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Title: Scoping review protocol: mapping gender and sexual minority representation in cancer research

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Reviewer 1: Khara Sauro

Institution: Department of Critical Care Medicine, University of Calgary
General comments (author response in bold)

The authors present a well-written and compelling introduction that provides a rationale for the need to measure GSM outcomes. However, based on the authors' argument that reporting on GSM is poorly done, I worry about the sparsity of evidence and therefore the feasibility of synthesizing data given the argument presented. Could the authors reconcile this?

We appreciate this comment. Preliminary searches of the specified databases results yielded 6086 studies after removal of duplicates. As a result, we expect there will be sufficient data for synthesis.

I have some comments related to the objectives. There are several objectives stated throughout the manuscript. The first aim is noted on Page 4 line 45 and is stated to be to bridge the gap in the evidence. Then other objectives are presented in the final paragraph of the introduction (page 5 starting on line16) where several objectives are outlined. There is yet another objective stated in the methods section on page 5 starting on line 48. Could the authors clarify the objective to help the reader assess the appropriateness of the methodology for this objective?

We agree with the comments that our there is inconsistency with our language related to describing the review's objectives. We have made changes within the protocol explicitly outlining the review's objectives.

This revision is in the Background section, where we outline "This scoping review will answer the broad question of how cancer affects GSM populations through the following objectives: 1) Outline the ways GSM are described in cancer research; 2) Describe how GSM cancer outcomes and experiences are investigated; 3) Map the impact of being a GSM on adult cancer screening, stage at diagnosis, treatment, and survival relative to those who are not a sexual and/or gender minority; and 4) Describe how intersectionality, oppression and social determinants of health are attributed to GSM cancer outcomes and experiences."

Also, as stated on page 4, the primary objective includes exploring the experiences of patients with cancer who identify as GSM and comparing outcomes between patients with cancer who identify as GSM and non-GSM. These two objectives seem rather divergent, could the authors explore the link between these two objectives and how mixed-method systematic review methodology may help synthesize these data?

We agree with this comment and appreciate you drawing attention to our use of the phrase "comparing outcomes..." We have modified to specify our intention is to describe the body of the literature that compares outcomes, rather than the review itself comparing outcomes, which aligns with purpose of a scoping review. This revision is seen in the Background: "This review seeks to address this gap through systematically mapping the evidence base describing cancer outcomes

for GSM adults and exploring the literature describing cancer care experiences for this population”

Similarly, one of the stated objectives, which corresponds to some of the data elements outlined in the data abstraction section, is to abstract data from studies that report outcomes comparing GSM vs. non-GSM. I wonder if a systematic review with meta-analysis is more appropriate since this seems to go beyond mapping and characterizing? The JBI describes a mixed-method systematic review methodology rather than scoping review.

Thank you for this comment. The purpose of this scoping review is to map and describe the body of research related to investigating cancer outcomes and experiences for GSM. We will not be pooling data from these studies. Given our aims to map and describe, we believe a scoping review is most appropriate. The JBI mixed-methods systematic approach has previously been adapted for scoping reviews. For example:

Hanff AM, Leist AK, Fritz JV, Pauly C, Krüger R, Halek M; NCER-PD Consortium. Determinants of Self-Stigma in People with Parkinson's Disease: A Mixed Methods Scoping Review. J Parkinsons Dis. 2022;12(2):509-522. doi: 10.3233/JPD-212869. PMID: 34842199; PMCID: PMC8925108.

The authors note that two reviewers will screen title/abstracts and full texts; will these reviewers screen in duplicate?

Thank you for noting this, we have amended to specify which reviewers will screen in duplicate.

Could the authors clarify what outcomes of interest will be included (mortality, complication, 5-year disease-free)?

We have specified we are interested in all outcomes and experiences along the cancer continuum from cancer risk to survivorship and end-of-life care.

Could the authors please provide more information about the data being abstracted? Consider using a table and/or data dictionary.

We have appended an initial data extraction table and data dictionary. Please note that this will be reviewed and refined as needed through additional consultation with patient and public advisors who are on the team.

I applaud the authors for commenting on and considering their reflexivity, especially for the data analysis. Could the authors provide more detail about the qualitative data analysis? Consider the COREQ criteria that are applicable here and how the rigor of qualitative studies are to be assessed.

Thank you for this comment. We have amended to specify we will use the Mixed Methods Appraisal Tool and will include appraisal results in the scoping review's findings. We have added a Quality assessment section that describes the process we will follow. This section follows the inclusion/exclusion criteria table.

Please describe the level of involvement of patients and the public in the conduct of the review and specify their roles. Will they be informing, consulting, involved, collaborating and/or empowering? Which components of the review will they be contributing to?

This revision is within the Patient and Public Involvement section: “We have convened an advisory committee comprising individuals with cancer experiences who identify as part of the GSM community. This committee has informed the

development of this protocol. This committee will remain involved in the full scoping review by providing guidance and feedback on which data will be abstracted, how to present the results and identifying priorities for disseminating the review's findings, as well as co-authoring the final publication and any related materials."

Page 4 starting at line 48. These definitions seem like they would be a better fit for the methods section. Consider moving to methods section.

Thank you for your recommendation. We have moved the definitions to the Methods section

Reviewer 2: Lauren Squires

Institution: University of Toronto Dalla Lana School of Public Health

General comments (author response in bold)

Page 3 line 10-12: There is a small typo in this sentence, it should read: "This review will address this gap by mapping the literature on cancer outcomes among GSM adults and the factors that influence them along the cancer continuum."

Amended as suggested.

What methodology will be used to analyze the qualitative data? This should be stated in the abstract.

We have amended the abstract as suggested to specify we are using meta-aggregation to synthesize findings.

1-2 sentences communicating the authors' plan to consult with stakeholders should be stated in the abstract if space allows.

Amended the abstract as suggested – "This protocol was developed in collaboration with GSM patient and public advisors. We will engage GSM, community organizations, and knowledge users in disseminating results."

Page 4 line 10: It does not appear that the definition of heterocisnormativity provided here is specific to the cancer care system. Consider defining heterocisnormativity without explicit mention of the cancer care system until the following sentence, where the authors have already presented different manifestations of this phenomenon within the system.

Amended as suggested.

Page 4 line 44 "there have been no structured literature reviews synthesizing and mapping GSM cancer outcomes and experiences." There has been one systematic review and two scoping reviews recently published in this area. Please see Pratt-Chapman et al. (2021) – Health outcomes of sexual and gender minorities after cancer: A systematic review (in Systematic Reviews); Squires et al. (2022) – Psychosocial needs and experiences of transgender and gender diverse people with cancer: A scoping review and recommendations for improved research and care (in LGBT Health); and Schulz-Quach et al. (2022) – Sexual and gender diversity in cancer care and survivorship (in Supportive and Palliative Care).

We appreciate this comment. We have amended to indicate there have been structured reviews related to GSM with cancer, however, they either focus on psychosocial needs and survivorship or examined studies within a two-year time

period. Our scoping review will add to this work by presenting findings across the cancer continuum from risk to end-of-life care and include older studies. This revision is within the Background section: “Addressing these inequities necessitates a robust synthesis of existing research . Most knowledge syntheses on this topic have been narrative in nature. Few systematic reviews exist and those that do, have focused on specific phases of the cancer continuum (i.e. psychosocial care, survival)^{19,20} or only included studies within a limited timeframe.²¹ No studies systematically investigate GSM cancer outcomes and experiences through all phases of the cancer continuum.”

Page 4 line 50: Consider changing or rewording the given definition of gender to something that better-encapsulates the spectrum of gender and acknowledges the fact that there are men and women that fall under the gender minority umbrella (e.g., trans men and women). The following from Transgender and Gender Diverse Healthcare: The Fenway Guide (Keuroghlian et al., 2022) is a good example: “The characteristics and roles of individuals according to social norms, with aspects that are psychological, social, and behavioral. While sex is often described as female, male, and intersex, gender may be described as woman, feminine, man, masculine, androgynous, and much more.”

We appreciate this suggestion and drawing our attention to the resource. We have amended the definition.

The new definition is as follows: Gender is a multidimensional construct that relates to the roles and characteristics embedded in social and cultural norms.^{22,23}

People use many terms to describe their gender, including but not limited to, woman, feminine, man, masculine, or androgynous Gender encompasses both identity and expression. Gender identity refers to an individual’s sense of self and how they see themselves as a woman, man, transgender, non-binary, or something else. Gender expression relates to the way people express their gender such as their behaviours, clothing, voice.²² We use the term gender minority to denote the wide variety of individuals whose gender identity and/or expression does not align with the sex they were assigned at birth. This includes transgender, non-binary people and agender people.

We have also included verbiage specifying GSM is a helpful acronym, but not typically used by people to describe themselves: “We note GSM is not a term individuals typically use to self-describe their identity.²² We use GSM to describe gender and sexual minorities, as it is a helpful acronym for acknowledging there are numerous intersecting sexual, romantic, and gender identities that would be impossible to list otherwise.”

Page 5 line 25: There is a small typo in this sentence, it should read: “Our goals are to direct future research efforts by identifying literature gaps and limitations and highlight relevant social determinants of health that influence cancer outcomes for GSM adults.”

We have modified the background to provide more clarity on this review’s goals and objectives and in doing so removed this sentence.

Consider moving the “Research Question and Objectives” section before “Methods & Analysis” to improve the flow of the protocol.

Amended as suggested.

Page 5 line 48: A new heading should be written here to denote the discussion of the study objective and rationale for taking a mixed methods approach.

Amended as suggested.

Page 6 line 23: There is a small typo in objective 4, it should read: “Describe how intersectionality, oppression and social determinants of health are attributed to GSM cancer outcomes and experiences.”

Amended as suggested.

Page 8: What qualitative methodology will be used to analyze the data after quantitative data are qualitized? This should be stated in the Data Analysis section.

Thank you for this comment, we have specified we will use the meta-aggregation approach as recommended by JBI and provided detail about the steps we will follow for this. This revision is within the Data analysis section: “We will follow the meta-aggregation approach suggested by JBI⁴⁴ that combines findings across studies in a systematic way. This approach involves a detailed examination of extracted findings of included studies and creating categories based on their similarity in meaning. Similarity in meaning will be operationalized as either conceptual (i.e. where a theme is observed across studies) or descriptive (i.e. where studies use similar terminology to describe concepts/themes).³⁸ Each category must have, at minimum, two findings each. Initial categories are then grouped together and further synthesized into findings of at least two categories.⁴⁵ This synthesis and aggregation is what enables producing integrated findings.”