The scope and nature of sexual orientation and
gender identity and expression change efforts: A
systematic review protocol

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Protocol

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Abstract

**Background:** Sexual orientation and gender identity and expression change efforts (SOGIECE) are a set of scientifically discredited practices that aim to deny and suppress the sexual orientations, gender identities, and/or gender expressions of sexual and gender minorities (SGMs). SOGIECE are associated with significant adverse health and social outcomes. SOGIECE continue to be practiced around the world, despite denouncements from professional bodies and survivors, as well as calls for legislative advocacy to prohibit SOGIECE and protect SGMs. There are substantial gaps in the availability of consolidated international research to support and refine legislative proposals related to SOGIECE, including those currently underway to enforce bans in Canada and elsewhere.

We therefore propose the first systematic review of international data on SOGIECE that will outline the scope and nature of these practices worldwide. Specifically, we aim to estimate how many SGMs have been exposed to SOGIECE, which sub-groups of SGMs experience higher rates of SOGIECE, and how estimates of SOGIECE vary over time and place. In addition, we aim to describe when, where, how, and under what circumstances SGMs are exposed to SOGIECE.

**Methods:** To locate an interdisciplinary swath of papers, nine (9) bibliographic databases will be searched: Medline (OVID), Embase (OVID), PsycINFO and Social Work Abstracts via EBSCO, Web of Science Core Collection, LGBT Life with Fulltext, Proquest Dissertations & Theses Global and Sociology Collection (ProQuest). A gold standard search will be developed for Medline and adapted to the other databases. Grey literature will be searched at relevant websites, and reference harvesting will be performed in relevant SOGIECE scientific consensus statements. Two authors will independently screen abstracts/titles, screen full texts, abstract data, and apply risk of bias assessments. A narrative synthesis will be implemented to summarize findings.

**Discussion:** This review will address the gap in synthesized data regarding the prevalence of SOGIECE, social correlates of SOGIECE, variations of SOGIECE over time and place, and the circumstances, settings, and time-points of SOGIECE exposure. Findings from this review will directly inform ongoing and new legislative efforts to ban SOGIECE and other interventions that aim to stem SOGIECE practices and support SOGIECE survivors.

**Systematic Review Registration:** Prospective registration with PROSPERO will occur before completion of full-text screening.

Introduction

**Background & Rationale:**

What are Conversion Therapy and SOGIECE?:
“Conversion therapy,” sometimes referred to as “reparative therapy,” “reintegrative therapy,” or “reorientation therapy,” refers to a set of pseudo-scientific, discredited practices that aim to deny and suppress the sexual orientations, gender identities, and/or gender expressions of sexual and gender minorities (SGM). Conversion therapy ranges from talk-“therapies” to invasive treatments such as eclectic shock therapies (1). Given the variability in how conversion therapy is articulated and practiced, a fulsome examination requires a broad definition. To capture the breadth of conversion therapy-related practices, such as a youth speaking to a counsellor who provides advice on repressing sexual attraction, a physician prescribing medication to suppress sex drive, or intentional delay of gender non-affirming care to a transgender (trans) or non-binary person, this project uses the acronym SOGIECE: sexual orientation and gender identity and expression change efforts (2). This definition includes, but is not limited to, more formal practices of conversion therapy. SOGIECE settings include religious sites, private and unregulated counsellor’s offices, businesses, and licensed healthcare professional offices, among others (3–5). Despite the increasing marginalization of professional-conducted SOGIECE in recent years, particularly for gender identity and expression change efforts, many healthcare professionals lack training and support to deliver gender-affirming care and may seek ways to deter their patients from transitioning from the gender aligned with their sex assigned at birth (6–11). Accordingly, our definition of SOGIECE includes practices that delay transition for trans and non-binary people.

The effects of SOGIECE:

SOGIECE are ineffective, harmful, and often lead to poor psychosocial outcomes. For example, SOGIECE has been associated with poor self-esteem, internalized stigma and discrimination, self-harm, self-hatred, depression, anxiety, and adaptive substance use (i.e., as a form of coping or suppression) (2, 12). More generally, SOGIECE can lead to isolation from both communities of origin and SGM communities, as many survivors of SOGIECE feel that they have lost years of their lives and are not able to embrace their authentic selves (13, 14). Most alarmingly, it is estimated that over a third of those who experience SOGIECE attempt suicide (2), a statistic that does not capture those who have died of suicide. More than 40 professional regulating bodies (e.g., American Psychiatric Association, Canadian Psychological Association) and numerous regions (e.g., New York, Malta) have denounced SOGIECE due to its ineffectiveness and detrimental health and social impacts (11, 15–18). Further, several SGM have spoken about their experiences of SOGIECE through political engagements, media, and books to share how it has impacted their lives (e.g., Muse, 2015 (19); Poisson, 2019 (20)).

The prevalence of SOGIECE:

SOGIECE continue to occur across the globe, including jurisdictions with strong legal protections for SGM, such as Canada (2, 13). To-date, no attempts have been made to synthesize quantitative prevalence estimates (i.e., using a systematic review methodology). Recent Canadian data estimate that, as of 2019, 20% of sexual minority men have been exposed to SOGIECE and 8% have experienced more circumscribed “conversion therapy” practices (1). In addition, a 2019 Canadian survey with trans people estimated that 11% have experienced conversion therapy at some time in their lives (21), likely a low estimate given the narrower definition used. In the United States (US), empirical data suggest a lifetime
prevalence of SOGIECE exposure of 7–18% among sexual minority (i.e., non-heterosexual) people (4, 5) and 14% among trans, non-binary, and other gender minority (i.e., non-cisgender) people (6). Approximately half of SGM people exposed to SOGIECE were subjected to these change efforts during childhood or adolescence (4, 5). Lifetime prevalence of SOGIECE exposure is highest among those born before 2000 (2, 7); however, at least 3–4% of SGM children and adolescents (born after 2000) are estimated to have been exposed to such practices (likely much higher, owing to the challenges in sampling and surveying youth currently/recently exposed to SOGIECE) (2, 4). Among US sexual minority populations, up to 60% of those exposed to SOGIECE report experiencing these change efforts in religious settings, while the remainder visited counselors (many unlicensed), psychologists, and psychiatrists (3–5). Among US gender minority populations, 35% report exposure to SOGIECE in religious settings, with the remainder of SOGIECE occurring in secular settings, including offices of medical doctors and psychologists (7). Taken as a whole, SOGIECE are highly prevalent and continue to harm SGM worldwide; however, there is a need to more carefully compile and analyze these published estimates to understand how they vary over time, place, social characteristics of participants, and definitions of conversion therapy/SOGIECE.

There is limited SOGIECE-related research – a critical knowledge gap, given ongoing public policy efforts to end SOGIECE and devise health and social support agendas for those who have experienced these practices. Over the past year, numerous national, regional, and local governments have introduced legislation to ban SOGIECE—with varying degrees of support or opposition across geographic, religious, and political lines. Rigorous research syntheses to support or refine legislative proposals related to SOGIECE are not available at this time. We therefore propose a systematic review of international data on the scope and nature of SOGIECE.

**Study aim and research question:**

The aim of this review is to synthesize quantitative and qualitative literature that addresses the scope and nature of SOGIECE among SGM worldwide. To fulfil this aim, we propose the following research questions:

(1) What is the scope of SOGIECE globally? In response to this question, we will estimate how many SGM have been exposed, which sub-groups of SGM experience higher rates of SOGIECE, and how estimates of SOGIECE vary over time and place.

(2) What is the nature of SOGIECE globally? In response to this question, we will describe when, where, how, and under what circumstances SGM are exposed to SOGIECE.

**Definitions:**

As there are varying definitions associated with this topic, it is necessary to define how particular terms are being taken up. See Table 1.
Table 1
Definitions

| Sexual orientation: | “a person's capacity for profound emotional, affectional, and sexual attraction to, and intimate and sexual relations with, individuals of the same gender, of a different gender, or of more than one gender” (11) |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Gender identity:    | “a person's deeply felt internal and individual experience of gender including the personal sense of the body. Gender identity may be completely male or female or may lie outside the male/female binary” (11) |
| Gender expression:  | “a person's desired external appearance as it relates to social expectations and norms of femininity and masculinity” (11)                                                                                   |
| Conversion therapy: | “any treatment, practice, or sustained effort that aims to repress, discourage, or change a person's sexual orientation, gender identity, gender modality, gender expression, or any behaviours associated with a gender other than the person's sex assigned at birth or that aims to alter an intersex trait without adequate justification” (11) |
| Sexual orientation and gender identity change efforts: | SOGIECE are related to conversion therapy in that both sets of practices aim to repress, discourage, or change one's gender identity, gender expression, and/or sexual orientation; however, SOGIECE additionally include less well defined and advertised practices, which in some cases may not be sustained (e.g., single sessions/conversations) (2,22,23) |

Methods

Protocol and Study Team

This systematic review protocol follows the PRISMA-P guideline for systematic review protocols and checklist (see Appendix A for PRISMA-P checklist) (24). The systematic review team includes expertise in research methods (DG, TS, OF, JB, AA, HK), substantive areas, including SOGIECE and SGM health (TS, OF, HK, FA, DJK, AA, ED, TG), and biomedical library sciences (DG). The research team will meet regularly throughout the review to identify and resolve challenges, validate and reconcile inclusion/exclusion decisions, and ensure quality and rigour of the review processes. The review protocol will be registered on PROSPERO before completion of full-text screening.

Eligibility criteria

The following criteria will be implemented for screening and selection of studies:

a. Language

Language restrictions will be in place for both screening and final inclusion of studies. Literature in French, Spanish, and English will be included due to feasibility and languages spoken by members of the research team.

b. Participants
Studies involving SGM, according to definitions provided above, of all ages will be included. SOGIECE practices have been documented across a wide range of ages, countries of origin, genders, gender identities, and sexual orientations. Therefore, no other restrictions will be used with regard to participant populations.

c. Time, geography, and setting

SOGIECE have likely been practiced for decades, if not centuries; as noted above, SOGIECE are practiced across multiple countries and settings. We anticipate that literature on this topic will be sparse; therefore, we will not restrict studies by date, geography, or setting.

d. Study designs

Quantitative, qualitative, or mixed-methods studies will be included in the search, including case studies, case series, surveys, cohorts, interviews, and secondary analyses of existing data. We will screen the citations lists of systematic reviews, commentaries, and letters retrieved from literature searches. We anticipate that quantitative studies will be most relevant to research question 1, regarding the scope of SOGIECE, and qualitative studies will be most relevant to research question 2, regarding the nature of SOGIECE; although, these methodological distinctions are not exact. Due to the inclusion of multiple study designs, we will not exclude studies based on sample size or related characteristics. Rather, the limitations of studies will be considered and discussed within the review.

e. Content

All studies that include content related to scope (i.e., prevalence) and/or nature (i.e., descriptions of circumstances, timing, and setting) of SOGIECE will be included.

f. Specific exclusion criteria

Given the inclusion criteria above, studies will be excluded based on the following criteria:

1. Studies about SGM that do not include any reference to SOGIECE
2. Studies that reference SOGIECE in the rationale but do not specifically address our objectives related to the scope and nature of SOGIECE
3. Theoretical or ethical essays on the origins or mutability of sexual orientation, gender identity, or gender expression
4. Ethical essays on the practice of SOGIECE
5. Psychotherapeutic guidelines for SGM-affirming care (except for consensus statements that are components of grey literature search; see below)

Information sources
The following indexed medical, health science, nursing, psychology, social work, and social science databases will be searched: Medline (OVID), Embase (OVID), CINAHL, PsycINFO, Social Work Abstracts via EBSCO, Web of Science Core Collection, LGBT Life with Fulltext, Dissertations & Theses Global (ProQuest), and the Sociology Collection on ProQuest.

In addition to searching the databases above, references of all included full-text articles will be reviewed. Articles identified in this step will also have their references reviewed for inclusion in the study. We will hand-review the reference lists of highly relevant papers (e.g., Turban et al., 2019; Ryan et al., 2020) for additional sources (peer-reviewed and grey literature). Additionally, literature databases of co-authors and affiliated networks will be reviewed and compared to a bibliography of all included articles identified in previous stages to ensure literature saturation.

A targeted grey literature search focused on the most relevant and robust reference lists of consensus statements issued by health professional organizations about the scientific validity (or lack thereof) of SOGIECE.

**Search strategy**

Two members of the research team, TS and DG, in consultation with all co-authors, have devised a comprehensive, peer-reviewed search strategy.

Exhaustive searches will be conducted using highly-sensitive strategies given the disseminated nature of the literature. Nine (9) bibliographic databases will be searched: Medline (OVID), Embase (OVID), CINAHL, PsycINFO and Social Work Abstracts via EBSCO, LGBT Life with Fulltext, Web of Science Core Collection, Proquest Dissertations & Theses Global and the Sociology Collection (ProQuest). A search will be created in Medline and translated into the requirements of the other databases. In consultation with the principal investigator, the librarian has developed an exhaustive list of concepts and controlled terms based on relevant papers and the expertise of the research team. Searches will be iteratively improved to increase sensitivity by testing optimal combinations of keywords, synonyms, and controlled terms (Table 2). In the absence of controlled terms in the databases for SOGIECE, other related headings will be incorporated. A grey literature search strategy will be created based on a combination of browsing reference harvesting and targeted searching of key websites cited by relevant papers (17, 25–34). The search strategy will be peer reviewed using the Peer Review of Electronic Search Strategies (PRESS) checklist (see Appendix B) (35). Duplication of papers will be performed in RefWorks before the dataset is loaded into Covidence for title and abstract screening.

**Table 2. Keywords and controlled terms used in search strategy for a systematic review of sexual orientation and gender identity and expression change efforts**
| SOGIECE-related concept | SOGIECE keyword search terms (combined using OR Boolean)* | SGM keyword search terms (combined using OR Boolean)* | SGM indexed search terms |
|--------------------------|----------------------------------------------------------|----------------------------------------------------------|--------------------------|
| Set A: concept of ‘conversion’ | “conversion therap*” | Bisexual* homosexual* “men who have sex with men” sexual orient* “women who have sex with women” sexual minorit* (gay* or lesbian*) (GLB* or LGB*) queer* two spirit (nonheterosexual* or non-heterosexual*) transgender* “gender divers*” “gender creative” (non-binary AND gender) genderqueer genderfluid “trans wom*” “trans m*” transwom* transm* “gender affirmation” (mtf or ftm) (transfeminine or transmasculine) “sex* reassignment” (gender identity disorder or GID) transsex* transex* gender dysphori* |
| Set B: concept of ‘repair’ | “reparative therap*” | exp *bisexuality/ exp *homosexuality/ exp *“Sexual and Gender Minorities”/ exp *“Transgender Persons”/ |
| Set C: concept of ‘reorientation’ | “reorientation therap*” | exp *bisexuality/ exp *homosexuality/ exp *“Sexual and Gender Minorities”/ exp *“Transgender Persons”/ |
| Set D: concept of ‘change efforts’ | “sexual orientation change” “gender identity change” “gender expression change” “psychological attempts to change a person’s gender identity from transgender to cisgender” PACGI |
| Set E: others | “ex-gay” | exp *bisexuality/ exp *homosexuality/ exp *“Sexual and Gender Minorities”/ exp *“Transgender Persons”/ |
| | “gender acceptance therap*” | exp *bisexuality/ exp *homosexuality/ exp *“Sexual and Gender Minorities”/ exp *“Transgender Persons”/ |
| | “reintegrative therap*” | exp *bisexuality/ exp *homosexuality/ exp *“Sexual and Gender Minorities”/ exp *“Transgender Persons”/ |
| | “gay cure therap*” | exp *bisexuality/ exp *homosexuality/ exp *“Sexual and Gender Minorities”/ exp *“Transgender Persons”/ |
| | “sexual attraction fluidity exploration” | |

Note. SOGIECE=sexual orientation and gender identity and expression change efforts; SGM=sexual and gender minorities; n/a=not applicable; * two sets to be combined using AND Boolean, to improve specificity.

Study records: Data management, selection process, abstraction, items, and bias

To support collaboration and organization among the systematic review team, search results will be uploaded and stored in Covidence – a systematic review software manager. The senior authors will provide training to junior team members regarding the systematic review software and techniques. TS and ED will independently screen titles and abstracts, using Covidence, guided by the above inclusion and exclusion criteria. Disagreements will be resolved by consensus, and when in doubt, articles will be
carried forward to full text review. All titles and abstracts that meet inclusion criteria will then have full texts pulled for review. Full texts will be independently screened by TS and ED, using Covidence. In the event that TS and ED cannot achieve consensus, there will be full discussion, and a third co-author, DJK, will be consulted.

Data collection will utilize a standardized process. A data abstraction tool will be used and include titles, authors, year of publication, and findings relevant to the objectives: nature and scope (Appendix C). TS and ED will independently abstract data. Calibration activities will be conducted among TS and ED to ensure uniformity in their process. Upon completing data abstraction for 20% of articles, abstractors will meet to discuss and reconcile differences in abstracted information and adjust abstracting procedures going forward. For a list of data items and definitions, see Appendix C.

We will use an adaptation of the Hoy et al. (2012) risk of bias tool for population-based prevalence studies to evaluate the risk of bias in quantitative studies that are included (see Appendix D) (36). This tool has been adapted by a subset of authors (TS, DJK, ED) for applicability to SGM samples.

Outcomes and Prioritization

The primary outcome of interest is the number of SGM who have exposure to SOGIECE, based on the definitions provided above. There is a need to understand the magnitude of SOGIECE worldwide and synthesize prevalence rates to illustrate that this phenomenon requires global attention.

Secondary outcomes include:

1. Where – i.e., the setting where SOGIECE occurred. This is relevant to identify levels and forms of policy and legislation that can have bearing on SOGIECE prevention or enforcement of bans.
2. When – i.e., the age and calendar year when SGM are exposed to SOGIECE. This is relevant to inform policy regarding minor and adult protections. Age will be considered based on numerical presentation or categorically using such terms as “minor,” “youth,” “adult,” etc.
3. Under what circumstances – i.e., reasons and motivations for attending SOGIECE, whether forced or compelled to attend or attending voluntarily.
4. How – i.e., the types of activities constituting SOGIECE.

These primary and secondary outcomes will be presented in summary results tables and narrative form, as appropriate.

Synthesis of results

Results of the systematic review will be presented in a final report that will be structured according the specific objectives identified above, corresponding to the scope and nature of SOGIECE, and the type of data charted.

Quantitative data will be synthesized to the extent possible given the likely heterogeneity of studies selected. A meta-analysis is likely not possible due to the variability of populations (e.g., differing age
groups, gender identities, gender modalities, etc.) and definitions of SOGIECE used (2, 7, 23). Results will therefore be presented using a narrative synthesis with tables (37). Specifically, tables will be used to display prevalence rates among different sub-populations of SGM, along with other characteristics such as geographic area, population demographics (e.g., age, religious background, etc.), and year of study/article production. Analysis of social location and equity factors, such as socio-economic status, race/ethnicity, gender, and sexual orientation, will be conducted to better understand the nuances of SOGIECE and its impacts across and within various SGM subpopulations. The identification of potential disparities within this area will help to inform equity-oriented and population-tailored responses to SOGIECE, including supports for those who have experienced SOGIECE. Qualitative data will be appraised and combined in the narrative presentation as these data relate to the relevant section – scope and nature. In addition, results will be highlighted and discussed narratively per their relevance and potential to inform policy.

In the final section of the synthesis, we will discuss the limitations of the current literature as per the findings of the review as well as the limitations of the current study. Given the dearth of literature discussing SOGIECE, it is likely that there will be several challenges in clearly identifying robust reports that can independently answer our research questions. Reports are likely to omit various populations and demographics impacted by SOGIECE and to inadequately present information related to the outcomes under study.

**Discussion**

This proposed systematic review of the prevalence and scope of SOGIECE will be the first conducted to date. Two prior systematic reviews have been published on the topic of conversion therapy, to the knowledge of our co-author team (38, 39). One of these reviews was focused solely on gender minorities and used a relatively limited set of search terms (38, 40). The other review was solely focused on sexual minorities and did not examine estimates of prevalence (39). We believe that it is beneficial to simultaneously review literature on SOGIECE targeting sexual orientation, gender identity, and gender expression, given overlap between SGM populations (i.e., some sexual minorities are trans; some gender minorities are queer, bisexual, lesbian, gay, etc.), the unspecific nature of some SOGIECE (i.e. some practitioners conflate sexual orientation and gender identity, or primarily target non-conforming gender expressions), and the potential to attend SOGIECE with a practitioner who targets more than one of: sexual orientation, gender identity, and gender expression.

Results from this review will provide the prevalence of SOGIECE across international jurisdictions and summarize associations between social characteristics (gender, gender identity, sexual orientation, age, race, disability, socioeconomic position, religiosity) and SOGIECE exposure. Ecologic factors, such as time, place, and study methods, are expected to modify estimates of SOGIECE prevalence. Particularly useful to inform preventative strategies to stop the harm associated with SOGIECE, this study aims to identify the ages at which SGM are first exposed to these practices, in what settings they take place, and the precipitants of an individual experiencing SOGIECE.
Dissemination

The impetus for this systematic review is the need for policy makers and legislators to have readily available, scientifically robust, and synthesized evidence to inform policy changes involving SOGIECE. Findings from the proposed systematic review will be beneficial to legislators in Canada and other countries and jurisdictions considering SOGIECE bans, such as Australia and Ireland (41–43). Furthermore, identifying the scope and nature of SOGIECE will assist health care providers, SGM community leaders and advocates, and SGM people themselves when determining supports needed for those who have experienced these practices. This systematic review will be published in an open-access, international journal that will provide evidence for countries considering or implementing federal, provincial, or municipal bans on SOGIECE. In addition, our findings will be shared with Canadian policy leaders and inform a community-based strategic planning meeting involving survivors, researchers, service providers, and politicians. Lastly, findings will be presented at relevant national and international conferences.

Declarations

Ethics approval and consent to participate: Ethics approval is not required for a systematic review of publicly available literature.

Consent for publication: This study uses secondary (published) data; as such, consent will not be required.

Availability of data and materials: All data and material included in the study is available from the cited primary data sources.

Competing interests: The authors declare that they have no competing interests

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Authors’ contributions: TS conceived and designed the study. TS and DJK contributed equally to this work. DJK, ED, OF, FA, and TS co-developed the rationale and contributed to the first draft of search terms. DG and TS developed and refined the search strategy. DJK, TS, and ED adapted the risk of bias assessment and contributed to the first draft of the protocol. TS, OF, HK, FA, and AA contributed to the dissemination plan for the review. All authors contributed to the refining of the research question. The guarantor of the review is Travis Salway, PhD, who leads a program of research with a substantive focus on SOGIECE at Simon Fraser University.

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Contributions: TS conceived and designed the study. TS and DJK contributed equally to this work. DJK, ED, OF, FA, and TS co-developed the rationale and contributed to the first draft of search terms. DG and
TS developed and refined the search strategy. DJK, TS, and ED adapted the risk of bias assessment and contributed to the first draft of the protocol. TS, OF, HK, FA, and AA contributed to the dissemination plan for the review. All authors contributed to the refining of the research question. The guarantor of the review is Travis Salway, PhD, who leads a program of research with a substantive focus on SOGIECE at Simon Fraser University.

**Amendments:** Any amendments made to this protocol will be recorded in PROSPERO.

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**References**

1. Conversion therapy and SOGIECE. 2020; Available at: https://www.cbrc.net/conversion_therapy_sogiece. Accessed May 23, 2020.
2. Salway T, Ferlatte O, Gesink D, Lachowsky NJ. Prevalence of exposure to sexual orientation change efforts and associated sociodemographic characteristics and psychosocial health outcomes among Canadian sexual minority men. The Canadian Journal of Psychiatry 2020:0706743720902629.
3. Flentje A, Heck NC, Cochran BN. Experiences of ex-ex-gay individuals in sexual reorientation therapy: Reasons for seeking treatment, perceived helpfulness and harmfulness of treatment, and post-treatment identification. J Homosex. 2014;61(9):1242–68.
4. Mallory C, Brown TN, Conron KJ. Conversion therapy and LGBT youth. Williams Institute, UCLA School of Law; 2018.
5. Meanley SP, Stall RD, Dakwar O, Egan JE, Friedman MR, Haberlen SA, et al. Characterizing experiences of conversion therapy among middle-aged and older men who have sex with men from the Multicenter AIDS Cohort Study (MACS). Sexuality Research and Social Policy 2019:1–9.
6. Turban JL, Beckwith N, Reisner SL, Keuroghlian AS. Association between recalled exposure to gender identity conversion efforts and psychological distress and suicide attempts among transgender adults. Jama Psychiatry. 2019;77(1):68–76.
7. Turban JL, King D, Reisner SL, Keuroghlian AS. Psychological attempts to change a person’s gender identity from transgender to cisgender: Estimated prevalence across US states, 2015. Am J Public Health. 2019;109(10):1452–4.
8. Wylie K, Knudson G, Khan Sl, Bonierbale M, W analyticsakul S, Baral S. Serving transgender people: Clinical care considerations and service delivery models in transgender health. The Lancet. 2016;388(10042):401–11.
9. Lam JSH, Abramovich A. Transgender-inclusive care. CMAJ. 2019;191(3):E79.
10. Scheim AI, Zong X, Giblon R, Bauer GR. Disparities in access to family physicians among transgender people in Ontario, Canada. International Journal of Transgenderism. 2017;18(3):343–52.
11. Ashley F. Model Law—Prohibiting Reparative Practices. Available at SSRN 3398402 2019.
12. Pan American Health Organization, Regional Office of World Health Organization. “Cures” for an illness that does not exist: Purported therapies aimed at changing sexual orientation lack medical justification and are ethically unacceptable. 2012.

13. Venn-Brown A. Sexual orientation change efforts within religious contexts.

14. A personal account of the battle to heal homosexuals. Sensoria: A Journal of Mind, Brain & Culture 2000.

15. Williams C. #DiscoSexology Part V: An Interview With Zucker’s Patient. 2017 February 2.

16. Butterworth B. Malta just became the first country in Europe to ban ‘gay cure’ therapy. Pink News 2016.

17. Byne W. No title. Regulations restrict practice of conversion therapy 2016.

18. Canadian Psychological Association. No title. CPA policy statement on conversion/reparative therapy for sexual orientation 2015.

19. American Psychiatric Association

   Scasta D, Bialer P. American Psychiatric Association. Position statement on issues related to homosexuality. Arlington County: American Psychiatric Association. Available online: https://www.psychiatry.org/psychiatrists/search-directories-databases/policy-finder (accessed on 25 October 2016) 2013.

20. Muse E. Affirming Sexual Orientation and Gender Identity Act, 2015. 2015 June 3.

21. Poisson J. “Conversion therapy” survivor shares his story. CBC Radio 2019 July 11.

22. The Trans PULSE Canada Team. QuickStat #1 – Conversion Therapy. 2019; Available at: https://transpulsecanada.ca/research-type/quickstats/ . Accessed May 23, 2020.

23. Salway T. Ending conversion therapy in Canada: Survivors, community leaders, researchers, and allies address the current and future states of sexual orientation and gender identity and expression change efforts. 2020 February 18.

24. Ryan C, Toomey R, Diaz R, Russell S. Parent-initiated sexual orientation change efforts with LGBT adolescents: Implications for young adult mental health and adjustment. Journal of Homosexuality 2020 January 28:159–173.

25. Moher D, Shamseer L, Clarke M, Ghersi D, Liberati A, Petticrew M, et al. Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. Systematic reviews. 2015;4(1):1.

26. Murchison G, Adkins D, Conard LA, Ehrensaft D, Elliott T, Hawkins LA. Supporting and caring for transgender children. Human Rights Campaign 2016;11.

27. National Centre for Lesbian Rights. Conversion therapy mental health advocate letter. 2014.

28. American Medical Association. LGBTQ change efforts.

29. (so-called “conversion therapy”). American Medical Association 2019:1–5.

30. American Psychological Association. Resolution on appropriate affirmative responses to sexual orientation distress and change efforts. Washington, DC: American Psychological Association.
31. Canadian Association for Social Work Education (CASWE-ACFTS). & Canadian Association of Social Workers (CASW). Joint statement on the affirmation of gender diverse children and youth. 2015.

32. Canadian Professional Association for Transgender Health. Submission to the Standing Committee on Justice Policy Re: Bill 77, Affirming Sexual Orientation and Gender Identity Act, 2015.

33. National Association of Social Workers National Committee on Lesbian. Gay, Bisexual, and Transgender Issues. Sexual orientation change efforts (SOCE) and conversion therapy with lesbians, gay men, bisexuals, and transgender persons. 2015.

34. Gaylesta. U.S. joint statement on conversion therapy (DRAFT 2.1–10/18/17). 2017; Available at: https://gaylesta.org/USJS-Draft. Accessed May 23, 2020.

35. Telfer MM, Tollit MA, Pace CC, Pang KC. Australian standards of care and treatment guidelines for transgender and gender diverse children and adolescents. Med J Aust. 2018;209(3):132–6.

36. Substance Abuse and Mental Health Services Administration. Ending conversion therapy: Supporting and affirming LGBTQ youth. HHS Publication No.(SMA) 15–4928 2015.

37. McGowan J, Sampson M, Salzwedel DM, Cogo E, Foerster V, Lefebvre C. PRESS peer review of electronic search strategies: 2015 guideline statement. J Clin Epidemiol. 2016;75:40–6.

38. Hoy D, Brooks P, Woolf A, Blyth F, March L, Bain C, et al. Assessing risk of bias in prevalence studies: modification of an existing tool and evidence of interrater agreement. J Clin Epidemiol. 2012;65(9):934–9.

39. Aromataris E, Munn Z. Joanna Briggs Institute reviewer’s manual. The Joanna Briggs Institute 2017;299.

40. Wright T, Candy B, King M. Conversion therapies and access to transition-related healthcare in transgender people: a narrative systematic review. BMJ Open 2018 December 1;18(12).

41. Serovich J, Craft S, Toviessi P, Gangamma R, McDowell T, Grafsky E. A systematic review of the research base on sexual reorientation therapies. Journal of Marital and Family Therapy 2008 April;34(2):227–238.

42. Ashley F. Trans conversion therapy doesn’t call itself conversion therapy. 2019 May 21.

43. Halpin H. A deceptive practice": Bill to ban LGBTQ conversion therapies passes second stage of Seanad. 2018 May 2. TheJournal.ie.

44. Karp P. Gay conversion therapy ban found to be LGBTIQ Australians’ top priority. The Guardian 2018 August 3.

45. Johnson S. Liberal justice minister ‘committed’ to criminalizing conversion therapy, says Edmonton MP. Global News 2019 August 15.

Appendix

Appendix A. PRISMA-P Checklist
This checklist has been adapted for use with systematic review protocol submissions to BioMed Central journals from Table 3 in Moher D et al: Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Systematic Reviews* 2015 4:1
An Editorial from the Editors-in-Chief of *Systematic Reviews* details why this checklist was adapted - Moher D, Stewart L & Shekelle P: Implementing PRISMA-P: recommendations for prospective authors. *Systematic Reviews* 2016 5:15

| Section/topic | # | Checklist item | Information reported | Line number(s) |
|---------------|---|----------------|----------------------|----------------|
|               |   |                | Yes | No |     |
| **ADMINISTRATIVE INFORMATION** |   |                |     |    |     |
| Title | 1a | Identify the report as a protocol of a systematic review | ✗ | ✗ | 6 |
| Update | 1b | If the protocol is for an update of a previous systematic review, identify as such | ✗ | ✗ | N/A |
| Registration | 2 | If registered, provide the name of the registry (e.g., PROSPERO) and registration number in the Abstract | ✗ | ✗ | 5-6 & 81-82 |
| Authors |   |                |     |    |     |
| Contact | 3a | Provide name, institutional affiliation, and e-mail address of all protocol authors; provide physical mailing address of corresponding author | ✗ | ✗ | 7-28 |
| Contributions | 3b | Describe contributions of protocol authors and identify the guarantor of the review | ✗ | ✗ | 30-36 |
| Amendments | 4 | If the protocol represents an amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments | ✗ | ✗ | 38 |
| Support |   |                |     |    |     |
| Sources | 5a | Indicate sources of financial or other support for the review | ✗ | ✗ | 90 |
| Sponsor | 5b | Provide name for the review funder and/or sponsor | ✗ | ✗ | N/A |
| Role of sponsor/funder | 5c | Describe roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol | ✗ | ✗ | N/A |
| **INTRODUCTION** |   |                |     |    |     |
| Rationale | 6 | Describe the rationale for the review in the context of what is already known | ✗ | ✗ | 154-160 |
| Objectives | 7 | Provide an explicit statement of the question(s) the review will address with reference to pertinent interventions, comparators, and outcomes (PICO) | ✗ | ✗ | 162-171 |
| **METHODS** |   |                |     |    |     |
| Eligibility criteria | 8 | Specify the study characteristics (e.g., PICO, study design, setting, time frame) and report characteristics (e.g., years considered, language, publication status) to be used as criteria for eligibility for the review | ✗ | ✗ | 191-230 |
| Information sources | 9 | Describe all intended information sources (e.g., electronic databases, contact with study authors, trial registers, or other grey literature sources) with planned dates of coverage | ✗ | ✗ | 232-248 |
| Search strategy | 10 | Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be repeated | ✗ | ✗ | 419-483 |
| **STUDY RECORDS** |   |                |     |    |     |
| Data management | 11a | Describe the mechanism(s) that will be used to manage records and data throughout the review | ✗ | ✗ | 276-279 |
| Selection process | 11b | State the process that will be used for selecting studies (e.g., two independent reviewers) through each phase of the review (i.e., screening, eligibility, and inclusion in final analysis) | ✗ | ✗ | 279-284 |
| Data collection process | 11c | Describe planned method of extracting data from reports (e.g., piloting forms, done independently; in duplicate), any processes for obtaining and confirming data from investigators | ✗ | ✗ | 286-292 |
Appendix B. Medline search strategy was peer-reviewed using the Peer Review of Electronic Search Strategies (PRESS) checklist

Database: Ovid MEDLINE(R) <1946 to May 29, 2020> Search Strategy:

1  "conversion therap*"
2  "conversion effort*"
3  "conversion practice*"
4  or/1-3
5  ""reparative therap*"
6  ""reparative effort*"
7  ""reparative practice*"
8  or/5-7
9  "reorientation therap*"
10 "sexual reorientation"
11 "gender reorientation"
12 "gender identity reorientation"
13 or/9-12
14 "sexual orientation change*"
15 "gender identity change*"
16 "gender expression change*"
17 or/14-16
18 "ex-gay"
19 "gender acceptance therap*"
"reintegrative therap*".mp.
"gay cure therap*".mp.
"sexual identity fluidity exploration".mp.
"psychological attempts to change a person’s gender identity from transgender to cisgender".mp.
PACGI.mp.
or/18-24
4 or 8 or 13 or 17 or 25
Bisexuality/
exp homosexuality/
exp "Sexual and Gender Minorities"/
bisexual*.mp.
homosexual*.mp.
"men who have sex with men".mp.
sexual orient*.mp.
"women who have sex with women".mp.
"sexual minorit*".mp.
(gay* or lesbian*).mp.
(GLB* or LGB*).mp.
(queer* or two spirit*).mp.
(nonheterosexual* or non-heterosexual*).mp.
Transgender Persons/
transgender*.mp.
"gender divers*".mp.
"gender creativ*".mp.
(non-binary and gender).mp.
genderqueer*.mp.
genderfluid.mp.
"trans wom*".mp.
"trans m*".mp.
"transwom*".mp.
"gender affirm*".mp.
(mtf or ftm).mp.
(transfeminine or transmasculine).mp.
"sex* reassignment".mp.
("gender identity disorder*" or GID).mp.
(transex* or transsex* or trans sex*).mp.
Transsexualism/
"gender dysphori*".mp.
or/27-57
Appendix C. Data abstraction form

Abstractor:
Author:
Journal:
Date of Publication:
Date of Extraction:
| Data element                      | Options                                                                 | Explanatory notes                                                                                                                                 |
|----------------------------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Study design                     | Qualitative                                                            | We anticipate quantitative studies to be most relevant to RQ1 (regarding scope/prevalence of SOGIECE). Qual, quant, and case reports/series will be relevant to RQ2 (“nature” of SOGIECE: when/where/why). |
|                                  | Quant: cross-sectional                                                |                                                                                                                                                |
|                                  | Quant: longitudinal                                                   |                                                                                                                                                |
|                                  | Case report                                                           |                                                                                                                                                |
|                                  | Case series                                                           |                                                                                                                                                |
|                                  | Secondary data (qual)                                                 |                                                                                                                                                |
|                                  | Secondary data (quant)                                                |                                                                                                                                                |
|                                  | Other                                                                  |                                                                                                                                                |
| Study setting                    | Clinic; description:                                                   | Study setting will have a bearing on the kinds of SOGIECE (including SOGIECE settings) that are described.                                       |
|                                  | School; description:                                                  |                                                                                                                                                |
|                                  | Church or religious setting; description:                              |                                                                                                                                                |
|                                  | SGM community sample; description:                                    |                                                                                                                                                |
|                                  | Other community sample; description:                                  |                                                                                                                                                |
|                                  | Other                                                                  |                                                                                                                                                |
| Country, region                  | Open text                                                              | Will categorize post-hoc, depending on number of studies per country/region.                                                                    |
| Description of sample            | Open text                                                              | E.g., “trans youth”, “people living with HIV”, “patients of a psychiatric clinic”                                                               |
| Sample size (N)                  | Numeric                                                                |                                                                                                                                                |
| Socio-demographic details (%s or means/medians, range/IQR) | Gender identities                                                        | Related to RQ1, specifically to identify social correlates of SOGIECE exposure.                                                                  |
|                                  | Gender modalities (trans, cis)                                        |                                                                                                                                                |
|                                  | Race/ethnicity                                                        |                                                                                                                                                |
|                                  | Age                                                                    |                                                                                                                                                |
|                                  | Religion                                                               |                                                                                                                                                |
|                                  | Geographies of residence                                              |                                                                                                                                                |
|                                  | Markers of socioeconomic status (income, education, occupation)        |                                                                                                                                                |
|                                  | Other                                                                  |                                                                                                                                                |
| Prevalence of SOGIECE exposure   | Numeric                                                                | Numerator, denominator, proportion, and measures of variance (standard error, confidence interval)                                               |
| Prevalence of SOGIECE            | Numeric, by following, as available:                                   |                                                                                                                                                |
| exposure by subgroups            | Gender identity                                                        |                                                                                                                                                |
|                                  | Gender modality                                                       |                                                                                                                                                |
|                                  | Age group                                                             |                                                                                                                                                |
|                                  | Other                                                                  |                                                                                                                                                |
| Race/ethnicity sub-groups | Other Notes |
|--------------------------|-------------|

**Appendix D. Risk of bias tool**
Adapted from Hoy D, Brooks P, Woolf A, Blyth F, March L, Bain C, et al. Assessing risk of bias in prevalence studies: modification of an existing tool and evidence of interrater agreement. Journal of Clinical Epidemiology. 2012;65(9):934-9.
| Item* | Criteria | Notes (from Hoy) |
|-------|----------|-----------------|
| 1. Was the study’s target population a close representation of the national population in relation to relevant variables, e.g. age, sex, occupation? | Yes (LOW RISK): The study’s target population was a close representation of the national population. No (HIGH RISK): The study’s target population was clearly NOT representative of the national population. | The target population refers to the group of people or entities to which the results of the study will be generalised. Examples: The study was a national health survey of people 15 years and over and the sample was drawn from a list that included all individuals in the population aged 15 years and over. The answer is: Yes (LOW RISK). The study was conducted in one province only, and it is not clear if this was representative of the national population. The answer is: No (HIGH RISK). The study was undertaken in one village only and it is clear this was not representative of the national population. The answer is: No (HIGH RISK). |
| 4. Was the likelihood of non-response bias minimal? | Yes (LOW RISK): The response rate for the study was $\geq 75\%$, OR, an analysis was performed that showed no significant difference in relevant demographic characteristics between responders and non-responders. No (HIGH RISK): The response rate was $<75\%$, and if any analysis comparing responders and non-responders was done, it showed a significant difference in relevant demographic characteristics between responders and non-responders. | Examples: The response rate was 68%; however, the researchers did an analysis and found no significant difference between responders and non-responders in terms of age, sex, occupation and socioeconomic status. The answer is: Yes (LOW RISK). The response rate was 65% and the researchers did NOT carry out an analysis to compare relevant demographic characteristics between responders and non-responders. The answer is: No (HIGH RISK). The response rate was 69% and the researchers did an analysis and found a significant difference in age, sex and socio-economic status between responders and non-responders. The answer is: No (HIGH RISK). |
| 5. Were data collected directly from the subjects (as opposed to a proxy)? | Yes (LOW RISK): All data were collected directly from the subjects. No (HIGH RISK): In some instances, data were collected from a proxy. | A proxy is a representative of the subject. Examples: All eligible subjects in the household were interviewed separately. The answer is: Yes (LOW RISK). A representative of the household was interviewed and questioned about the presence of low back pain in each household member. The answer is: No (HIGH RISK). |
| 6. Was an acceptable case definition used in the study? | Yes (LOW RISK): An acceptable case definition was used. No (HIGH RISK): An acceptable case definition was NOT used. | For a study on low back pain, the following case definition was used: “Low back pain is defined as activity-limiting pain lasting more than one day in the area on the posterior aspect of the body from the bottom of the 12th rib to the lower gluteal folds.” The answer is: Yes (LOW RISK). For a study on back pain, there was no description of the specific anatomical location “back” referred to. The answer is: No (HIGH RISK). For a study on osteoarthritis, the following case definition was used: “Symptomatic osteoarthritis of the hip or knee, radiologically confirmed as Kellgren-Lawrence grade 2-4”. The answer is: LOW RISK. |
| 8. Was the same mode of data collection used for all subjects? | Yes (LOW RISK): The same mode of data collection was used for all subjects. | The mode of data collection is the method used for collecting information from the subjects. The most common modes are face-to-face interviews, telephone interviews and self-administered questionnaires. Examples: |
| Question                                                                 | Yes (LOW RISK)                                                                 | No (HIGH RISK)                                                                 |
|------------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| No (HIGH RISK): The same mode of data collection was NOT used for all subjects. | All eligible subjects had a face-to-face interview. The answer is: Yes (LOW RISK). Some subjects were interviewed over the telephone and some filled in postal questionnaires. The answer is: No (HIGH RISK). | |
| 9. Was the length of the shortest prevalence period for the parameter of interest appropriate? | Yes (LOW RISK): The shortest prevalence period for the parameter of interest was appropriate (e.g. point prevalence, one-week prevalence, one-year prevalence). | No (HIGH RISK): The shortest prevalence period for the parameter of interest was not appropriate (e.g. lifetime prevalence). |
| No (HIGH RISK): The shortest prevalence period for the parameter of interest was not appropriate (e.g. lifetime prevalence) | The prevalence period is the period that the subject is asked about e.g. “Have you experienced low back pain over the previous year?” In this example, the prevalence period is one year. The longer the prevalence period, the greater the likelihood of the subject forgetting if they experienced the symptom of interest (e.g. low back pain). Examples: Subjects were asked about pain over the past week. The answer is: Yes (LOW RISK). Subjects were only asked about pain over the past three years. The answer is: No (HIGH RISK). | |
| 10. Were the numerator(s) and denominator(s) for the parameter of interest appropriate? | Yes (LOW RISK): The paper presented appropriate numerator(s) AND denominator(s) for the parameter of interest (e.g. the prevalence of low back pain). | No (HIGH RISK): The paper did present numerator(s) AND denominator(s) for the parameter of interest but one or more of these were inappropriate. |
| No (HIGH RISK): The paper did present numerator(s) AND denominator(s) for the parameter of interest but one or more of these were inappropriate. | There may be errors in the calculation and/or reporting of the numerator and/or denominator. Examples: There were no errors in the reporting of the numerator(s) AND denominator(s) for the prevalence of low back pain. The answer is: Yes (LOW RISK). In reporting the overall prevalence of low back pain (in both men and women), the authors accidentally used the population of women as the denominator rather than the combined population. The answer is: No (HIGH RISK). | |

* Items in original Hoy tool that are excluded:
items 2-3: there is no known sampling frame for sexual or gender minorities; therefore, assessing this is not possible; nor is random selection possible
item 7: there are no measures of SOGIECE or CT that have been tested for psychometric properties

**Supplementary Files**

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