





BMJ Open Advancing HIV pre-exposure prophylaxis (PrEP) implementation in Canada: a scoping review protocol of programmes, practices and policies

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ABSTRACT

Introduction HIV pre-exposure prophylaxis (PrEP) is an effective HIV prevention tool, reducing infection risk by up to 99% when used as prescribed. Despite its proven efficacy, PrEP uptake remains suboptimal, particularly among high-risk populations in Canada. Barriers to access and uptake, including stigma, financial constraints and healthcare accessibility, persist, highlighting the need for targeted interventions. The objective of this scoping review is to identify and map the extent and types of interventions, programmes, practices and policies aimed at increasing the acceptance, access, uptake and sustained use of HIV PrEP in Canada.

Methods and analysis This review will use the Joanna Briggs Institute (JBI) Scoping Review methodology. Databases to be searched are MEDLINE, Embase, PsycINFO, Cochrane Library, CINAHL, Scopus and Web of Science from 2016 onwards. Two independent reviewers will screen studies, based on the inclusion criteria. The search results will be presented in a Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow diagram. Data will be extracted from relevant studies by two independent reviewers and summarised to inform future research and policy development. This review will include studies focusing on individuals in Canada who are eligible for or using PrEP for HIV prevention. The interventions considered will address the awareness, acceptance, access, uptake and sustained use of PrEP. Studies must be set within the Canadian context, considering geographic, cultural and systemic factors. Exclusions include studies conducted outside Canada or those not addressing HIV prevention interventions.

Ethics and dissemination This research will rely exclusively on previously published data and will not include human participants. Therefore, ethics approval is not required. For further clarification, please contact Stephen Hwang, Director, MAP Centre for Urban Health Solutions, Unity Health Toronto, at Stephen.Hwang@unityhealth.to. The findings of this research will be shared through peer-reviewed journal articles, conference presentations and may be relevant to governmental health agencies and local HIV/AIDS service organisations.

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ This study has a comprehensive scope by including a wide range of study designs (quantitative, qualitative and grey literature), ensuring a broad and inclusive review of interventions.
- ⇒ The search strategy is quite rigorous as it is developed by an experienced information specialist and peer-reviewed using the Peer Review of Electronic Search Strategies checklist, enhancing reliability.
- ⇒ Multiple independent reviewers will screen and assess search results, reducing bias and improving reliability in study selection and data extraction.
- ⇒ The absence of direct involvement from patients or public stakeholders may limit practical insights and real-world applicability.
- ⇒ By focusing solely on Canada, the review may overlook relevant interventions or best practices from other regions that could inform local strategies to improve the increase in uptake of PrEP in Canada.

Registration The protocol has been registered with Open Science Framework at <https://doi.org/10.17605/OSF.IO/C7S4Z>.

INTRODUCTION

HIV pre-exposure prophylaxis (PrEP) is a critical tool in HIV prevention. PrEP involves the daily use of medications such as tenofovir disoproxil fumarate/emtricitabine to reduce the risk of HIV transmission among HIV-negative individuals. PrEP has been shown to reduce the risk of HIV infection by up to 99% when medication schedule is adhered to.¹ However, despite its proven efficacy, the uptake and use of PrEP remains suboptimal within key populations in Canada.²

In Canada, the need to address HIV prevention has become increasingly urgent.^{3–5} The availability of PrEP as a prevention tool has not been accompanied

by its widespread adoption. Barriers to PrEP uptake include limited awareness, stigma, access to healthcare, concerns about side effects, low perceived risk to contracting HIV and financial constraints.^{6–8} Moreover, there is a lack of culturally relevant information and resources tailored to the needs of specific communities who experience unique challenges in accessing sexual healthcare services.⁶

Various programmes, policies and practices have been implemented across Canada to increase the acceptance, access and uptake of PrEP. These initiatives often focus on education, outreach, financial support and healthcare provider training, as well as addressing social and structural barriers to care.^{9–12} Despite these efforts, disparities in PrEP uptake persist. Individuals belonging to key population groups, such as Indigenous and Black Canadians, as well as those who identify as Lesbian, Gay, Bisexual, Transgender, Queer, Intersex (LGBTQI+), often encounter a variety of challenges, including those resulting from systemic racism, historical mistrust of the healthcare system, language barriers and decision conflict.^{4 13} Research suggests that culturally competent care, peer education and engagement with trusted community leaders are essential components of effective interventions for priority populations.¹⁴ Furthermore, gaps remain in the availability and accessibility of PrEP-related resources in remote and underserved areas, underscoring the need for innovative delivery models, such as telemedicine and mobile clinics.¹⁵ An initial search of PubMed did not net any scoping reviews on this topic; thereby, we are attempting to conduct one of our own.

This scoping review aims to synthesise the landscape of interventions and resources designed to enhance the acceptance, access, uptake and use of HIV PrEP in Canada from 2016 to the present. By identifying existing programmes, practices and policies, the review seeks to provide actionable insights for improving PrEP awareness, access, uptake and use especially among key populations for HIV prevention. Additionally, it will highlight knowledge gaps and inform future research to strengthen PrEP accessibility and effectiveness across Canada. Therefore, this study's objectives are twofold: first, to analyse current interventions which have been developed and implemented to increase PrEP use, and second, to generate evidence-based recommendations for future action. Ultimately, the review aims to inform public health strategies and contribute to the development of effective initiatives that reduce HIV transmission rates in at-risk populations.

METHODS AND ANALYSES

The proposed scoping review will be conducted in accordance with the JBI methodology for scoping reviews.¹⁶

Project status

This project commenced in February 2025, with the search strings finalised on February 2025. The research

protocol was registered on 3 June. The initial manuscript draft is expected by December 2025.

Patient and public involvement

Patients and public will not be involved in this study.

Eligibility criteria

Participants

This scoping review will include literature focused on individuals living in Canada, regardless of immigration status, who are HIV-negative and either eligible for or currently using PrEP for HIV prevention. All relevant population groups will be considered, including those accessing PrEP through diverse healthcare settings and delivery programmes.

Concept

The concepts of interest are interventions aimed at increasing the awareness, acceptance, access, uptake and sustained use of HIV PrEP in Canada. These include programmes, practices and policies such as public funding, community-based interventions, healthcare provider training, public awareness campaigns and peer-led education designed to improve PrEP use. Studies that do not directly address the implementation or strategies related to PrEP will be excluded.

Context

Studies must be set within the Canadian context, addressing the healthcare landscape, policies and resources available in Canada. This includes examining geographic and cultural factors affecting PrEP access. Exclusion criteria include studies conducted outside of Canada or those that do not specifically address Canadian healthcare.

Types of sources

This scoping review will include a range of study designs to capture the breadth of available evidence. Experimental and quasi-experimental designs such as randomised controlled trials, non-randomised controlled trials, before-and-after studies and interrupted time-series studies will be considered. Additionally, analytical observational studies such as prospective and retrospective cohort studies, case-control studies and analytical cross-sectional studies will be included. Descriptive observational designs, such as case series, individual case reports and descriptive cross-sectional studies, will also be taken into account.

Studies that focus on qualitative data including, but not limited to, designs such as phenomenology, grounded theory, ethnography, qualitative description, action research and feminist research will be examined.

Systematic reviews that meet the inclusion criteria will be included. Grey literature, including government and organisational reports and conference proceedings, will also be considered for inclusion in this scoping review.

Studies published in both French and English will be included.

Search strategy

An experienced information specialist will carry out the searches in order to locate both published and unpublished studies. Databases to be searched are as follows: MEDLINE, Embase, PsycINFO, Cochrane Central Register of Controlled Trials, Cochrane Database of Systematic Reviews (all via the Ovid platform); CINAHL (via EBSCOhost); Scopus; Science Citation Index Expanded, Social Science Citation Index, Conference Proceedings Citation Index for Science and the Conference Proceedings Citation Index for Social Science & Humanities, which are selected databases available through the Web of Science database provider.

Grey literature searches will be carried out on the Trip Database and by identifying relevant organisations and governmental agencies and systematically searching their websites for relevant reports. There are no language restrictions imposed on the search. The search will be limited to 2016 onwards, as PrEP was approved for use in Canada in 2016.

The searches will contain a comprehensive list of subject headings and keywords for the two concepts of PrEP and Canada, joined with the Boolean operator 'AND' and adapted for each database as needed. The MEDLINE (Ovid) search strategy, which has been peer reviewed by another information specialist using the PRESS checklist by Canada's Drug Agency,¹⁷ appears in online supplemental appendix 1.

Study/source of evidence selection

The search results from the selected databases will be imported into EndNote software (V.21) for de-duplication. The de-duplicated records will then be uploaded into Covidence¹⁸ for screening. Following a pilot test, two independent reviewers will screen titles and abstracts in Covidence to assess their relevance based on the review's inclusion criteria. Full texts of potentially relevant sources will be retrieved and assessed in a second screening phase. At this stage, two or more independent reviewers will evaluate each full-text source against the inclusion criteria. Reasons for excluding sources at the full-text stage will be documented and reported in the final review. Any disagreements between reviewers during the selection process will be resolved through discussion, or with the involvement of an additional reviewer if needed. The search results and study selection process will be fully documented in the final scoping review and illustrated using a Preferred Reporting Items for Systematic Reviews and Meta-Analyses flow diagram.¹⁹

Data extraction

Data will be extracted from all sources included in the scoping review using Covidence by two or more independent reviewers, applying a data extraction tool developed by the research team. This tool will be pilot tested on a sample of five studies and refined as needed throughout the extraction process to ensure clarity and consistency. Any modifications made to the tool will be documented

in the final review. Disagreements between reviewers will be resolved through discussion, or with input from an additional reviewer if necessary. Where appropriate, authors of included studies may be contacted to obtain missing or online supplemental information.

The extracted data will capture key information related to the participants, central concepts, context, study design and main findings relevant to the review question.²⁰ The data extraction form will include, but not be limited to, the following categories:

- ▶ author(s)
- ▶ year of publication
- ▶ study type/source or intervention type/duration (as applicable)
- ▶ study population (age and gender, if applicable)
- ▶ sample size
- ▶ aims/purpose
- ▶ methodology/methods
- ▶ outcomes (if applicable)
- ▶ key findings that relate to research question(s)

Data analysis and presentation

The extracted data will be synthesised using a narrative approach informed by inductive thematic analysis. This process will involve identifying and summarising key themes, patterns and gaps in the literature across the entire dataset.²⁰ The synthesis will aim to map the landscape of interventions and resources that support the acceptance, access, uptake and use of HIV PrEP in Canada, in line with this scoping review's objectives.

To enhance the relevance of the findings, a secondary level of analysis will highlight interventions specifically targeting key populations, including gay, bisexual and other men who have sex with men (gbMSM), Indigenous populations and Black communities.

In addition, interventions will be categorised according to the stages of the PrEP care continuum²¹ (acceptance, uptake, use and adherence) to assess where along this continuum interventions are concentrated and where notable gaps remain. This stratified analysis will support the identification of evidence-based recommendations and inform future policy, programme development and research priorities.

ETHICS AND DISSEMINATION

This study will not involve direct participation of human subjects and will be conducted solely through analysis of previously published data. Consequently, formal ethical approval is not necessary. For further clarification, please contact Stephen Hwang, Director, MAP Centre for Urban Health Solutions, Unity Health Toronto, at Stephen.Hwang@unityhealth.to. The findings of this research will be disseminated via peer-reviewed journal articles and conference presentations, with potential implications for governmental health authorities and community-based HIV/AIDS service organisations.

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Contributors WA is the guarantor of the review. The project was conceived by WA. Manuscript was written and edited by DC and WA. The search strategy was developed by CZ, PD, AC, EI, MA, HZ, GDDP, OlaA, OpeA, LEN and SBR reviewed the protocol and provided feedback. Principal investigator of the study is WA.

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Competing interests None declared.

Patient and public involvement Patients and/or the public were not involved in the design, or conduct, or reporting or dissemination plans of this research.

Patient consent for publication Not applicable.

Ethics approval Not applicable.

Provenance and peer review Not commissioned; externally peer reviewed.

Data availability statement All data relevant to the study are included in the article or uploaded as supplementary information.

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