non-gendered spaces. → Check that medical documentation, such as intake forms and the electronic medical record, reflect the difference between a patient's gender and sex, and be inclusive of all possible genders and sexes in medical documentation.
		Presence of environmental indicators of inclusion		"It's ironic that the best emergency care I've gotten has been at a Catholic hospital. The nurse and doctor both had rainbow pins on their lanyards, as well as Wonder Woman scrub hats." (#4176 womyn, white)	
	Advice for physicians and health care workers building resources	Place visual markers of inclusivity		"Use photos, brochures, etc. that expresses your support of the community." (#2129 cisgender American Indian, white/European American lesbian) "Place visual cues that your clinic or practice is a safe place. These can be in the form of an HRC sticker or a rainbow sticker or even on your intake forms: They should be INCLUSIVE of all genders and identities. Set up gender neutral bathrooms." (#175 genderqueer/gender non-conforming, white/European AMerican) "Make medical forms where assigned sex at birth and gender are different fields and prominently displayed." (#2656 transgender American Indian, white/European American)	
Question: Since the start of the COVID-19 pandemic in March 2020, how has your level of optimism or pessimism about your future health changed? *Results:* More pessimistic about future health: 55% gender minority, 37% cisgender sexual minority male, 46% cisgender sexual minority female *Conclusion:* "Navigating disruptions in health care caused by the COVID-19 pandemic exacerbated feelings of pessimism about gender expansive survivors' future health."	Impact of cancer	Examples of strength, resilience, and acceptance of self	Theme 3: Sexual and gender minority people with cancer describe experiencing physical and emotional vulnerability, and gender minority describe uniquely building resilience and self-acceptance.	"It is a double edged sword. Sometimes I feel like I am bulletproof, îat this point, what could really break me? At other times I feel very weak, fragile. I am less type a and more gentle with myself. My big picture view of the world has undergone a massive upheaval."* (#4 cisgender white pansexual, queer) "Oddly, it has allowed me to become more myself, more comfortable in my body." (#781 nonbinary white) "I live more authentically life is [too] short not to" (#950 transgender American Indian, Biracial/Multiracial, white/European American) "I've developed a perspective to view myself as a transforming butterfly in order to be able to embrace the severe and permanent body changes that have occurred." (#3265 nonbinary Latinx)	→ Recognize the fluidity of gender and sexual identity and how the experience of having cancer and receiving treatment may influence the development of identity.
		Gender identity or perception being affected by cancer diagnosis and/or treatment		"it was definitely a part of my path to further coming out- to myself - to others" (#103 genderqueer/gender non-conforming white) "I came out as nonbinary/trans after the diagnosis and I think it is related to the diagnosis. Like I said, it made me realize life is short and I have to connect with what I really want for myself." (#326 nonbinary white) "My journey caused me to consider and begin medical transition (FTM). You only have one life to live. Live it fully as your authentic self." (#3859 transgender Black/African American)	

Questions: Were/are any of your cancer healthcare professionals aware of your LGBTQI+ identity? After disclosure of your LGBTQI+ identity, would you describe the environment at the place where you received cancer treatment as more or less welcoming? *Results:* Gender expansive survivors are 2X as likely not to disclose their LGBTQI+ identity to cancer healthcare providers compared with cisgender survivors. Gender expansive survivors who did disclose their LGBTQI+ identity were 3X as likely to report their care as less welcoming afterwards. *Conclusion:* "Gender expansive folks experience unique barriers in disclosing their LGBTQI+ identity to healthcare providers due to fears related to less welcoming care."	Advice for physicians and health care workers building resources	Discuss impacts of cancer care on gender care, admit when you don't know the answer, acknowledge difference in cisgender and gender minority LGBTQ+ people	Theme 4: Gender minority patients with cancer face barriers to disclosing identity to providers that cisgender sexual minority patients do not face, yet acknowledge the importance of identity disclosure.	"Admit when you do not know the answers to questions about interactions with drug treatments/chemotherapy, adjuvant therapies, and cross-sex hormones [...] surgical outcomes need to be discussed in more detail, for sure, as well as impact of anti-estrogen drugs [...] There isn't enough data on the intersections of trans identities and cancer, particularly breast/ovarian cancer. It's also hard to be seen as a patient in a breast cancer clinic as a trans man." (#34 transgender, white) "Don't assume that HRT is bad for everyone just because we are trans." (#2968 nonbinary Middle Eastern/North African) "It's important to acknowledge that trans people and LGB people have different needs. Sometimes their needs can be overlapping, but they are separate groups" (#3130 transmasculine, nonbinary white)	→ Identify risks and benefits of gender affirming hormone and surgical therapy with different cancers and associated treatment. → Make treatment decisions that are based on informed consent and are patient-led. → Recognize internalized transphobia whenever suggesting the discontinuation of gender-affirming hormone therapy. Consider if removal of sex-hormone producing gonads would be indicated in cisgender populations. If not, question if the cessation of gender-affirming hormone therapy is indicated. → Ensure a visibly safe space, then give plenty of opportunities to disclose identity (e.g. intake forms, medical interviews).
	Experiences of cancer screening, treatment, and post-treatment	Experiencing provider lack of gender comprehensive medical knowledge, misgendering, discomfort with care due to gender identity		"I was referred to a surgeon who presumably did male reconstruction for breast cancer but he seemed not to know much about FTM chests. I was not offered nipple sparing or grafts." This same participant later describes, "Lots of anxiety and no clear answers on what protocol is safe to follow regarding cross-sex hormones after ER+ breast cancer for FTM people with BRCA1+ mutations." (#34 transgender white) "I have repeatedly encountered oncologists, radiation techs, nurses, and primary care doctors who are impatient, seen offended, or are openly hostile to me when I am alone at appointments. When my brother, father, or husband attend with me - it is a completely different tune. They immediately act surprised that a trans woman has a husband, dad, or brother who care for them. In all - cancer treatment has been the absolute worst setting for hostility, transphobia, outright aggression, and violence! I have several times had my genitals examined, fondled, or catheters inserted without my consent - and when filing complaints with hospitals been dismissed outright despite many of these instances being unnecessary, or [purely] to satisfy the "curiosity" of the doctors!" (#2158 nonbinary American Indian, Biracial/Multiracial, white/European American) "The dr was very dismissive didn't believe intersex status or respect I am Ftm." (#950 transgender American Indian, Biracial/Multiracial, white/European American) "Never once was I asked and I was constantly misgendered," then later continues, "I was scared speaking up for myself regarding my orientation and gender identity would put my cancer care in jeopardy. I did not want to piss off the person who was treating me." (#326 nonbinary white)	
	Advice for LGBTQ+ patients with cancer	Advocate for yourself, ask questions, do research, get paperwork in order, be open about identity, be honest		"Be upfront about your identity immediately. It's your life that's at stake." (#1135 nonbinary Asian/Asian American) "Be open and honest with doctors, especially if you are trans." (#44 transgender white) "If they don't ask, come out, stay out, and insist on being treated with dignity and respect, or get out and go somewhere else." (#47 cisgender white lesbian) "Definitely don't be afraid to be open about your identity and/or sexual orientation. If the medical personnel you are dealing with even seem to show any bias, then you need new people treating you. Also, don't be afraid to report any discrimination that you experience. Being diagnosed with cancer is hard enough without adding other nonsense." (#398 cisgender Black/African American lesbian)	

Discussion

The integration of the quantitative and qualitative data analysis of the *Out: The National Cancer Survey* found several differences among gender minority and cisgender patients with cancer regarding cancer screening and cultural competence, importance of environmental indicators of acceptance, pessimism towards future health, and identity disclosure. The integration of quantitative and qualitative data analysis provides a framework to demonstrate rationale for proposed interventions and next steps for cancer care providers.

Previous research demonstrates transgender people are less likely to receive recommended cancer screenings compared to cisgender people.[4,7,11] Quantitative data analysis of *Out: The*

National Cancer Survey shows gender minority patients experience providers with less culturally competent care, leading to decreased cancer screenings. The qualitative data analysis found those with few marginalized identities experienced culturally competent care, but those with more axes of marginalization, including BIPOC gender minority participants, experienced discrimination. Our study provides examples of what providers do for those who do feel they have inclusive care conducive to an effective and comfortable cancer screening and treatment experience, including the use of humor, professionalism, and explicit acceptance of patient families. Our study additionally provides examples of how BIPOC gender minority patients with cancer experience discrimination and provides evidence on how the effects of COVID-19 exacerbate disparities among some racial, sexual, and gender minority people. This finding supports the pre-existing literature on how COVID-19 has disproportionately affected disenfranchised communities, especially communities of color,[24–26] and expands this to include the experiences specifically of gender minority people of color.

Furthermore, in the quantitative analysis of *Out: The National Cancer Survey,* gender minority patients with cancer were significantly more likely than cisgender sexual minority patients to express that environmental indicators of gender and sexual minority acceptance were somewhat or very important. Our study expands to include specific examples of how to improve the physical clinical environment for patients undergoing cancer care. Both sexual and gender minority patients requested providers place general visible indicators of inclusion, such as pride flags and posters or brochures showing patients with diverse identities, while gender minority patients additionally requested inclusive bathrooms and other physical spaces as well as distinguishing between gender and sex on intake forms and other medical documentation.

Prior studies have explored the mental health of gender minority patients with cancer and have found higher rates of depression compared to cisgender patients with cancer.[14] Prior studies have also shown disclosure of identity was also associated with higher self-rated health among LGBTQ+ populations.[15] Comparably, the quantitative analysis of *Out: The National Cancer Survey* demonstrated that since March 2020, the start of the COVID-19 pandemic, gender minority participants indicated they were significantly more pessimistic about future health than cisgender sexual minority patients. The qualitative findings suggested that both gender minority and cisgender sexual minority patients face physical vulnerability after cancer treatment. However, the qualitative responses also expressed resilience, self-acceptance, and development of gender identity in gender minority patients, which may provide protective factors when facing uncertainty of future health. This expands on previous research by using an asset-based framework to identify how gender minority patients develop resilience.

Other research has provided evidence that sexual and gender minority people may not choose to disclose their identity, and those who do often do so to correct heterosexual assumptions.[15] Oncologists have also reflected on how to facilitate comfort around identity disclosure, including direct questions about sexual and gender identity, including partners in care, and using correct pronouns.[16] In *Out: The National Cancer Survey*, gender minority patients were twice as likely to not disclose identity as cisgender sexual minority patients, and gender minority patients were three times more likely to report worse care after identity disclosure compared to cisgender sexual minority patients. This study provides possible explanations of why identity disclosure may be difficult for sexual and gender minority patients, but particularly gender minority

patients, where patients discuss the lack of opportunity to disclose identity, the uncertainty of how care will be affected once they disclose identity, and the hostility of care once providers knew they were a gender minority. Patients also articulated experiences of providers not knowing how hormone therapy interacted with certain cancer treatments and not prioritizing potentially life-saving gender affirming care. Despite these experiences, gender minority patients with cancer still suggest other sexual and gender minority people with cancer disclose their identity in order to find inclusive and supportive providers while in an incredibly vulnerable state.

Limitations and Strengths

There are several limitations to this study. To begin, the gender categories "Male," "Female," "Transgender," "Genderqueer/Gender Non-Conforming," "Nonbinary," "Another gender identity (please specify)," and "I prefer not to share this information" in the *Out: The National Cancer Survey* instrument are imperfect. The ability to select only one option for gender identity precluded people who identified with multiple options from selecting all that apply, thus preventing the researchers from being able to compare certain populations, such as the experiences of transgender men and transgender women. Transgender men and transgender women likely have different experiences, yet participants had to identify as "Transgender," "Male," or "Female." Some may additionally argue the terms "Male" and "Female" should only be applied to sex, whereas "Man" and "Woman" should be applied to gender. In the future, there should be more descriptive options, such as "Transgender man," "Cisgender woman," and so on or the ability to select multiple options for gender identity to honor all identities the survey participants claim.

The inability to assess transgender males' and transgender females' experience was apparent when some participants selected "Male" for sex and "Female" for gender or vice versa, though they did not self-identify as transgender or another gender minority category. In order to not impose an identity someone does not ascribe to, we excluded these participants with discordant sex and gender, and we could not analyze their experiences.

Another limitation of this study was the disproportionate amount of white cisgender data. There were not enough BIPOC other sexually-oriented people to obtain the goal of 25 response analyses. Furthermore, while the amount of gender minority responses is substantial compared to most research on transgender health, the limited amount of BIPOC gender minority responses prevents richer analysis accounting for race and gender intersectionality.

With these limitations, our study also has many strengths. While some of the gender minority subpopulation sample sizes were smaller, they were overall large compared to many studies, with the exception of systematic reviews, studying gender minority groups. Because of the overall large sample size, we were able to take an intersectional approach to data analysis that accounted for sexual orientation, gender, and race. The intersectional approach allowed us to recognize broad and specific themes that may apply across white and BIPOC sexual and gender minority subpopulations.

Conclusions

Gender minority patients have different experiences with cancer than cisgender sexual minority patients and have different needs to ensure the highest quality cancer care. Gender minority patients report barriers to culturally competent cancer care that cisgender sexual minority

patients do not face, leading to difficulty accessing cancer screening and treatment. BIPOC gender minority patients additionally describe the disproportionate burden of COVID-19 on those experiencing intersectional marginalization. Visible indicators of LGBTQ+ support are appreciated by sexual and gender minority patients with cancer, but gender minority patients additionally require medical documentation, such as intake forms, and the physical care environment, such as bathrooms, to be inclusive. Sexual and gender minority patients face physical and mental vulnerabilities through having cancer, though gender minority populations also emphasize building strength, accepting oneself, discovering identity, and living authentically. Lastly, gender minority patients face obstacles to identity disclosure, such as previous experience of transphobia in medical settings, anticipated transphobia, lack of opportunity to disclose identity, and gaps of medical knowledge in interactions between gender affirming medical therapy and cancer treatment. Even with these barriers, gender minority patients still insist others disclose identity early in their care in order to find affirming providers.

These results offer several ways to improve cancer treatment for sexual and gender minority patients. Further interventions may include improving the physical clinical environment to be inclusive of gender minorities, changing intake forms and medical documentation to reflect the diversity of gender identities patients may hold, elevating stories of discovering and/or affirming gender minority identity through experiencing cancer, providing opportunities and a safe space for patients to disclose sexual and gender minority identity, and increasing medical and surgical knowledge on the intersection of potentially life-saving cancer care and potentially life-saving gender care.

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