



# Summary of an environmental scan of HIV and Hepatitis C programs, projects and initiatives in Saskatchewan

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## Abstract

**Background:** In 2019, the human immunodeficiency virus (HIV) and hepatitis C (HCV) diagnosis rates in Saskatchewan (SK) were approximately twice the national rate. To address these high levels, Saskatchewan Stories, a community-based digital database, was developed to make information on Saskatchewan-based HIV and HCV programs, projects and initiatives (PPI) centrally and freely available. To begin populating this database, we conducted an environmental scan representing HIV and HCV PPI from January 1, 1980 to May 31, 2020.

**Methods:** MedLine, ERIC, ProQuest One Literature, Public Health Information database, SCOPUS and CINAHL were searched for both HIV and HCV articles. In addition, Bibliography of Native North Americans was searched for HIV and EMBSE (Ovid) and Indigenous studies portal (iPortal) were searched for HCV articles. Google Canada, Government of Saskatchewan, and Government of Canada websites were also searched.

**Results:** In total, 139 HIV-specific PPI and 29 HCV-specific PPI were found in the environmental scan (n=168). Among HIV PPI, 27% (n=38) were from academic literature while 73% (n=101) were from grey literature. Among HCV PPI, 41% (n=12) were from academic literature, while 59% (n=17) were from grey literature. HIV accounted for 83% of total PPI, compared to 17% for HCV.

**Conclusion:** This environmental scan is an important contribution to evidence-based practice and research in SK. It is particularly useful for organizations, researchers, policymakers and people living with HIV/HCV to develop new evidence-based PPI, to secure funding for PPI and to support individuals and communities in SK affected by HIV and HCV.

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**Keywords:** HIV, HCV, Saskatchewan, projects, programs, initiatives, Indigenous health, Indigenous culture

## Introduction

Provincial rates of human immunodeficiency virus (HIV) and hepatitis C (HCV) in Saskatchewan (SK) are significantly higher than the national rate (1). Indeed, according to recent provincial reporting, the HIV diagnosis rate is over twice the national rate (16.4 per 100,000 compared to 6.9 per 100,000) (2), while the HCV diagnosis rate is nearly twice the national rate (52.5 per 100,000 compared to 30.4 per 100,000) (3). These two illnesses disproportionately affect Indigenous communities in SK; while Indigenous people represent about 16% of the SK population, they represent between 60% and 75% of new cases of both HIV and HCV in a given year (1–4).

Many community-based organizations (CBOs), non-profit organizations, volunteer groups, peer mentors and other supporters across SK provide services and support to both Indigenous and non-Indigenous clients and promote health and wellness through education and dissemination of information about sexually transmitted blood-borne infections (5–8). The Saskatchewan Stories (Sask Stories) project sought to create a digital database of programs, projects and initiatives (PPI) related to HIV and HCV that have taken place in SK from 1980 to 2020.

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The [Sask Stories database](#) is a living platform for stakeholders, especially frontline service providers and CBOs to share evidence, resources and promising/wise practices. To assist with populating the database, we conducted an environmental scan of published (academic and grey literature) HIV and HCV PPI. While this article covers the results of the environmental scan, we are also currently gathering information from CBOs about PPI that have not been published online. These two processes are complementary and will paint a broad picture of the activities in SK that have aimed to address HIV and HCV over the last 40 years.

## Methods

An environmental scan gathers information and identifies trends within a given field (e.g. HIV/HCV care and support), which could provide opportunities for developing a response plan to urgent health issues (9). Our environmental scan used a comprehensive search strategy following the methods used in Choo's conceptual framework for environmental scanning centered on information needs, information seeking and information use (10). The scan covered both academic and grey literature on HIV and HCV PPI from January 1, 1980, to May 31, 2020. The scan was conducted in the summer 2020.

To be included in this scan, studies, reports and/or web-based information had to meet the following inclusion criteria of terminology for PPI:

- Programs: services provided with a group to a distinct population
- Projects: activities undertaken by a group with a definitive start and end date
- Initiatives: actions to support programs and projects

Projects included the following inclusion criteria to help screen and select PPI for full review:

- Located fully or partially in SK
- About HIV and/or HCV
- Available in English
- Between January 1, 1980, and May 31, 2020, including any PPI that were ongoing

For literature to be included, it had to meet the following limits:

- Targeted toward people living with or at risk of HIV/HCV
- Full-text filter
- Boolean operators and search filters unique to each database

The dates of our study (1980–2020) provided opportunities to fill in gaps on HIV and HCV PPI published or reported during the AIDS epidemic (from the 1980s to early 1990s) and the academic and grey literature published in its wake.

Based on consultations with the Community Advisory Board (CAB) members for Sask Stories (including CBOs, clinicians,

people with lived experience and Elders) and a health sciences librarian, a search strategy for collecting academic literature was developed. The same search strategy was applied for both HIV and HCV. The databases searched for published literature were MedLine, ERIC, ProQuest One Literature, Public Health Information database, SCOPUS and CINAHL. Bibliography of Native North Americans, EMBASE (Ovid) and Indigenous studies portal (iPortal) were searched for articles on HIV and HCV. Google Canada, the [Government of Saskatchewan website](#) and the [Government of Canada website](#) were also used to search for grey literature; only the first 10 pages of the Google search results were included for review, as the relevance to the topic searched dropped off significantly beyond the first 10 pages. Snowball sampling among the CAB members was used to identify additional organizations, community agencies and health services that supported people living with HIV and/or HCV.

This article is a summary of the resultant scan report and includes highlights of trends and varieties of the PPI. The full report, including methodology details (including search terms) and all extracted PPI data, data and annotated bibliography, can be found on the Sask Stories website.

## Results

### Academic and grey literature for HIV

A total of 1,613 academic articles were retrieved, of which 245 were duplicate records. The abstracts of the remaining 1,368 articles were screened according to the inclusion criteria. A further 1,045 records were excluded based on title and abstract. A final 28 full-text articles were considered for review and data extraction (**Figure 1**). Among these 28 academic articles, a total of 38 PPI were identified, which included 23 projects, 9 programs and 6 initiatives. The reason for a higher number of PPI ( $n=38$ ), compared to the number of academic articles ( $n=28$ ) was that some articles referred to more than one PPI; for example, 17 PPI were stated as multiple combinations of a project, program and/or initiative within a single article (**Table 1**).

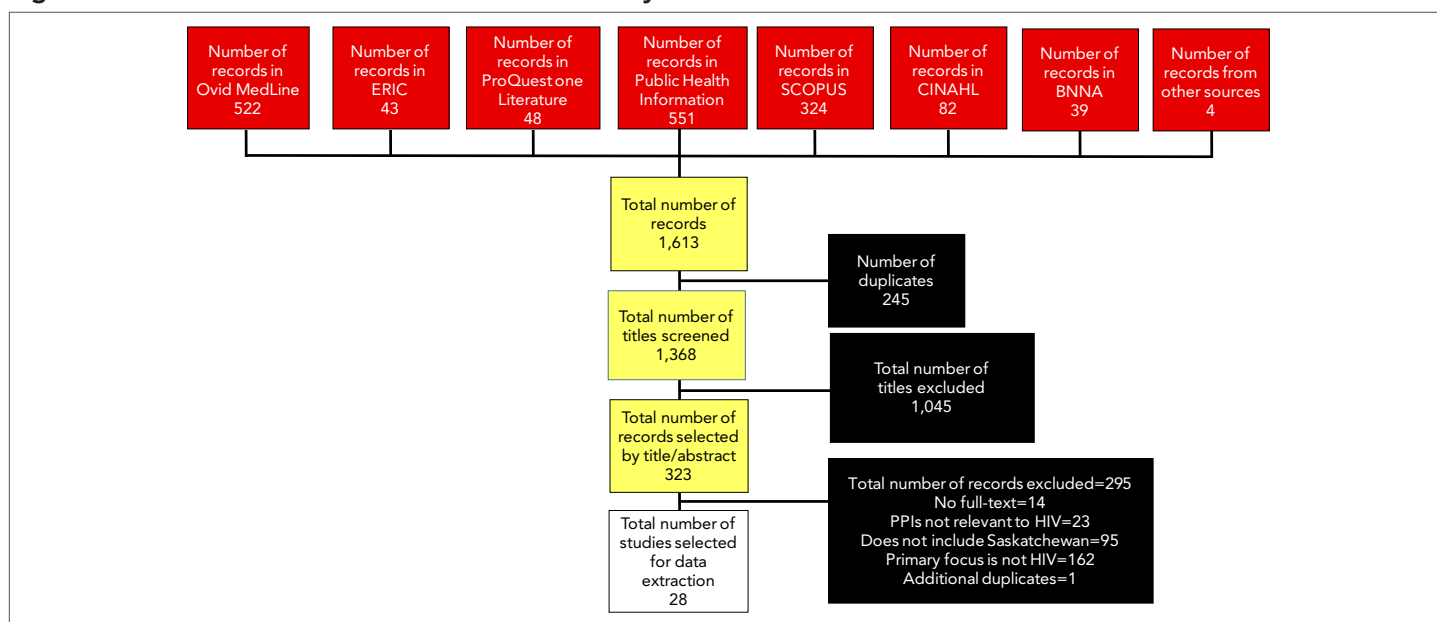
The grey literature search yielded 101 PPI. Among those, 18 were projects, 31 were programs and 51 were initiatives; however, one of these could not be classified as a program, project or initiative due to incomplete information (**Table 1**). Details on the scan results for HIV PPI can be found in the [full report](#).

### Academic and grey literature for HCV

The academic HCV literature search yielded an initial total of 1,061 articles; 326 were removed as duplicates and 406 were excluded as they did not meet the inclusion criteria. Finally, eight full-text articles were considered for data extraction (**Figure 2**). Twelve PPI were identified across eight academic articles, including two projects, seven programs and three initiatives specific to HCV in the context of SK (**Table 1**).



Figure 1: PRISMA chart of human immunodeficiency virus search



Abbreviations: BNNA, Bibliography of Native North Americans; HIV, human immunodeficiency virus; PRISMA, preferred reporting items for systematic reviews and meta-analysis

Table 1: Human immunodeficiency virus and hepatitis C search results for programs, projects and initiatives found within academic and grey literature<sup>a</sup>

PPI focus	Type of literature	Total	Projects	Programs	Initiatives	Not specified
HIV	Academic	38	23 <sup>b</sup>	9 <sup>b</sup>	6 <sup>b</sup>	0
	Grey	101	18 <sup>b</sup>	31	51	1
HCV	Academic	12	2	3	7 <sup>c</sup>	0
	Grey	17	2 <sup>d</sup>	6	9	0

Abbreviations: HCV, hepatitis C virus; HIV, human immunodeficiency virus; PPI, programs, projects and initiatives

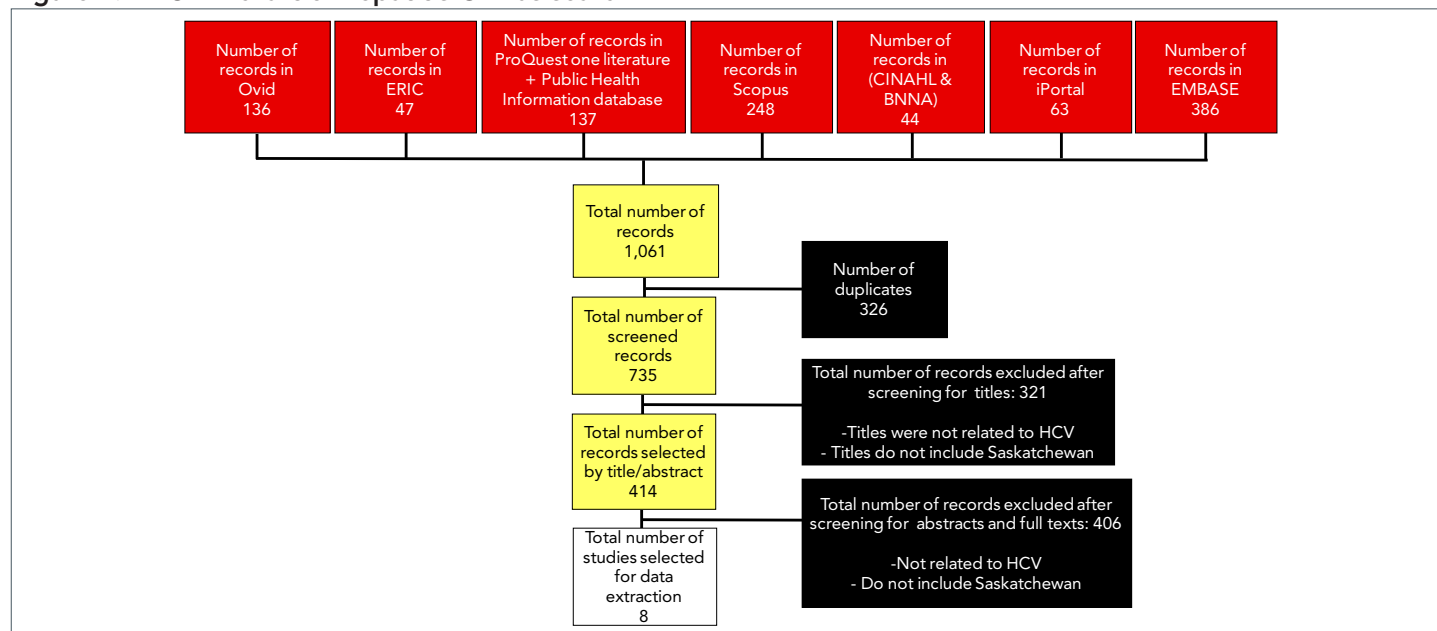
<sup>a</sup> Summary of final report

<sup>b</sup> Some programs, projects and initiatives included were identified as both a project, program and/or initiative

<sup>c</sup> Two sources have mentioned the same initiative for academic resources (HCV)

<sup>d</sup> Same project is mentioned in two different reports for grey literature (HCV)

Figure 2: PRISMA chart of hepatitis C virus search



Abbreviations: BNNA, Bibliography of Native North Americans; HCV, hepatitis C virus; PRISMA, preferred reporting items for systematic reviews and meta-analyses



Among the 17 grey literature sources, 2 projects, 6 programs and 9 initiatives for HCV were identified in the context of SK (Table 1). Among the PPI for projects, the same PPI was mentioned in two separate reports. Details on the scan results for HCV PPI can be found in the [full report](#).

### Combined HIV and HCV scan results for programs, projects and initiatives found within academic and grey literature

In total, 139 HIV-specific PPI and 29 HCV-specific PPI were identified (n=168). Of these PPI, 27% (n=38) and 41% (n=12) were found through academic literature, while 73% (n=101) and 59% (n=17) were from grey literature, for HIV and HCV, respectively. HIV accounted for 83% of total PPI, and HCV for 17% (Table 2). The academic articles have been summarized within an annotated bibliography in the final report.

**Table 2: Combined scan results for programs, projects and initiatives found within academic and grey literature<sup>a</sup>**

PPI focus	Total	Projects		Programs		Initiatives		Not specified	
		n	%	n	%	n	%	n	%
HIV (83% of total results)	139	41	29%	40	29%	57	41%	1	1%
HCV (17% of total results)	29	4	14%	13	45%	12	41%	0	0%

Abbreviations: HCV, hepatitis C virus; HIV, human immunodeficiency virus; PPI, programs, projects and initiatives  
<sup>a</sup> Summary of [final report](#)

## Discussion

To continue meeting the unique needs of people living with HIV and/or HCV, access to information about past and present PPI can guide organizations, individuals and communities to providing better access to care. This knowledge can be used to adapt or develop new PPI that are appropriate and context specific for SK's diverse communities. Access to this information allows stakeholders to identify promising and wise practices based on the evidence available to them. For instance, some PPI may be adaptable to the expressed needs of community, or to fit into an existing organizational structure. Adaptation is successful when proven interventions are incorporated into practice, or when appropriate models provide systematic guidance for PPI development (11). For SK's unique HIV epidemiologic profile, it is critical that relevant evidence supports culturally responsive and trauma-informed holistic PPI addressing HIV, HCV and health determinants. Although this is not a population-specific environmental scan, we acknowledge that the discourse of

higher disease burden can further stigmatize Indigenous individuals and communities. One goal of our environmental scan is to honour the efforts of Indigenous and non-Indigenous communities and organizations that have led the design and implementation of various PPI in SK.

This environmental scan provides a compilation of published academic and grey literature about HIV and HCV-specific PPI in SK from 1980 to 2020. It represents the most comprehensive compilation of academic and grey literature specific to HIV and HCV in SK. Our results were not unexpected in the sense that, historically, there has been much more HIV-focused programming than HCV-focused programming in SK; however, we also know from our consultations with the Sask Stories CAB that there are several more HIV and HCV PPI, especially in rural, remote and Indigenous communities, than those that were found in our search. This can be explained by the fact that many of these PPI have not been published in either academic or grey literature and may not have an online or digital presence. Therefore, our next step is to identify PPI that have not been previously published on any platform. This will be accomplished with support from the CAB, the Indigenous Knowledge Facilitator and others who are currently leading this phase of consultations including conversations and updating information in the environmental scan that is incomplete or missing.

## Conclusion

The information collected will be used to further develop the participatory database that serves as a central portal for SK's PPI. While a follow-up scan is needed to better reflect changes in PPI during the pandemic, we do not currently have the staff capacity to conduct an updated search (our funding ended in March 2022). This environmental scan is an important contribution to evidence-based practice and research in SK. It is particularly useful for organizations, researchers, policymakers and people living with HIV and/or HCV to develop new evidence-based PPI, to secure funding for PPI and to support individuals and communities in SK affected by HIV and HCV. Above all, it is a testament to the enormous labour and love of the people of SK working to address HIV and HCV.

## Authors' statement

- MG — Helped define search strategy, conducted environmental scan, drafted report
- CM — Helped define search strategy, facilitated environmental scan, drafted report and manuscript
- CH — Facilitated environmental scan, drafted report and manuscript
- LC — Co-led project, helped define search strategy, reviewed manuscript
- AK — Co-led project, helped define search strategy, reviewed manuscript



The content and view expressed in this article are those of the authors and do not necessarily reflect those of the Government of Canada.

## Competing interests

None.

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