International Platform of Registered Systematic Review and Meta-analysis Protocols

INPLASY

Mobile Clinics for Health Care Delivery in Arctic and Circumpolar Communities: A Scoping Review protocol

INPLASY202610027
doi: 10.37766/inplasy2026.1.0027
Received: 7 January 2026
Published: 7 January 2026

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ADMINISTRATIVE INFORMATION

Support - CRC-2021-00337.

Review Stage at time of this submission - The review has not yet started.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202610027

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 7 January 2026 and was last updated on 7 January 2026.

INTRODUCTION

Review question / Objective This scoping review aims to map the characteristics, implementation strategies, outcomes, and gaps in mobile clinic–based health care delivery in Arctic and circumpolar communities, with attention to culturally safe, patient-centered, and One Health–informed approaches.

Background Arctic and circumpolar communities face persistent health inequities due to geographic isolation, harsh climates, and limited access to health services (1-3). Indigenous populations, including Inuit, Sámi, First Nations, and Alaska Native communities, experience disproportionately poor health outcomes, highlighting the need for innovative, culturally safe, and accessible care models (3,4). Mobile clinics have emerged as a potential solution to overcome geographic and workforce barriers, integrate telehealth, deliver preventive and urgent care, and strengthen local health system capacity (5-8).

Rationale Persistent health inequities in Arctic and circumpolar communities are driven by geographic remoteness, extreme environmental conditions, and structural determinants that limit access to timely and comprehensive healthcare. Mobile clinics have emerged as a promising service delivery model to address these barriers by bringing care directly to communities and adapting to local contexts; however, evidence on how these models are designed, implemented, and evaluated across circumpolar settings remains fragmented. This scoping review will map existing mobile clinic interventions in Arctic and circumpolar regions, examine the populations served, services provided, and outcomes reported, and identify key facilitators, barriers, and gaps in the literature to inform future research, policy development, and health system innovation.

METHODS

Strategy of data synthesis A comprehensive and systematic search strategy will be developed in consultation with an experienced health sciences librarian in accordance with Peer Review of Electronic Search Strategies (PRESS) guidelines(9). The search will aim to identify both peer-reviewed and grey literature related to mobile clinic–based health care delivery in Arctic and circumpolar communities.

We will search five electronic databases: MEDLINE (Ovid) including PubMed-in-process, Embase, Cumulated Index in Nursing and Allied Health Literature (CINAHL), Scopus and Global Health

The search strategy will combine controlled vocabulary (e.g., MeSH terms) and free-text keywords related to mobile clinics, health care delivery, and Arctic and circumpolar regions. Key concepts will include variations of "mobile clinic," "mobile health unit," "outreach clinic," "telemedicine," "Arctic," "circumpolar," "remote northern," and region-specific terms (e.g., Inuit, Sámi, Alaska Native).

Grey literature will be identified through targeted searches of: Government and public health agency websites (e.g., Indigenous Services Canada, Arctic Council, WHO), Indigenous organization websites, Non-governmental and international organizations, Theses and dissertations databases (e.g., ProQuest) and Google Scholar (first 200 results per search string)

The reference lists of included studies and relevant reviews will be hand-searched to identify additional eligible sources.

A draft search strategy will be piloted and refined prior to full execution, and the final search strategy will be reported in an appendix.

Eligibility criteria

Inclusion Criteria:

Studies will be included in this scoping review if they meet the following criteria based on the Population–Concept–Context (PCC) framework.

1. Studies involving communities residing in Arctic and circumpolar regions, including Indigenous Peoples (e.g., Inuit, Sámi, First Nations, Alaska Native, and other northern Indigenous populations) as well as other residents of remote, rural, or isolated northern regions. Studies focusing on health care delivery to mixed populations will be included if data are explicitly reported for Arctic or circumpolar communities.
2. Studies that examine mobile clinic–based health care delivery interventions. Mobile clinics are defined as health services delivered through mobile or transportable units, such as vans, buses, boats, aircraft, or temporary modular clinics, with or without integration of telehealth or digital health technologies (e.g., artificial intelligence, electronic medical records, remote monitoring tools, or wearable devices). Eligible interventions may provide preventive, primary, urgent, emergency, or specialized health care services.
3. Studies conducted in Arctic and circumpolar regions characterized by geographic remoteness, extreme climate conditions, limited health care infrastructure, and distinct environmental, cultural, and health system contexts will be included. This encompasses circumpolar regions across Canada, the United States (Alaska), Greenland, the Nordic countries, and the Russian Arctic.

Source of evidence screening and selection All identified records will be imported into Covidence (Veritas Health Innovation) for de-duplication and screening. Study selection will occur in two stages:

1. Title and abstract screening
2. Full-text review

At each stage, screening will be conducted independently by two reviewers using pre-defined eligibility criteria. Prior to formal screening, reviewers will complete a calibration exercise on a sample of studies to ensure consistent application of inclusion and exclusion criteria.

Discrepancies between reviewers will be resolved through discussion. If consensus cannot be reached, a third reviewer will adjudicate. Reasons for exclusion at the full-text stage will be documented and reported in the PRISMA-ScR flow diagram.

Data management Data from included studies will be charted using a pilot-tested extraction form developed by the study team. Two reviewers will independently extract data, with discrepancies resolved through discussion or adjudication by a third reviewer. Extracted variables will include citation details; study design and methodology; population and contextual characteristics; mobile clinic features (e.g., type of unit, services offered, staffing, deployment, and use of telehealth or digital technologies); implementation factors such as facilitators, barriers, and community engagement approaches; and all reported outcomes, including access to care, health outcomes, experiences, equity and cultural safety considerations, and system-level impacts. Key findings and author-reported recommendations relevant to the research questions will also be captured. The data charting form may be refined iteratively as familiarity with the literature increases, in keeping with scoping review methodology.

Reporting results / Analysis of the evidence Results will be reported in alignment with the

Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR). Extracted data will be synthesized using descriptive numerical summaries and narrative synthesis. Quantitative data will be summarized using frequencies and counts to describe the distribution of study characteristics, geographic locations, populations served, and types of mobile clinic interventions. Qualitative findings will be synthesized thematically to explore implementation models, facilitators and barriers, cultural safety considerations, and alignment with One Health principles. Consistent with scoping review methodology, no formal assessment of methodological quality or risk of bias will be conducted(10).

Presentation of the results Results will be presented through tables summarizing study characteristics and mobile clinic models, alongside narrative summaries organized by key thematic domains and, where appropriate, geographic or contextual mapping of interventions.

Language restriction Language restrictions will not be imposed.

Country(ies) involved Canada.

Keywords Mobile clinics, Arctic health, telehealth, Indigenous health.

Dissemination plans Findings will be disseminated through multiple channels to reach diverse audiences, including researchers, policymakers, Indigenous communities, and health system leaders. Outputs will include submission to a peer-reviewed journal and presentations at conferences and workshops focused on Arctic health, mobile health care delivery, and primary care innovation. Plain-language summaries will be developed to share findings with Indigenous communities, local health authorities, and Arctic health organizations, supporting culturally safe and accessible knowledge exchange. Where feasible, review outputs and supplementary materials (e.g., tables and maps) will be made available through open-access repositories and professional networks to promote knowledge sharing, uptake, and equitable translation into practice.

The findings of this scoping review will directly inform the development and design of a mobile clinic intervention in Northern Canada. In addition, results will be compared with evidence from mobile clinic reviews conducted in other geographic contexts to identify transferable and context-specific service models, clarify the range of feasible services, and guide future research and implementation planning. Results will be presented through tables summarizing study characteristics and mobile clinic models, alongside narrative summaries organized by key thematic domains and, where appropriate, geographic or contextual mapping of interventions. The findings of this scoping review will be disseminated through multiple channels to reach diverse audiences, including researchers, policymakers, Indigenous communities, and health system leaders. Results will be submitted for publication in a peer-reviewed journal and presented at conferences and workshops focused on Arctic health, mobile health care delivery, and primary care innovations. Plain-language summaries will be prepared to share.

Contributions of each author

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