

Virtual Cascade of Care Cohort (**VCCC**) study

A pan-Canadian 'virtual cohort' study to document and analyze the hepatitis C cascade of care in diverse groups of people who inject drugs.

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What is the **Virtual Cascade of Care Cohort** study?

VCCC is an innovative pan-Canadian cohort study seeking to document and analyze the hepatitis C virus (HCV) 'cascade of care' in diverse groups of people who currently or formerly inject drugs, through a combination of face-to-face questionnaires, rapid HCV screening, and linkage to Canadian health administrative databases.

The problem

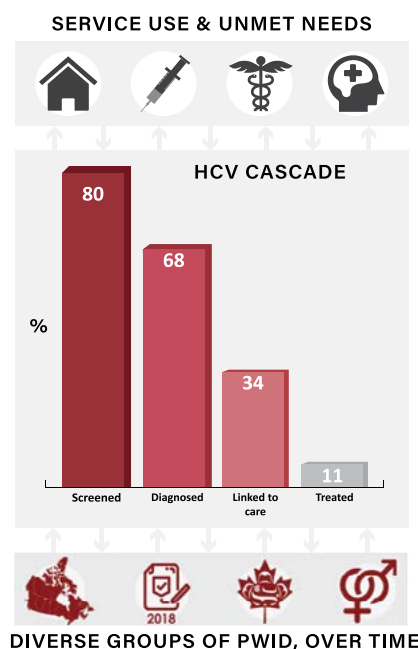
An estimated **65,000 people who have recently injected drugs** are living with chronic HCV infection in Canada.¹ Though typically asymptomatic in the short term, chronic HCV infection is a major contributor to liver diseases including cirrhosis and cancer.^{2,3} Direct-acting antiviral therapies now cure >95% of cases in 8-12 weeks, with minimal side effects, and are broadly accessible through many provincial health plans.^{4,5} However, a minority of people who inject drugs (PWID) initiate treatment, reflecting a complex range of barriers to care in this population.⁶⁻⁸ To achieve Canada's goal of **eliminating this public health threat by 2030**, we must better understand how to engage PWID across the country in HCV care.^{9,10}

Our goal

Our goal is to build a better understanding of the extent to which PWID across Canada are engaged in HCV care, and how this relates to broader patterns of service use and life circumstances. Our specific aims are:

- To identify **diverse groups of PWID** across Canada and characterise how they use HCV-specific and broader health, social, and community services (including unmet need).
- To document the **HCV cascade of care** in diverse Canadian settings and understudied groups of PWID (namely, female and Indigenous PWID) and to examine how it evolves over time.
- To identify **stable and modifiable determinants** of progress through the HCV cascade of care, guided by a comprehensive theoretical framework.

Ultimately, we want to further our understanding of how to leverage resources to overcome barriers to HCV care and treatment, reduce the burden of HCV infection, and improve overall health outcomes for PWID.



Our approach

VCCC employs a **flexible research design** purposely developed to collect rich longitudinal data on health and service use among PWID in varied and understudied settings. Community partnerships, streamlined study visits, and 'virtual' follow-up enable us to reach **more people in more places**, while ensuring we gather the information needed to guide HCV elimination.

Community partnerships

We **partner with local organizations** serving PWID to ensure that data collection is culturally safe, grounded in an understanding of local realities, builds local capacity, and provides an opportunity to connect with community members around HCV and related issues.

Streamlined study visits

Study participants each complete a **single 45-minute visit** that includes a questionnaire and finger-stick HCV testing. At the end of the visit, they receive their HCV antibody test results and \$20 cash. Visits can be integrated into a community event to raise awareness about HCV and direct people to local resources.

'Virtual' follow-up

We follow participants 'virtually' via linkage to federal/provincial administrative databases. These provide rich data (routinely collected for billing purposes) on the use of physician and hospital services, diagnostic testing, and prescribed medications without needing to retrace participants.

We're looking for new **Community Partners** to help expand the **VCCC across Canada!**

- ✓ Do you provide a service targeting people who use drugs, such as syringe distribution, addiction treatment, housing services, or supervised consumption facilities?
- ✓ Do you want to contribute to an impactful research program and better understand barriers to HCV care in your community?
- ✓ Would your organization, staff, or community members benefit from gaining research experience within a well-structured program that includes training, financial and logistical support?
- ✓ Would your clients value the chance to receive free point-of-care HCV antibody testing and have their voices heard?

If you answered yes to these questions - why not join us as a VCCC Community Partner?

What is **the role** of a Community Partner?

VCCC Community Partners help us to:

- Understand the local context and ensure the acceptability and appropriateness of the VCCC research.
- Engage our target population, i.e. adults who have ever injected drugs and have recently used illicit drugs or engaged in heavy alcohol use.
- Manage and execute the VCCC enrolment visits (described below) in a manner that suits the organization and the community. Our experience suggests that intensive data collection 'events' represent the most efficient way to manage visits, but different sites may adopt different approaches.

Enrolment visits in four steps: Completed on-site and in person, 45 minutes per participant.

1 Screen, enrol & record personal identifiers

Check eligibility, obtain informed consent, record personal identifiers for data linkage (name, date of birth, designated sex, provincial health number).

2 Administer the questionnaire

Interviewer-administered questionnaire lasting 20-25 minutes (on average). Captures perceptions and use of health (and other) services, demographics, life circumstances, use of alcohol and other drugs.

3 Collect fingerstick blood samples for HCV testing

Rapid HCV antibody test: Processed on-site and results reported to the participant. Dried blood spot panel: Processed off-site to detect HCV RNA (research purposes only).

4 Provide HCV counselling and referral

Communicate antibody test results during the visit. Individuals testing positive will receive counselling and information on how to access HCV care in their area.

Funding and support for Community Partners

VCCC Community Partners receive the necessary training, funding, and materials to carry out the research activities, as well as ongoing guidance and support from the VCCC team.

- Each Community Partner will receive funding to cover time spent coordinating staff and participants, managing and preparing research space and materials, publicizing the study, and engaging in outreach.
- The VCCC team provides all the required study materials, including HCV testing, counselling, and promotional materials. We also provide comprehensive training to ensure our Community Partners understand the study aims and approaches, and can confidently execute the study procedures.

- Community Partners will also be invited to participate in a regular online videoconference, where they can share their experiences of the study, ask questions, and learn from the successes and challenges of other study sites.
- Separate funding is available to engage part-time study coordinators in each province, who will assist with the coordination of local study sites. Community partners may nominate a suitable candidate from within their organization, including people with lived experience of HCV or illicit drug use.

In summary...

The VCCC presents an exciting opportunity to contribute to an impactful research program while providing interested clients with free point-of-care HCV antibody testing. The study boasts a number of strengths that will enable it to make a novel and significant contribution to the understanding of HCV infection and care among PWID in Canada. These include:



A pan-Canadian design to investigate access to HCV care in different contexts, with a focus on reaching understudied settings (e.g. rural/regional) and groups (e.g. female & Indigenous PWID)



Rapid point-of-care antibody testing enables participants to learn their HCV status during the visit, permitting identification of undiagnosed individuals and linkage to local resources



Further off-site testing of dried blood spot samples enables us to distinguish active from resolved HCV infections, adding precision to our findings



Individual-level linkage to health administrative databases enables collection of objective longitudinal data while minimizing follow-up costs and the risk of selective sample losses

Big thanks to our Community Partners!

With support from the Canadian Network on Hepatitis C, we piloted the VCCC study across **five sites** in **Quebec and Saskatchewan** in 2018-2019. Study sites were located in the provinces' most populous cities as well as three smaller rural and regional settings ranging in population from 5,000 to 150,000 people. **Community Partners at each site were actively involved in fine-tuning the study protocol and gathering data:** they helped to review and adapt the questionnaire, refine the study procedures, trial different models of data collection (e.g. intensive recruitment events vs. an ongoing 'drop-in' model), and ultimately recruit **500+** participants to the cohort. Critically, the study was piloted both in primarily Indigenous and non-Indigenous communities with great success in both contexts. We are now applying the lessons learned as we move to expand VCCC across Canada with funding awarded by the Canadian Institutes of Health Research.



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