

PROGRESS TOWARD VIRAL HEPATITIS ELIMINATION IN CANADA



Prepared by Action Hepatitis Canada www.actionhepatitiscanada.ca

ACKNOWLEDGEMENTS

This report is produced by Action Hepatitis Canada and made possible with funding from AbbVie, Cepheid, Gilead, and VBI Vaccines.

The authors would like to thank the Canadian Network on Hepatitis C and the Canadian HBV Network for their continued work in supporting viral hepatitis elimination efforts across Canada. Our thanks to the STBBI team at the Public Health Agency of Canada for providing data critical to measure our progress toward viral hepatitis elimination targets. We would also like to thank the Action Hepatitis Canada member organizations we work with and for.

Finally, we wish to acknowledge the people in Canada who are affected by viral hepatitis who are represented in the statistics and figures within this report. You are not just numbers to us. You are our family, friends, and colleagues, and we stand alongside you on the journey toward eliminating viral hepatitis as a public health threat in Canada by 2030.

PREPARED BY

Jennifer van Gennip, AHC Executive Director

CONCEPT AND DESIGN

Jennifer van Gennip, Sofia Bartlett, Janet Butler-McPhee

INPUT, DATA ACQUISITION, VERIFICATION & INTERPRETATION, AND REVIEW

Lisa Barrett, Sofia Bartlett, Mia Biondi, Matt Bonn, Janet Butler-McPhee, Carla Coffin, Courtney Dowd-Schmidtke, Cole Etherington, Olivia Gemma, Genevieve Gravel, Christina Greenaway, Nadine Kronfli, Jordan Feld, Andrea Mambro, Carla Osiowy, Michelle Pittman, Nashira Popovic, Brontë Renwick-Shields, Alexa Thompson, Alex Wong

LAND ACKNOWLEDGMENT

This report was written on the traditional territory of the Anishinaabeg people, which include the Odawa, Ojibwe, and Pottawatomi Nations, collectively known as the Three Fires Confederacy. We also acknowledge the ongoing injustices and resulting health inequities Indigenous people face on these lands.

DISCLAIMER

The statements, findings, conclusions, views, and opinions contained and expressed in the report are based in part on data obtained under license from IQVIA Solutions Canada Inc. concerning the following information service(s): Custom GPM Delivery, data period Jan 2015 – Dec 2022. All Rights Reserved. The statements, findings, conclusions, views, and opinions expressed herein are not necessarily those of IQVIA Solutions Canada Inc. or any of its affiliated or subsidiary entities.

CITATION

Material appearing in this publication may be reproduced or copied without permission. The following citation is recommended:

Action Hepatitis Canada. Progress Toward Viral Hepatitis Elimination In Canada: 2023 Report. Toronto, ON. May 2023. Available at: https://www.actionhepatitiscanada.ca/ progressreport (accessed [date]).

Visit www.actionhepatitiscanada.ca for the most up-to-date version of this publication and for more information on Action Hepatitis Canada.

ACTION HEPATITIS CANADA MEMBER ORGANIZATIONS AS OF MAY 2023

Steering Committee Organizations

- AIDS Committee of Newfoundland and Labrador (ACNL)
- BC Hepatitis Network
- Blood Ties Four Directions Centre (YT)
- Canadian Association of Hepatology Nurses (CAHN)
- Canadian Association of People who Use Drugs (CAPUD)
- CATIE
- Centre associatif polyvalent d'aide hépatite C (CAPAHC)
- Hep NS
- HIV Legal Network
- Oahas (ON)
- Manitoba Harm Reduction Network (MHRN)
- River Stone Recovery Centre (NB)

Member Organizations

- AIDS Coalition of Nova Scotia (ACNS)
- AIDS Committee of North Bay & Area (ON)
- AIDS Committee of York Region
- AIDS New Brunswick
- Alberta Hepatitis Elimination Network
- All Nations Hope Network (Saskatchewan)
- Ally Centre of Cape Breton
- ANKORS (BC)
- Atlantic Interdisciplinary Research Network for Social and Behavioural Issues in Hepatitis C and HIV/AIDS (AIRN)
- Avenue B (formerly AIDS Saint John)
- AVI (formerly AIDS Vancouver Island)
- CAAN
- Calgary Liver Unit, Viral Hepatitis Clinic
- Canadian AIDS Society
- Canadian Association of Nurses in HIV/AIDS Care
- Canadian Liver Foundation
- Canadian Society for International Health (CSIH)
- Carefirst Family Health Team
- Central Toronto Community Health Centre (Queen West CHC and Shout)
- Community-Based Research Centre (CBRC)
- Coopérative de solidarité SABSA
- CUPS Clinic (Calgary)
- Dr. Peter AIDS Foundation (Vancouver)
- Dopamine (Montreal)
- Elevate NWO
- Ensemble (formerly AIDS Moncton)

- Gay Men's Sexual Health Alliance (GMSH)
- GEIPSI (QC)
- Gilbert Centre (ON)
- Healing Our Nations
- Hépatites Ressources
- Lookout Society (BC)
- Lower Mainland Purpose Society
- Mainline Needle Exchange (NS)
- Manitoba Hepatitis C Support Community Inc.
- Northern Healthy Connections Society (NS)
- Northreach Society (AB)
- North Lambton Community Health Centre
- Nova Scotia Hemophilia Society
- Nova Scotia Sexual Health Centres
- Sexual Health Centre Lunenburg County
- Halifax Sexual Health Centre
- Sheet Harbour Sexual Health Centre
- PAN (BC)
- Pewaseskwan Indigenous Wellness Research Group, University of Saskatchewan
- PEERS Alliance (formerly AIDS PEI Community Support Group)
- Pender Hep C Support Society
- PEI Native Council
- Phoenix Society (BC)
- Prairie Harm Reduction (formerly AIDS Saskatoon)
- Prisoners' HIV/AIDS Support Action Network (PASAN)
- Programme National de Mentorat sur le VIH-Sida et Hépatites Virales, CHUM UHRESS Saint-Luc
- Realize
- Sanguen Health Centre
- Sandy Hill Community Health Centre Oasis Program
- Saskatchewan Infectious Disease Care Network
- Shining Mountains Living Community Services (Alberta)
- Sidaction Mauricie
- St. Stephen's Community House, Corner Drop-In
- Street Health Centre Kingston
- Toronto Community Hep C Program
- South Riverdale Community Health Centre
- Regent Park Community Health Centre
- Sherbourne Health Centre
- Unlocking the Gates Services Society (BC)
- Vancouver Island Persons Living with HIV/AIDS Society (VPWAS)
- Viral Hepatitis Care Network VIRCAN
- Wellness Within (NS)

TABLE OF CONTENTS

Abbreviations	1
Context: Why Viral Hepatitis Matters	2
Viral Hepatitis Elimination Targets	5
Metrics to Measure Our Progress	6
Priority Populations	8
Federal Recommendations	9
National Overview	10
Provincial/Territorial Overview	11
Provincial/Territorial/Jurisdictional Progress Reports	
Alberta	12
British Columbia	13
Manitoba	14
New Brunswick	15
Newfoundland and Labrador	16
Nova Scotia	17
Ontario	18
Prince Edward Island	19
Quebec	20
Saskatchewan	21
Northwest Territories	22
Nunavut	23
Yukon	24
Corrections: Federal	25
Corrections: Provincial	26
Bright Spots	27
Emerging Trends in Testing Policy & Technology	28
Data Gaps & Report Limitations	29
Monitoring & Evaluation Methodology	
New Cases Metric	30
Planning Metric	31
Testing Metric	32
Testing-To-Treatment Link Metric	34
Treatment Uptake Metric	36
Prevention Metric	37
References	41

ABBREVIATIONS

AHC	Action Hepatitis Canada
В	birth
CanHepB	Canadian HBV Network
CanHepC	Canadian Network on Hepatitis C
CTFPHC	Canadian Task Force on Preventive Health Care
COVID-19	Coronavirus disease
DAA	direct-acting antiviral(s)
DBS	dried blood spot
gbMSM	gay, bisexual, and other men who have sex with men
HCV	hepatitis C virus
HBV	hepatitis B virus
LAM	lamivudine
NACI	National Advisory Committee on Immunization
NSP	needle syringe program
OAT	opioid agonist therapy
OPS	overdose prevention site
рСРА	pan-Canadian Pharmaceutical Alliance
PHAC	Public Health Agency of Canada
PLHBV	people living with hepatitis B
PLHCV	people living with hepatitis C
PNEP/PNSP	prison needle exchange program/prison needle syringe program
P/T	provincial/territorial
PWAI	people who are incarcerated
PWID/PWUD	people who inject drugs/People who use drugs
RNA	Ribonucleic acid
STBBI	sexually transmitted and blood-borne infection
WHO	World Health Organization

Context: Why Viral Hepatitis Elimination Matters

ABOUT VIRAL HEPATITIS

- Hepatitis B (HBV) and hepatitis C (HCV) are liver infections. They are the leading cause of liver disease and transplantation and two of the most burdensome infectious diseases in Canada.¹
- An estimated 204,000 people in Canada are living with HCV,² and 230,000 with HBV.³
- Symptoms may be delayed for years, so many people who are infected are unaware even while liver damage is occurring. The only way to confirm a chronic HCV or HBV infection is through a blood test.
- Untreated, viral hepatitis can cause liver damage, cancer, and even death.
- An estimated eight people die each day in Canada from viral hepatitis. (see page 10.)

BUT! VIRAL HEPATITIS ELIMINATION IS WITHIN CANADA'S REACH

- Hepatitis C is **curable** with highly effective treatments of daily pills for 8 or 12 weeks, usually with no side effects.
- Hepatitis B is a **vaccine-preventable** infection, and while there is no cure yet, there are treatments to manage the disease and prevent advanced liver disease, and reduce cancer.
- With these medical advancements, what is needed now are **policies** that support **easy** and **equitable** access to **testing**, **treatment**, **and care**.

HEALTH EQUITY

- While Canada's public health care system was founded on principles of fairness and equality, today there are many health inequities experienced by people across Canada. These are reflected among people affected by viral hepatitis.
- These include geographic inequities, such as reduced access to prevention, testing, and treatment in rural and remote areas of Canada, or even from province to province. For example, access to disease prevention methods such as needle syringe programs (NSPs) varies widely between urban and rural settings.
- These inequities also result in some groups of people having higher rates of new viral hepatitis infections and higher prevalence of viral hepatitis compared to the overall population. For example, First Nations and Métis peoples in Canada have higher HCV incidence rates and prevalence than the overall population in Canada.

As we move toward viral hepatitis elimination targets, it is also important to ask, who is and who is *not* represented within Canada's metrics? -Cole Etherington, researcher focused on health equity and intersectionality

Without addressing the inequities in healthcare access for remote and rural areas of Canada, and without a reconciliatory approach to healthcare for Indigenous people, there will remain considerable barriers to achieving viral hepatitis elimination.

CANADA'S PROMISE

- In May 2016, at the World Health Organization (WHO) Sixty-ninth World Health Assembly, the first-ever *Global Viral Hepatitis Strategy (2016-2021)*⁴ was endorsed by the 194 Member States. The strategy aimed to eliminate viral hepatitis as a public health threat by 2030. The *Global Viral Hepatitis Strategy (2022-2030)* was recently adopted to renew this commitment.⁵
- As a Member State, Canada signed on to this strategy and endorsed the targets contained within it. The WHO strategy includes specific targets, and all countries were tasked with developing a National Action Plan to meet these targets. The Public Health Agency of Canada (PHAC) responded by publishing the *Pan-Canadian framework for action to reduce the health impact of Sexually Transmitted and Blood-Borne Infections (STBBIs)*⁶ in 2018 and the *Government of Canada five-year action plan on STBBIs*⁷ in 2019.

THE ROLE OF THE PROVINCES & TERRITORIES

- PHAC's *Framework for Action* and *Action Plan* replicate the WHO targets for viral elimination by 2030, and were endorsed by all Canadian provinces and territories.
- As the provision of health care is provincial and territorial jurisdiction, it is their governments' responsibility to create and implement their own viral hepatitis elimination strategies.

Provinces and territories have the opportunity and the obligation to ensure all Canadians have equitable access to viral hepatitis testing, treatment, and care.

COVID-19 IMPACT

• Unfortunately, the global COVID-19 pandemic has created additional challenges that have slowed global progress toward elimination.



#

COVID-19 has had a disproportionate impact on marginalized populations. Pandemic restrictions caused harm reduction programs to scale back, increasing potential HCV infection and reinfection.



COVID-19 paused HCV testing in overtaxed labs, affecting treatment start rates as priorities shifted and patients became hesitant to enter healthcare centres.



COVID-19 also negatively impacted school-based HBV vaccine delivery.⁸

• As we transition into a post-COVID world, there is a need to reengage healthcare professionals and priority populations and an opportunity to leverage learnings and infrastructure from COVID-19.

THIS PROGRESS REPORT

- The metrics and recommendations in this report reflect the WHO targets included in the *Framework for Action* and *Action Plan*, as well as the priority actions from the *Blueprint to inform hepatitis C elimination efforts in Canada*.⁹ The *Blueprint* is a document for provincial/territorial policymakers to guide them in priorities for action and measuring their progress toward global HCV elimination goals. HBV metrics were developed in consultation with the Canadian HBV Network.
- The report also reflects the perspective of the community-based organizations that comprise the membership of Action Hepatitis Canada (AHC), prioritizing the policy changes our membership believes will have the greatest impact.

SUCCESS FORMULA

A region in Scotland has recently become the first to reach the targets for eliminating viral hepatitis as a public health threat. When asked for his advice on how to replicate this success, Dr. John Dillon states:¹⁰

KEEP IT LOCAL. KEEP IT SIMPLE. KEEP IT KNOWN.

Testing, treatment, and care must be easily available without leaving one's community and from people we know, like, and trust. OVID moves us from 'right person, right test, right time' to 'anyone, anywhere, any time.' It also teaches us that public health is not owned by medical professionals. We must co-learn and co-lead with community to move forward. The viral hepatitis community is ready to seize this health-forward approach right now." -Dr. Lisa Barrett, infectious disease doctor



Viral Hepatitis Elimination Targets

Within the WHO's Global Viral Hepatitis Strategy (2016-2021),⁴ and echoed in PHAC's *Framework for Action*⁶ and *Action Plan*,⁷ there are several targets that collectively will lead to and/or define our success at eliminating viral hepatitis as a public health threat.

To help monitor progress toward achieving the goal of eliminating viral hepatitis as a public health threat by 2030, the targets also have milestones for 2020. The baseline year for all reduction targets was 2015.

GLOBAL TARGETS

By 2020:

- 30% reduction in new cases of chronic HBV and HCV infections
- 10% reduction in HBV and HCV deaths
- 30% of HBV and HCV infections are diagnosed
- 5 million people receiving HBV treatment, and 3 million people receiving HCV treatment
- Achieve and maintain up-to-date 90% coverage for vaccination of HBV vaccine (3 doses)
- 200 needles/syringes distributed per PWID

By 2030:

- 90% reduction in new cases of chronic HBV and HCV infections
- 65% reduction in HBV and HCV deaths
- 90% of HBV and HCV infections are diagnosed
- 80% of HBV patients receiving treatment and HCV patients cured
- 300 needles/syringes distributed per PWID

The Government of Canada has endorsed global targets that aim to end the AIDS and viral hepatitis epidemics and to reduce the health impact of sexually transmitted infections by 2030... We must not shy away from bold and transformative action that brings the benefits of prevention, diagnosis, treatment, and support to those who need them. Embracing new ideas and challenging existing paradigms will help us push boundaries and accelerate progress. The Government of Canada is committed to both leading and learning as we implement this Action Plan with you, our partners. -Honourable Ginette Petitpas Taylor, Ministerial Message, Accelerating our response: Government of Canada five-year action plan on sexually transmitted and blood-borne infections. (2019)

Priority Populations

There are many groups of people who face discrimination and barriers in Canada, and in our healthcare system specifically.

When we use the term priority populations for hepatitis C or viral hepatitis, we are explicitly referring to groups or communities that bear a disproportionate burden of this particular disease.

This is in addition to the structural racism, classism, ableism, or additional forms of discrimination that other identities may encounter in accessing viral hepatitis care. We also recognize that these many identities intersect and overlap, and the harms and risks can be compounded when they do.

The five priority populations and one age cohort identified for hepatitis C in the *Blueprint to inform hepatitis C elimination efforts in Canada* are:

- People who are incarcerated (PWAI)
- People who use drugs (PWUD)

Indigenous people



Gay, Bisexual, and other Men Who Have Sex With Men (gbMSM)

~	\mathcal{I}	7	X
∇			7
X	\overline{Z}	Z	>

Newcomers and Immigrants from Countries with High Prevalence Rates of HCV



People born between 1945-1975

The majority of cases of HBV are among newcomers and immigrants from countries where HBV is prevalent. HBV shares many of the same transmission paths. The risk of exposure is higher in most of the same priority populations as those identified for hepatitis C, though the ratios are certainly different.

People who use drugs already receive an overwhelming amount of stigma and discrimination because what they choose to consume is illegal. This is one of the main reasons why they are one of the populations contracting and transmitting viral hepatitis. When they reach out for care, either to be tested or treated or for follow up, we need to treat them as people first, and a patient second. You may only have one opportunity to effectively engage that person in care and language and body language is extremely important. -Matt Bonn, Canadian Association of People Who Use Drugs

Interior and refugees face several barriers accessing health care, including linguistic and cultural differences. This leads to delayed hepatitis B and C diagnosis and treatment, and preventable liver associated outcomes. Routine viral hepatitis screening and policies that ensure equitable access to care will be required to decrease this health disparity.

-Dr. Christina Greenaway, infectious disease doctor focused on immigrants and refugee health

Metrics to Measure our Progress

While this report does not evaluate all the targets set in the various strategies and blueprints, we have selected these six metrics based on the availability of data and the centrality of the target to the overall elimination goals.

The selection of different metrics could produce different results in terms of being on or off track. Therefore, further assessment and refinement of the monitoring and evaluation methodologies in subsequent years will be important. For 2023, we have added HBV components for each metric with the exception of prescribing counts.



Metric 1: Decrease in New Cases of HCV and HBV

One of the global targets for viral hepatitis elimination is a 30% reduction in new cases of chronic viral HCV and HBV infections by 2020 and a 90% reduction in new cases by 2030.

Ø	
Ø	
lõ	
10	
lò	

Metric 2: Elimination Plan or Strategy in Place

Each province and territory in Canada must create and implement its own strategy toward viral hepatitis elimination that incorporates viral hepatitis impact and service coverage targets or goals.



Metric 3: Testing for HCV and HBV

This metric evaluates the implementation of three testing strategies that have been recommended to improve the rate of viral hepatitis diagnosis.

i. The *Blueprint* recommends automatically testing samples that test positive for HCV antibodies to confirm if chronic infection is present. This is known as **HCV RNA or antigen** *reflex testing*. This testing intervention simplifies the process for patients receiving their HCV diagnosis and reduces costs to the health care system.

ii. The Society of Obstetricians and Gynaecologists of Canada (SOGC) is set to release "The Reproductive Care of Women Living With Hepatitis C Infection" in June 2023, providing updated guidelines for prenatal testing that will add **HCV prenatal testing** to the existing recommendation of HBV and HIV testing.¹¹

iii. The Canadian Task Force on Preventive Health Care (CTFPHC) has not developed national screening guidelines for HBV. However, new guidelines from the United States recommend **universal one-time screening for chronic hepatitis B infections in all adults**, with consent.¹²



Metric 4: Access to HCV and HBV Treatment Following Diagnosis

i. For HCV, the *Blueprint* recommends the use of 'test-and-treat strategies' where providers can initiate treatment on the same day they diagnose a patient, rather than the process requiring 3+ appointments. This metric evaluates whether direct-acting antivirals (DAA) treatment reimbursement criteria and policies support this strategy.

ii. For HBV, the Canadian Association for the Study of the Liver's *Management of Hepatitis B Virus Infection Guidelines*¹³ make recommendations for first-line therapies. This metric evaluates the accessibility of these first-line therapies on publicly-funded drug plans.



Metric 5: Annual HCV Treatment Prescribing Counts

Modelling has been done to determine how many people living with HCV would need to start treatment each year so that 80% have received treatment by 2030 (a WHO elimination target). This metric compares the number of people who started treatment each year from 2015-2022 against the annual treatment start target to determine if treatment uptake is on track.



Metric 6: Prevention Measures

Both HCV and HBV are preventable, but so far only HBV has a vaccine.

i. *The Global Health Sector Strategy on Viral Hepatitis* recommends **200 needles and syringes distributed per PWID** by 2020. The *Blueprint* recommends 500 by 2025 and 750 by 2030. The provision of sterile needles and syringes prevents viral hepatitis infection and other STBBIs.

ii. The WHO indicates that the most effective way to prevent chronic HBV infection is to universally administer the first **HBV vaccine dose at or near the time of birth**. This is because up to 95% of babies and children exposed to HBV will develop a chronic infection which poses significant health risks and could require life-long treatment. Despite this, HBV vaccination policies across Canada vary from birth to 12 years.

iii. With childhood vaccination programs in place since the 1990s, the majority of new cases are reported among the cohort of adults who are too old to have benefitted from these programs or otherwise missed these vaccinations. For this reason, the United States has newly adopted a recommendation of **HBV vaccination for all adults aged 19-59**, in addition to the birth dose vaccination policy.¹⁴

Federal Role and Recommendations

Federal Leadership Needed

While most people living with viral hepatitis receive health coverage through their province or territory, three priority populations receive their health coverage from the federal government: Indigenous people, those in federal prisons, and refugee claimants. The federal government also has an important role in health funding, data collection, and public health guidance.

6	
8	
1 d	<u> </u>
19	2
١٩	,

Planning

A renewal of the national *STBBI Action Plan* is underway, in consultation with stakeholders. This document must include clear targets and indicators aligned with the WHO targets for both HBV and HCV.



Screening Guidelines

Federal screening guidelines for HCV remain risk-based, despite all evidence that risk-based guidelines are not effective. We have no federal guidelines for HBV.



Testing-to-Treatment Link

A significant barrier to same-day HCV treatment starts is the lack of point-of-care testing technologies with Health Canada approval, despite these being available in other countries. The federal government can encourage and expedite submissions from manufacturers.



Prevention

The federal government can and should provide funding and policy to support the further expansion of harm reduction programs in all Canadian jurisdictions.



RECOMMENDED NEXT STEPS

- Engage manufacturers of pointof-care testing technologies to bring these tests to Canada.
- Set strategies, targets, and indicators in consultation with priority populations and using a health equity lens, to measure progress in elimination of viral hepatitis.
- Double the Community Action
 Fund and Triple the Harm
 Reduction Fund to support
 programming in all Canadian
 jurisdictions.
- Update HCV screening guidelines and create HBV screening guidelines to provide rights- and evidence-based guidance.
- Fund and increase efforts to collect updated HBV and HCV prevalence estimates for all Canadian provinces and territories.

NATIONAL PROGRESS

The Public Health Agency of Canada (PHAC) has reported the following national progress toward our WHO targets.^{2, 15}

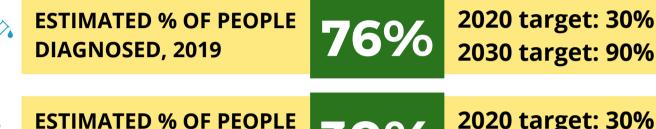


HCV ESTIMATED PREVALENCE: 204,000



 REDUCTION IN NEW REPORTED
 2020 target: -30%

 CASE RATES, 2015-2019
 -7.7%
 2030 target: -90%





2020 target: 30% 2030 target: 80%

HCV DEATHS, 2019: 2692

TREATED, 2019

HBV ESTIMATED PREVALENCE: 111,800*

30%

	REDUCTION IN NEW REPORTED CASE RATES, 2015-2019	+1%	2020 target: -30% 2030 target: -90%
	ESTIMATED % OF PEOPLE DIAGNOSED	?	2020 target: 30% 2030 target: 90%
€∂	ESTIMATED % OF CHILDREN VACCINATED, 2019**	84%	2020 target: 90% 2030 target: 90%

HBV DEATHS, 2019: 445

*This estimate differs significantly from the more well-accepted estimate of 230,000 cited earlier in this report. Estimates vary widely, from 111,800-460,000, and better data is needed.

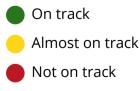
**Target is actually the number of *people* who have received all three doses of the HBV vaccine, but we do not have that data. The percentage would be much lower with unvaccinated adults included.

OVERVIEW

- Seven of the ten provinces are on track to meet HCV elimination goals.
- Three are not, including two of the most populous provinces.
- One territory is also not on track.
- No provinces are on track to meet HBV elimination goals, but more data is needed.
- We do not have enough data to determine the status of the other two territories.

Table 2. Summary of all six measured metrics by province and territory

		بالم	<u>ا</u>	00000 000000 000000 000000000000000000				Ć	9	₿			
	On Track for HCV targets?	HCV Cases	HBV Cases	Plan	HCV Reflex RNA	HCV Prenatal	HBV	HCV DAA Access	HBV 1st line therapy	HCV Rx	Needles /PWID	HBV Birth Vaccine	HBV Adult Vaccine
AB	\checkmark												
BC	\checkmark												
MB	×												
NB	\checkmark												
NL	\checkmark												
NS	\checkmark												
ON	×												
PE	\checkmark												
QC	×												
SK	\checkmark												
NT	?												
NU	?												
ΥT	×												



Unknown



ALBERTA

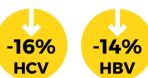
CURRENT STATUS: ON TRACK FOR HCV, NOT ON TRACK FOR HBV

Overview: The Government of Alberta has been responsive to the recommendations of the 2021 Progress Report. There are innovative programs in place with highly engaged community organizations and healthcare providers. Further collaboration and efforts tailored to those who are traditionally structurally excluded from health care are needed.



New cases

Below target of 30% reduction by 2020





Estimated # of PLHBV:

unknown



Planning

Alberta STBBI Strategic Framework 2018-2021 has not been renewed



Testing

- HCV RNA reflex testing implemented
- HCV prenatal testing implemented
- HBV universal one-time testing for all adults not implemented



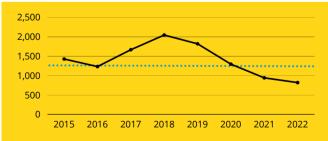
Testing-to-Treatment Link

- HCV 1-Day starts not possible
 Faxed approval forms take 1-3 days
 - 1st line recommended antivirals for HBV are on public formulary



HCV Treatment

 Annual DAA prescribing count above target on average. However, 52% increase from 2022 count required to reach target.





Prevention

- # of needles and syringes distributed per PWID not available
- Birth dose HBV vaccination not implemented
 1st dose offered at age 2 months
- Universal HBV vaccination for adults not recommended or publicly funded

Annual HCV treatment target: **1249**

PROGRESS

Some restrictions lifted on access to HCV treatment for people who are incarcerated.

RECOMMENDATIONS

Create a mechanism for sameday approval of DAA reimbursement requests.

- Renew the STBBI Operational Strategy and Action Plan to 2025 or 2030, in consultation with priority populations and using a health equity lens.
- Maintain needle distribution efforts through communitybased organizations and start tracking distribution.
- Implement HBV vaccination at birth for all babies, and universal HBV screening and vaccination for adults.



BRITISH COLUMBIA

CURRENT STATUS: ON TRACK FOR HCV, NOT ON TRACK FOR HBV

Overview: The Government of British Columbia has been very responsive to the recommendations of the 2021 Progress Report. Consistent, data-driven improvements are being made, including in correctional settings, and the rebound from the COVID pandemic has been strong.



New cases

Below target of 30% reduction by 2020





Estimated # of PLHBV:

unknown



Planning

 Ministry of Health participating in development of BC's Roadmap to Viral Hepatitis Elimination



Testing

- HCV RNA reflex testing implemented
- HCV universal prenatal testing not implemented
- HBV universal one-time testing for all adults not implemented



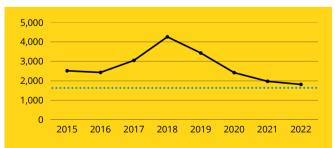
Testing-to-Treatment Link

- HCV 1-Day starts not possible Fibrosis Stage test still required
- 1st line recommended antivirals for HBV only available if LAM fails, and subject to annual deductible



HCV Treatment

Annual DAA prescribing counts above target.





Prevention

- Above targeted # of needles and syringes distributed per PWID **336/200** (168% of recommended 2020 target)
- Birth dose HBV vaccination not implemented 1st dose offered at age 2 months
 - Universal HBV vaccination for adults not recommended or publicly funded

Annual HCV treatment target: **1788**

PROGRESS

Created online form for sameday approval of DAA reimbursement requests.

Access to testing and treatment in corrections now equivalent to access in community.

- Once completed, begin implementation of the BC Roadmap to Viral Hepatitis Elimination.
- Remove fibrosis test requirements for HCV treatment reimbursement.
- Implement universal HCV prenatal testing.
- Implement HBV vaccination at birth for all babies, and universal HBV screening and vaccination for adults.

MANITOBA

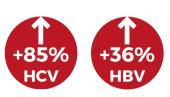
CURRENT STATUS: NOT ON TRACK FOR HCV OR HBV

Overview: Manitoba has just recently engaged with AHC on the recommendations of the 2021 Progress Report. Manitoba's rates of new HCV cases are the highest in Canada, and prevalence continues to climb as more people are diagnosed each year than are treated.



New cases

Below target of 30% reduction by 2020





Estimated # of PLHBV:

unknown



Planning

 Currently drafting an updated STBBI Action Plan, expected 2023



Testing

- HCV antigen reflex testing implemented
- HCV universal prenatal testing not implemented
- HBV universal one-time testing for all adults not implemented



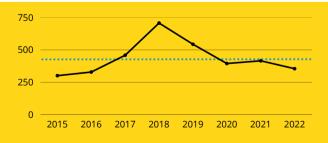
Testing-to-Treatment Link

- HCV 1-Day starts not possible Genotype test still required Faxed approval forms take 2-14 days
- 1st line recommended antivirals for HBV are on public formulary



HCV Treatment

Annual DAA prescribing counts on target on average. However, 23% increase over 2022 numbers required to reach annual target.





Prevention

Above targeted # of needles and syringes distributed per PWID

- **241/200** (121% of recommended 2020 target)
- Birth dose HBV vaccination not implemented 1st dose offered at age 11
- Universal HBV vaccination for adults not recommended or publicly funded

Annual HCV treatment target: **436**

PROGRESS

Unnecessary fibrosis score testing requirements removed.

- Consult with priority populations, using a health equity lens, and include viral hepatitis targets in the updated STBBI Action Plan.
- Remove unnecessary genotype test requirement and create mechanism to allow same-day DAA reimbursement approvals.
 - Implement universal HCV prenatal testing.
- Implement HBV vaccination at birth for all babies, and universal HBV screening and vaccination for adults.



CURRENT STATUS: ON TRACK FOR HCV. NOT ON TRACK FOR HBV

Overview: Although the New Brunswick government has just recently engaged with AHC and our members on HCV elimination, they have been very responsive to removing policy barriers and hearing from community. With HCV treatment numbers above annual targets, the focus now is on a health equity approach, including in correctional settings.



New cases

Below target of 30% reduction by 2020





Estimated # of PLHBV:

unknown



Planning

 Currently drafting an updated STBBI Action Plan with elimination targets, expected 2023



Testing

- HCV RNA reflex testing implemented
- HCV universal prenatal testing not implemented
- HBV universal one-time testing for all adults not implemented



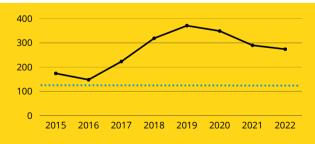
Testing-to-Treatment Link

- HCV 1-Day starts not possible
 Faxed approval forms take 2-5 days.
- 1st line recommended antivirals for HBV are on public formulary



HCV Treatment

Annual DAA prescribing counts above target each year.





Prevention

- # of Needles and Syringes Distributed per PWID not available
- Birth dose HBV vaccination implemented
- Universal HBV vaccination for adults not recommended or publicly funded

Annual HCV treatment target: **128**

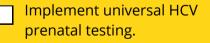
PROGRESS

Currently developing an elimination plan that includes targets, in consultation with priority populations and using a health equity lens.

Removed unnecessary genotype and fibrosis test requirements

RECOMMENDATIONS

Create mechanism to allow same-day DAA reimbursement approvals.



- Implement universal HBV screening and vaccination for adults.
- Maintain needle distribution efforts through communitybased organizations and track distribution.

PAGE 13 NEWFOUNDLAN **CURRENT STATUS: ON TRACK FOR HCV. NOT ON TRACK FOR HBV Overview:** The Government of Newfoundland has been responsive to community and healthcare provider advocacy in removing policy barriers to HCV testing and treatment recently, particularly in corrections. There is also an initiative underway to engage primary healthcare providers in viral hepatitis elimination. New cases Estimated # of Estimated # of **PLHCV: PLHBV:** Below target of 30% reduction by 2020 for HCV, 664 unknown target achieved for HBV Planning Annual HCV treatment target: No elimination plan or strategy in place Testing HCV RNA reflex testing implemented PROGRESS HCV universal prenatal testing not implemented Access to HCV treatment in HBV universal one-time testing for all adults not implemented corrections now equivalent to access in community. **Testing-to-Treatment Link** HCV 1-Day starts not possible Faxed approval forms take up to 14 days. RECOMMENDATIONS 1st line recommended antivirals for HBV only available if LAM fails Develop an elimination plan that includes targets, in HCV Treatment consultation with priority Annual DAA prescribing counts above target. populations and using a health equity lens. 200 150 Create a mechanism to allow 100 same-day DAA reimbursement 50 approvals. 0 2015 2016 2017 2018 2019 2020 2021 2022 Implement universal HCV prenatal testing. Prevention Close to targeted # of needles and Implement HBV vaccination at syringes distributed per PWID birth for all babies, and 180/200 (90% of recommended 2020 target) universal HBV screening and Birth dose HBV vaccination not implemented vaccination for adults. 1st dose offered at age 11 Universal HBV vaccination for adults not recommended or publicly funded

NOVA SCOTIA CURRENT STATUS: ON TRACK FOR HCV. NOT ON TRACK FOR HBV

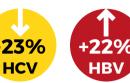
Overview: While the Nova Scotia Ministry of Health has declined to meet with AHC to date, we have had good engagement regarding healthcare in provincial corrections and the government has been responsive to advocacy done by local healthcare providers to remove

policy barriers to HCV treatment.



New cases

Below target of 30% reduction by 2020





Estimated # of PLHBV:

unknown



Planning

No elimination plan or strategy in place



Testing

- HCV RNA reflex testing implemented
- HCV universal prenatal testing not implemented
- HBV universal one-time testing for all adults not implemented



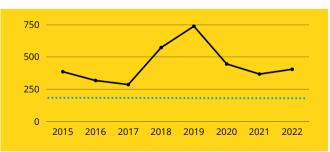
Testing-to-Treatment Link

- HCV 1-Day starts almost possible
 All barriers removed except POC RNA test for approval
- 1st line recommended antivirals for HBV on public formulary



HCV Treatment

Annual DAA prescribing counts above target.





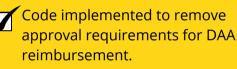
Prevention

- Above targeted # of needles and syringes distributed per PWID **284/200** (142% of recommended 2020 target)
- Birth dose HBV vaccination not implemented 1st dose offered at age 12
- Universal HBV vaccination for adults not recommended or publicly funded

Annual HCV treatment target:

221

PROGRESS



Unnecessary genotype testing requirements removed.

- Develop an elimination plan that includes targets, in consultation with priority populations and using a health equity lens.
 - Implement universal HCV prenatal testing.
- Implement HBV vaccination at birth for all babies, and universal HBV screening and vaccination for adults.

ONTARIO

CURRENT STATUS: NOT ON TRACK FOR HCV OR HBV

Overview: Representatives from the Government of Ontario has been very receptive and engaged on the recommendations in the 2021 Progress Report and in the creation of the *Ontario Roadmap to HCV Elimination*. Policy improvements are slow yet consistent, but further screening and testing policy improvements, including in corrections, are required to increase HCV treatment starts.



New cases

Below target of 30% reduction by 2020





Estimated # of PLHBV:

unknown



Planning

Ministry of Health participated in an ex-officio capacity in the development of the Ontario Roadmap to HCV Elimination



Testing

- HCV RNA reflex testing implemented
- HCV universal prenatal testing not implemented
- HBV universal one-time testing for all adults not implemented



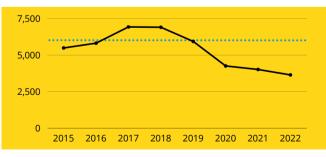
Testing-to-Treatment Link

- HCV 1-Day starts not possible Genotype test still required
 - 1st line recommended antivirals for HBV are on public formulary



HCV Treatment

Annual DAA prescribing counts below target on average. 63% increase from 2022 count required to reach annual target.





Prevention

- At targeted # of needles and syringes distributed per PWID
 - **200/200** (100% of recommended 2020 target)
- Birth dose HBV vaccination not implemented 1st dose offered at age 12
- Universal HBV vaccination for adults not recommended or publicly funded

Annual HCV treatment target: **5955**

PROGRESS

- 6-month confirmatory RNA test requirement removed for DAA reimbursement approval.
 - Ministry of Health staff participated in an ex-officio capacity in the development of elimination plan that includes targets, in consultation with priority populations and using a health equity lens.

HCV RNA reflex testing implemented.

- Begin implementing the recommendations from the Ontario Roadmap to HCV Elimination.
- Implement HBV vaccination at birth for all babies, and universal HBV screening and vaccination for adults.

PRINCE EDWARD ISLAND

CURRENT STATUS: ON TRACK FOR HCV, NOT ON TRACK FOR HBV

Overview: The Government of Prince Edward Island has been a Canadian leader in HCV elimination efforts since 2018 and is likely to reach 2030 targets in the next few years. Focus now needs to be on a health equity approach and the incorporation of HBV targets.



New cases

Below target of 30% reduction by 2020 in HCV, target reached for HBV





Estimated # of PLHBV:

unknown



Planning

PEI 10-year hepatitis C management and treatment strategy in place since 2018



Testing

- HCV RNA reflex testing implemented
- HCV universal prenatal testing not implemented
 - HBV universal one-time testing for all adults not implemented



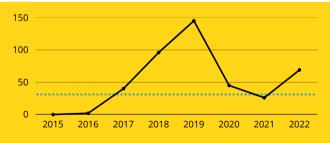
Testing-to-Treatment Link

- HCV 1-Day starts are possible
- 1st line recommended antivirals for HBV are on public formulary



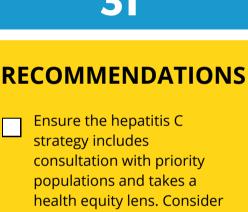
HCV Treatment

Annual DAA prescribing counts above target most years and on average, and on an upward trend.



Prevention

- Above targeted # of needles and syringes distributed per PWID
 449/200 (225% of recommended 2020 target)
- Birth dose HBV vaccination not implemented 1st dose offered at age 2 months
- Universal HBV vaccination for adults not recommended or publicly funded



Annual HCV treatment target:

expanding into a viral hepatitis elimination strategy.

Implement universal HCV prenatal testing.

Implement HBV vaccination at birth for all babies, and universal HBV screening and vaccination for adults.

Maintain needle distribution efforts through communitybased organizations.

DUEBEC

CURRENT STATUS: NOT ON TRACK FOR HCV OR HBV

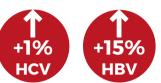
Overview: The Government of Ouebec is not engaged meaningfully with communitybased organizations or healthcare practitioners on viral hepatitis elimination.

They are yet to meet an annual target for HCV treatment starts. Significant policy changes, investments, and collaboration will be required to reach elimination targets in Ouebec.



New cases

Below target of 30% reduction by 2020





Estimated # of **PLHBV:**

unknown

Planning

No elimination plan or strategy in place



Testing

- HCV RNA/antigen reflex testing not implemented
- HCV universal prenatal testing not implemented
- HBV universal one-time testing for all adults not implemented



Testing-to-Treatment Link

- HCV 1-Day starts almost possible All barriers removed except POC RNA test for approval
- 1st line recommended antivirals for HBV are on public formulary



HCV Treatment

Annual DAA prescribing counts below target each year and on the decline since 2018. 119% increase from 2022 count required to reach target.





Prevention

Below targeted # of needles and syringes distributed per PWID

125/200 (63% of recommended 2020 target)

- Birth dose HBV vaccination not implemented 1st dose offered at age 2 months
- Universal HBV vaccination for adults not recommended or publicly funded

Annual HCV treatment target: 2490

PROGRESS



No restrictions on who can prescribe or submit for DAA reimbursement approval.

RECOMMENDATIONS

- Develop an elimination plan that includes targets, in consultation with priority populations and using a health equity lens.
 - Implement HCV RNA reflex testing.
 - Implement universal HCV prenatal testing.
- Implement HBV vaccination at birth for all babies, and universal HBV screening and vaccination for adults.

Increase needle and syringe distribution.



SASKATCHEWAN

CURRENT STATUS: ON TRACK FOR HCV, NOT ON TRACK FOR HBV

Overview: The Government of Saskatchewan has been responsive to AHC's recommendations and requests. The Ministry of Health appears to be committed to viral hepatitis elimination and has removed all barriers in its control to starting HCV treatment. A strategy is still needed to ensure a health equity approach.



New cases

Below target of 30% reduction by 2020





Estimated # of PLHBV:

unknown



Planning

No elimination plan or strategy in place



Testing

- HCV antigen reflex testing implemented
- HCV universal prenatal testing implemented
- HBV universal one-time testing for all adults not implemented



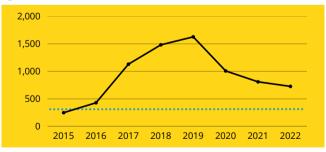
Testing-to-Treatment Link

- HCV 1-Day starts almost possible
 All barriers removed except POC RNA test for approval
- 1st line recommended antivirals for HBV are on public formulary



HCV Treatment

Annual DAA prescribing counts above target.





Prevention

- # of needles and syringes distributed per PWID not available
- Birth dose HBV vaccination not implemented 1st dose offered at age 11
- Universal HBV vaccination for adults not recommended or publicly funded

Annual HCV treatment target:

323

PROGRESS



Fibrosis stage testing requirements removed for DAA reimbursement approval.

- Develop an elimination plan that includes targets, in consultation with priority populations and using a health equity lens.
- Implement HBV vaccination at birth for all babies, and universal HBV screening and vaccination for adults.
- Maintain needle distribution efforts through communitybased organizations and track distribution.





NORTHWEST TERRITORIES

CURRENT STATUS: UNKNOWN

Overview: AHC has not yet been able to engage the government of the Northwest Territories. With a small estimated number of people living with viral hepatitis, this territory could be well-positioned to reach 2030 targets with modest prevention efforts and treatment initiations in the coming years, however more data is needed.



New cases

Above target of 30% reduction by 2020 for HCV, below for HBV



Estimated # of PLHCV: 778 Estimated # of PLHBV:

unknown

*The 192% increase may be misleading, as it represents an increase from 1 to 3 new reported cases.



Planning

No elimination plan or strategy in place



Testing

HCV RNA/Antigen reflex testing policy unknown

HCV universal prenatal testing not implemented

HBV universal 1-time testing for all adults not implemented



Testing-to-Treatment Link

- HCV 1-Day starts not possible Faxed approval forms take 1-3 days.
- 1st line recommended antivirals for HBV are on public formulary



HCV Treatment

Annual treatment count data not available



Prevention

of needles and syringes distributed per PWID not available

- Birth dose HBV vaccination implemented
- Universal HBV vaccination for adults not recommended or publicly funded

Annual HCV treatment target:

- Develop an elimination plan that includes targets, in consultation with priority populations and using a health equity lens.
- Implement HCV RNA or antigen reflex testing if not in place, and universal HCV prenatal testing.
- Create mechanism to allow same-day DAA reimbursement approvals.
- Implement universal HBV screening and vaccination for adults.
- Collect and share data that allows for monitoring of progress toward elimination targets.

NUNAVUT

CURRENT STATUS: UNKNOWN



Overview: AHC has not yet been able to engage the Government of Nunavut. With a small estimated number of people living with viral hepatitis, this territory could be well-positioned to reach 2030 targets with modest prevention efforts and treatment initiations in the coming years, however more data is needed.



YUKON

CURRENT STATUS: NOT ON TRACK FOR HCV OR HBV

Overview: Viral hepatitis elimination efforts in the Yukon Territory are severely hindered by a lack of prescribing treaters. A specialist from British Columbia flies into the Yukon periodically to write prescriptions. Additional accessibility challenges for rural and remote communities outside of Whitehorse and a access concerns in correctional settings pose significant barriers to starting treatment.



New cases

Below target of 30% reduction by 2020 in HCV, target exceeded for HBV





Estimated # of PLHCV: **1209** Estimated # of PLHBV:

unknown



Planning

No elimination plan or strategy in place



Testing

- HCV RNA/Antigen reflex testing implemented
- HCV universal prenatal testing not implemented
- HBV universal 1-time testing for all adults not implemented



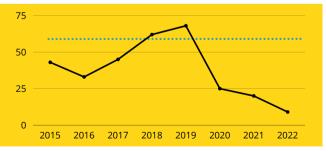
Testing-to-Treatment Link

- HCV 1-Day starts not possible Fibrosis and genotype tests required. Faxed approval forms take 1-3 days.
- 1st line recommended antivirals for HBV are on public formulary



HCV Treatment

Annual DAA prescribing counts below target on average. 63% increase from 2022 count required to reach annual target.



Prevention

- # of needles and syringes distributed per PWID not available
- Birth dose HBV vaccination not implemented 1st dose offered at age 2 months
- Universal HBV vaccination for adults not recommended or publicly funded

Annual HCV treatment target:

- Develop an elimination plan that includes targets, in consultation with priority populations and using a health equity lens.
- Implement universal HCV prenatal testing.
- Empower and/or enlist additional prescribers for HCV treatment.
- Create mechanism to allow same-day DAA reimbursement approvals and remove unnecessary test requirements.
 - Implement universal HBV vaccination at birth for all babies, and universal screening and vaccination for adults.

CORRECTIONS: FEDERAL

CURRENT STATUS: UNKNOWN

- Supervision of custody for people with a sentence of two years or more is the responsibility of the federal government. The Correctional Service of Canada (CSC) runs the 43 federal prisons and is responsible for all policies related to, and the provision or delivery of, health care in these facilities.
- Given the close relationship between imprisonment, injection drug use, and HCV, people who are
 incarcerated and living with HCV are likely one of the most marginalized patient groups affected by
 HCV. They are also less likely to access health services in any other setting and face higher risk
 of HCV infection, occurring both in prison and in the community following release.¹⁶
- The delivery of viral hepatitis care to people who are incarcerated in Canada is essential to viral hepatitis elimination.¹⁶
- CSC representatives presented data at AIDS 2022 in Montreal that suggested prevalence among PWAI by CSC is going down, however that data is not publicly available and the lack of transparency in testing and treatment progress, and lack of reinfection prevention strategy, is of ongoing concern.



HCV Testing Policy

- Universally offered at admission and available on demand
- No reporting on # and proportion of those receiving an HCV test at admission



HCV Treatment Access

- Everyone eligible, regardless of disease stage
 - No reporting on # and proportion of those offered treatment.

CSC reports only the % of people who have cleared their infection of those who completed treatment. This is a metric of little value that simply confirms the efficacy of DAAs, despite stating a commitment to WHO elimination targets in the same report.



Prevention

- **Education:** Comprehensive STBBI education not provided for PWAI, prison staff, healthcare staff
- **PNSP:** Needle exchange available in only 9 of 43 institutions; model provides poor accessibility and no anonymity
- OPS: Overdose Prevention Site available in 1 of 43 institutions
- OAT: Opioid Agonist Therapy is available in all institutions, both as maintenance and new start prescriptions
- HBV Vaccine: All PWAI are offered an HBV vaccine (as per NACI recommendation)¹⁸

About needles in prison: we need them. If clean needles were available and easy to get, I wouldn't have gotten hepatitis C in prison. There are already drugs in prison. This doesn't encourage anything.

- Steve, a person who contracted HCV while incarcerated

- Implement Prison Needle Syringe Programs (PNSP) across all correctional centres using a model with multiple distribution channels for accessibility and anonymity.
- Implement Overdose Prevention Sites (OPS) across all correctional centres.
- Begin reporting HCV testing and treatment uptake.
- Provide comprehensive STBBI education for all PWAI, prison staff, and healthcare staff.

CORRECTIONS: PROVINCIAL

CURRENT STATUS: NOT ON TRACK

- The Ministry for Public Safety and Solicitor General (or equivalent) in each province or territory runs the provincial and territorial correctional facilities. It is responsible for the supervision of custody for those sentenced to less than two years and people held on pretrial remand or awaiting sentencing. This means that there are 13 different situations regarding access to viral hepatitis testing and treatment in provincial and territorial corrections.
- **Continuity of HCV care upon release is a major challenge** for correctional systems globally, with calls to streamline the provision of health care in corrections with health care in the community.¹⁹
- In provinces that have transferred the responsibility for the provision of health care from corrections authorities to local health authorities, improvements in health care have been reported.²⁰
- Transfer of responsibility for health care to health authorities in the rest of Canada could assist in streamlining the provision of viral hepatitis screening, treatment, and retention in care after release.
- When the same standard of health care, including prevention measures such as harm reduction, is
 not available to people in correctional facilities as in the community, it is a contravention of the UN
 Standard Minimum Rules for the Treatment of Prisoners (Nelson Mandela Rules).²¹

Table 3. Review of provincial/territorial policies related to viralhepatitis, 2023

	MOH responsible for health care services in corrections	Access to HCV testing and treatment equivalent to access in community	Reporting on # and proportion of PWAI being tested and treated	NSP implemented as disease prevention	OAT (maintenance & new start prescriptions) available to all PWAI	HBV vaccination offered universally to PWAI and staff
AB	yes	partial*	no	no	yes	no
BC	yes	yes	yes	no	yes	yes
MB	no	unknown	no	no	Maintenance but not new	yes
NB	no	yes	no	no	Maintenance but not new	no
NL	yes	yes	no	no	Maintenance but not new	no
NS	yes	yes	no	no	Maintenance but not new	no
ON	no	no	no	no	Maintenance but not new	no
PE	no	unknown	no	no	unknown	unknown
QC	yes	no	no	no	yes	yes
SK	no	yes	no	no	Maintenance but not new	no
NT	unknown	unknown	unknown	no	unknown	unknown
NU	unknown	unknown	unknown	no	unknown	unknown
ΥT	no	yes	no	no	yes	yes

*Eligibility restrictions removed, other than requirement for sentence to be at least 24 weeks.

Ch, God, yeah. If I had been offered Hep C treatment inside, I would've done it for sure. That would have been the perfect time. - *Molly*

- Offer universal STBBI testing at admission in all correctional centres, with informed consent, within 72 hours of admission, and report on uptake.
- Offer treatment to everyone diagnosed with chronic HCV and report on uptake.
- Implement Needle Syringe Programs (PNSP) across all correctional centres using a model with that provides accessibility and anonymity.
- Provide Opioid Agonist Therapy (OAT), both initiation and maintenance.
- Provide comprehensive STBBI education for all PWAI, prison staff, and healthcare staff.
- Implement HBV vaccination offering for all PWAI and staff.

BRIGHT SPOTS

Examples to replicate



Planning

PEI has led since 2018 with their 10-year Hepatitis C Elimination Plan.

Ontario and British Columbia Ministry of Health staff are participating in the development of the Roadmap to Hepatitis Elimination in their provinces.

Both New Brunswick and Manitoba are renewing their STBBI Strategies in 2023 in consultation with community organizations. NB has committed to including viral hepatitis targets.

Dried Blood Spot Testing

The Public Health Ontario (PHO) laboratory accepts the submission of dried blood spots (DBS) for the purposes of hepatitis C virus RNA detection, filling a point-of-care testing gap, particularly in rural and remote areas.

HCV Prenatal Screening

Saskatchewan and Alberta both include HCV in their standard prenatal screening panel alongside HIV and HBV. In Alberta, this has captured up to 25 new cases of HCV per year since implementation.



HCV Treatment Access in Corrections

British Columbia leads the country in person-centred STBBI care in correctional settings with guidelines for HCV & STBBI testing co-created with PWAI (www.stbbipathways.ca/guidelines). BC PharmaCare created "Plan Z" to remove the barrier of PWAI needing to file taxes in order to have drug plan coverage.

Newfoundland included \$14M for HCV treatment in correctional settings in the 2023 provincial budget announcement.

Alberta recently lifted restrictions on treatment eligibility in correctional settings, allowing more PWAI to receive treatment.



HBV Prevention

New Brunswick, Northwest Territories, and Nunavut all offer HBV vaccinations at birth to all babies, in line with WHO recommendations.

EMERGING PRACTICES // IN TESTING & SCREENING

HCV Prenatal Screening

- HCV is on the rise in pregnant women and their newborn babies.²²
- This increase may be related to an increase in injection drug use among people of childbearing age but is more broadly the result of structural poverty, racism, and the gendered power dynamics that often put women at risk of exposure when they obtain drugs and use equipment as a second injector.
- **Guidelines** are coming from the Society of Obstetricians and Gynaecologists of Canada (SOGC) in 2023, recommending adding HCV to HBV and HIV in prenatal screening.¹¹
- In addition, DAA treatments for HCV were approved for use with children from three years of age in 2022.²³
- Universal screening of HCV among people who are pregnant has the potential to eliminate vertical (mother-to-child) transmission.

Point-Of-Care (POC) Testing

- Providing effective links from testing to treatment, especially among priority populations, remains a challenge.
- One solution is point-of-care (POC) tests, especially those that non-healthcare professionals can administer.
- POC tests can provide results on-site, meaning a diagnosis can be provided same-day, usually within minutes. This helps reduce the number of people who get tested but don't receive their diagnosis.
- Multiple POC tests are coming to the Canadian market in the next few months and years for both HCV and HBV and in combination with other STBBIs. To fully benefit from these new technologies when they come to market, the provinces and territories should be preparing now with policies that allow for data collection and reimbursement.



LIMITATIONS &

Prevalence Data

- It was difficult to determine what the annual HCV treatment initiation target for each province and territory should be, as there are few recently published subnational prevalence estimates. HCV and HBV prevalence estimates should be updated urgently for all provinces and territories.
- In addition, only British Columbia had an estimated number of people who inject drugs, a critical denominator for harm reduction targets.

Health Equity Data

• The care cascades that are available, both nationally and provincially, do not use an intersectional approach, nor are there metrics provided to measure our frameworks from a health equity perspective. More work needs to be done in this area to help us all measure barriers for priority populations and more specifically, where those priority populations intersect.

HOW WILL WE KNOW IF WE HAVE ELIMINATED VIRAL HEPATITIS IN 2030 WITHOUT ACCURATE DATA?

Monitoring & Evaluation Methodology



Metric 1: Decrease in new cases of HCV and HBV

Rationale:

One of the global targets for viral hepatitis elimination is a 30% reduction in new cases of chronic viral HCV and HBV infections by 2020 and a 90% reduction in new cases by 2030.

Monitoring & Evaluation Methodology:

We reviewed the reports of new cases (reported as rates per 100,000) of HCV and HBV from 2015 to 2020 for each province and territory.^{24, 25, 26, 27} Updates/corrections were received from ministry staff in NB, NS, and NW from provincial reports. The difference in reported cases in 2019 compared to 2015 was calculated as a percentage decrease/increase.

Note: Due to a COVID-related change in priorities both in healthcare settings and at laboratories, testing rates for viral hepatitis were significantly lower in 2020 than in the previous years. This lower rate of testing overall produced a much lower rate of positive new cases. We have elected to use the number of new cases in 2019 in our calculations to provide a more accurate reflection of our progress toward the goal of a 30% reduction.

	New HC	V Cases	per 100,	000 pop	ulation	Change	New HB	V Cases	per 100,	,000 pop	ulation	Change
	2015	2016	2017	2018	2019	2015-2019	2015	2016	2017	2018	2019	2015-2019
AB	36.0	39.7	34.8	33.8	30.4	-16%	13.4	20.2	18.6	16.0	17.0	-14%
BC	46.0	47.6	47.1	39.4	37.7	-19%	24.5	24.1	23.3	21.1	21.9	-11%
MB	30.0	34.7	46.00	56.4	55.1	85%	15.5	16.8	17.8	18.3	21.0	36%
NB	23.5	23.7	32.2	28.6	32.7	40%	5.8	10.4	6.8	6.7	8.0	38%
NS	36.7	32.5	30.9	49.8	33.1	-10%	1.9	2.6	2.5	2.1	2.3	22%
NL	29.5	31.2	33.5	38.3	36.1	23%	2.8	3.8	1.9	4.4	1.9	-33%
ON	31.9	31.3	33.4	37.3	33.4	5%	14.9	14.9	15.0	14.3	13.5	-9%
PE	27.0	21.8	24.6	36	32.7	22%	3.5	-	-	-	2.5	-29%
QC	12.7	12.8	12.3	15.9	12.8	1%	10.6	11	12.1	13.8	12.1	15%
SK	64.9	63.5	61.7	60	52.5	-20%	10.2	11.6	9.0	8.3	10.7	5%
NT	24.9	29.1	13.4	11.1	8.9	-65%	2.3	6.7	6.7	4.5	6.7	192%
NU	-	-	-	10.5	5.2	-	-	-	-	5.2	10.4	-
ΥT	37.2	46.7	45.4	56.6	33.8	-10%	16.1	20.8	12.6	9.9	5.00	-69%

Table 4. Review of provincial/territorial reports of new cases of both HCV and HBV, 2015-2019

Metric 2: Elimination Plan or Strategy in Place

Rationale:

Each province and territory in Canada must create and implement its own strategy toward viral hepatitis elimination that incorporates viral hepatitis impact and service coverage targets or goals.

Monitoring & Evaluation Methodology:

We reviewed provincial and territorial Ministry of Health websites and asked staff within each provincial and territorial Ministry of Health if they have a current strategy or action plan, either for STBBIs or for viral hepatitis specifically. If so, we also evaluated whether they included any goals or targets to measure viral hepatitis prevention, testing, and treatment targets or goals oriented toward WHO, PHAC, or *Blueprint* elimination targets.

	Most recent policy including viral hepatitis elimination goals or targets	Year released
AB	Alberta STBBI Strategic Framework 2018-2021 has not been renewed 📃 🔴	2018
вс	Ministry of Health is participating in the development of BC's Roadmap to 🥚 Viral Hepatitis Elimination	TBD
MB	Ministry of Health is currently drafting an updated STBBI Action Plan 🧼 😑	TBD
NB	Ministry of Health is currently drafting an updated STBBI Action Plan 🧼 😑	TBD
NL	None	-
NS	None	-
ΟΝ	Ministry of Health has participated in an ex-officio capacity in the evelopment of Ontario's Roadmap to Hepatitis C Elimination	2023
PE	PEI 10-year hepatitis C management and treatment strategy	2018
QC	None	-
SK	None	-
NT	None	-
NU	None	-
YT	None	-

Table 5. Review of provincial/territorial policies regarding viral hepatitis elimination, 2023

Metric 3: Testing For HCV and HBV

i. Is HCV RNA or Antigen Reflex Testing Implemented?

Rationale:

- **1 out of every 3** Canadians who have been diagnosed as HCV antibody positive has never received an HCV RNA test⁹ to confirm if they actually have a chronic infection.
- Automatically reflexing on positive HCV antibody tests to the HCV RNA or antigen test has been shown to be cost-effective and favoured by both patients and healthcare providers.⁹
- Despite this, HCV RNA or antigen reflex testing has still not been routinely implemented across all laboratories in Canada.

The *Blueprint to inform hepatitis C elimination efforts in Canada* recommends implementing HCV RNA reflex testing across all laboratories in Canada to ensure everyone moves through the HCV care cascade efficiently.

Monitoring & Evaluation Methodology:

An environmental scan on laboratory testing for HCV in Canada was conducted in 2016. For the 2021 Progress Report, we reviewed this, in addition to provincial and territorial Ministry of Health websites, to determine the most recent or up-to-date HCV testing algorithms in each province and territory. For this 2023 report, we expanded reflex testing to include antigen reflex testing, as this is another effective although less used option.

ii. Is HCV Prenatal Testing Implemented?

Rationale:

- HCV is on the rise in pregnant women and their newborn babies.²²
- Guidelines are coming from the Society of Obstetricians and Gynaecologists of Canada (SOGC) in 2023, recommending adding HCV to HBV and HIV in prenatal screening.¹¹
- Treatment of small children is now possible, as DAA treatments for HCV were approved for use with children from three years of age in 2022.²³
- Universal screening of HCV among people who are pregnant has the potential to eliminate vertical (mother-to-child) transmission.

Monitoring & Evaluation Methodology:

An environmental scan was conducted to determine which provinces and territories have implemented HCV prenatal testing policies.

Table 6. Review of provincial/territorial implementation of HCV RNA and antigen reflex testing policy, and HCV Prenatal testing policy, 2023

	HCV reflex RNA or antigen testing implemented?	HCV Prenatal testing implemented?
AB	Yes	Yes
BC	Yes	No
МВ	Yes	No
NB	Yes	No
NL	Yes	No
NS	Yes	No
ON	Yes	No
PE	Yes	No
QC	No	No
SK	Yes	Yes
NT	Unknown	No
NU	Yes	No
YT	Yes	No

iii. Is One-Time HBV Testing for Adults Implemented?

Rationale:

- The Canadian Task Force on Preventive Health Care (CTFPHC) has not developed national screening guidelines for HBV. However, new guidelines from the United States recommend universal one-time screening for chronic hepatitis B infections in all adults, with consent.¹²
- The new US screening guidelines have been found to increase screening rates in primary clinics without increasing clinical burden while also removing the stigma of asking about risk factors.²⁸

Monitoring & Evaluation Methodology:

An environmental scan was conducted to determine which provinces and territories have implemented universal one-time HBV testing for adults.

No provinces or territories were found to have such a policy in place. HBV screening continues to be a patchwork of risk-based factors that differ from jurisdiction to jurisdiction.

Netric 4: Access to HCV and HBV Treatment Following Diagnosis

i. Are One-Day HCV Treatment Starts Possible?

Rationale:

- The HCV testing process is itself a barrier.
- In most settings, it requires 3 visits: screening for the antibody, RNA testing to confirm that the infection is still active, and receiving and discussing the results.
- Up to **3 out of 4 people in priority populations are lost to care during this process**.⁹

Simpler testing technology and approval policies would improve progression through the cascade of care to treatment and aid elimination efforts.

Expediting linkage to care and treatment initiation, as suggested in the *Blueprint*, could close gaps in the cascade of care for HCV. To expedite linkage to care, "test-and-treat strategies," where treatment providers are able to initiate HCV treatment on the same day that they test or diagnose a patient, must be implemented in our efforts toward elimination.

Monitoring & Evaluation Methodology:

To determine the ability of treatment providers across Canada to initiate HCV treatment on the same day that a patient receives an HCV diagnosis, a review of the criteria for reimbursement of DAAs in the ten provincial, three territorial, and one federal publicly-funded drug plans was conducted.²⁹Attempts to verify data were made with Ministry of Health staff in each province and territory between February and April of 2023 and are the source for any differences between the study cited and Table 7. Of note, DAA reimbursement policies that hinder one-day starts have been removed or improved in seven provinces since the 2021 Progress Report.

ii. Are 1st-line Recommended Antivirals for HBV Publicly Funded?

Rationale:

The Canadian Association for the Study of the Liver's *Management of Hepatitis B Virus Infection Guidelines*¹³ make recommendations for first-line therapies. This metric evaluates the accessibility of these first-line therapies on publicly-funded drug plans.

Monitoring & Evaluation Methodology:

To determine the ability of treatment providers across Canada to initiate 1st-line recommended therapies, a review of the criteria for reimbursement in the ten provincial and three territorial publicly-funded drug plans was conducted.

Restrictions detected included the requirement for the patient to have tried and failed with a non-recommended therapy such as lamivudine (LAM) before the 1st-line therapy would be reimbursed, and co-pays and deductibles in some jurisdictions.

Table 7. Matrix of HCV treatment reimbursement approval policies for Canadian publicly-funded drugplans, 2023

Public Drug Plan	POC HCV RNA test can be used for DAA approval	HCV genotype test required	Fibrosis stage required	2 HCV RNA+ tests required	Time taken and method for DAA approval
Alberta	Unknown	No	No	No	Faxed form 1-3 days
British Columbia	Unknown	No	Yes	No	Online same day
Manitoba	Unknown	Yes	No	No	Faxed form 2-14 days
New Brunswick	Unknown	No	No	No	Faxed form 2-5 days (was up to 28 days)
Newfoundland & Labrador	Unknown	No	No	No	Faxed form Up to 14 days (was up to 28 days)
Nova Scotia	Unknown	No	No	No	Approval not required
Ontario	Unknown	Yes	No	No*	Approval not required
Prince Edward Island	Yes	No	No	No	Approval not required
Quebec	Unknown	No	No	No	Online Same day
Saskatchewan	Unknown	No	No	No	Telephone Same day
Northwest Territories	Unknown	No	No	No	Faxed form 1-3 days
Nunavut	Unknown	No	No	No	Faxed form 1-3 days
Yukon	Unknown	Yes	Yes	No	Faxed form Up to 28 days
People with FN Status (NIHB)	Unknown	No	No	No	Faxed form 1 day

For ease of reference, the policy improvements since the 2021 Report are bordered in bold.

Policy facilitates 1-day HCV treatment Policy may limit 1-day HCV treatment Policy limits 1-day HCV treatment

*No longer required as there are other options provided for proving chronicity.

Table 8. Matrix of HBV 1st line therapy reimbursement approval policies in Canadian publicly-fundeddrug plans, 2023

	1st-line recommended oral HBV treatment on public formulary? (ETV, TAF, TDF, Peg-IFN	
AB	yes, with non-group Blue Cross annual premiums (ETV, TDF, Peg-IFN)	•
BC	yes, with annual deductible (ETV, TDF) and only if failed LAM	•
MB	yes (ETV, TDF)	
NB	yes (ETV, TDF)	
NL	yes (ETV, TDF), only if failed LAM	•
NS	yes (ETV, TDF)	
ON	yes (ETV, TDF)	
PE	yes (ETV, TDF)	
QC	yes (ETV, TDF; TAF in rare exceptions)	
SK	yes (ETV, TDF)	
NT	yes (ETV, TDF)	
NU	yes (ETV, TDF)	
YT	yes (ETV, TDF)	

Metric 5: Annual HCV Treatment Prescribing Counts

Rationale:

In order to achieve the HCV treatment coverage goals set out by the WHO and in the *Blueprint*, modelling has been done to determine how many people living with HCV would need to start treatment each year in Canada so that 80% of all people living with HCV have received treatment by 2030. To evaluate progress towards this goal, we looked at how many people started HCV treatment each year and compared this to the modelled annual treatment targets that have been set to determine whether treatment uptake is on track.

Monitoring & Evaluation Methodology:

Data on total HCV patient estimates per year from each province in Canada were licensed from IQVIA®.³⁰ The HCV patient estimates from IQVIA® are based on projected numbers from anonymized patient prescription data, and only include prescriptions for DAAs, not interferon or ribavirin. The projected HCV patient numbers per year that IQVIA® provided were cross-checked against actual HCV patient counts obtained from provincial drug plans in British Columbia³¹ and Ontario³² for specific years to determine the approximate level of accuracy for the IQVIA® patient projection methodology. Based on these cross-checks, <u>while the projected patient data from IQVIA® is not an exact count of HCV patients treated in each province per year</u>, it is within an acceptable range. It is believed to accurately represent the trends and patterns in HCV treatment uptake at a provincial level. Yukon data was provided directly by Ministry of Health staff, and is not modelled.

Modelled targets for the annual number of HCV treatments required each year to be 'on track' to reach HCV elimination targets by 2030 were obtained from the most recently available published estimates.³³

In order to set a treatment initiation target for each jurisdiction, the most recent estimate of the number of people living with HCV (PLHCV) for that jurisdiction was taken, multiplied by the 80% treatment target, then divided by sixteen (for the years 2015-2030, as 2015 is the baseline year for WHO targets). These targets may underestimate the number of treatment initiations required each year to reach the 2030 elimination goals; however, given the paucity of data, they are the most relevant indicator that can currently be provided.

Table 9. Estimated prevalence of HCV, HBV, annual HCV treatment targets, and projected annual HCV patient treatment (DAAs) counts for Canadian provinces, 2015-2022

	-	Annual treatment	Estimated people living with HBV	Total Patients					2022		
4.0	HCV	target		2015	2016	2017	2018	2019	2020	2021	
AB	24983	1249	unknown	1430	1235	1669	2048	1822	1297	944	822
BC	28607	1788	unknown	2517	2432	3052	4266	3434	2420	1973	1814
MB	8715	436	unknown	301	329	459	708	544	395	416	355
NB	2559	128	unknown	174	148	223	319	371	349	290	274
NL	664	33	unknown	50	70	50	85	112	78	156	106
NS	4411	221	unknown	386	318	287	573	738	446	368	405
ON	119104	5955	unknown	5490	5817	6929	6908	5937	4259	4017	3645
PE	624	31	unknown	0	1	40	96	181	62	26	69
QC	49794	2490	unknown	1702	1557	1699	2312	2147	1677	1303	1138
SK	6467	323	unknown	245	426	1130	1483	1629	1007	808	725
NT	778	39	unknown								
NU	243	12	unknown	-							
YT	1209	60	unknown	43	33	45	62	68	25	20	9

Metric 6: Prevention Measures

i. Coverage of Needles and Syringes Distributed Per Person Who Injects Drugs (PWID)

Rationale:

- PWID are a priority population for HCV prevention interventions.
- The highest rates of new HCV infections in Canada are found among PWID. These account for up to **85%** of all new hepatitis C infections.⁹
- HCV is preventable with evidence-based, WHO-recommended, and cost-effective interventions such as needle and syringe programs (NSP) and opioid agonist therapy (OAT). Combined, these interventions reduce the risk of hepatitis C infection by up to **74%**.⁹
- HBV is also transmissible through the same pathways as HCV, so this is also an effective HBV prevention strategy.

Harm reduction is by far the most effective prevention strategy for hepatitis C.

The *Global Health Sector Strategy on Viral Hepatitis* sets the following targets for the number of sterile needles and syringes provided per PWID per year to:

200 sterile needles/syringes by 2020 300 sterile needles/syringes by 2030

While the *Blueprint* sets higher targets (500 for 2025 and 750 for 2030), we have aligned the metric for this report with the WHO target of 200. Once again, we have chosen to use 2019 data as it is considered to be more representative than that of 2020 due to pandemic-related service delivery irregularities.

Monitoring & Evaluation Methodology:

Only British Columbia tracked and reported both the number of PWID estimated in each province and territory and the number of sterile needles and syringes distributed in 2019.³⁴ For other provinces and territories that report only the number of syringes and needles distributed but not a number of PWID, we used the estimated 2016 population prevalence from a study by Jacka et al,³⁵ the same study used in the 2021 Progress Report, and adjusted for 2019 population.³⁶ The number distributed was assessed against the 2020 target of 200 sterile needles and syringes per PWID, and expressed as a percentage of that target.

	Estimated # of needles and syringes distributed	Estimated population, 2019 ³⁶	Estimated population prevalence, %, 2016 ³⁵	Estimated population of PWID adjusted for 2019	Estimated # of needles and syringes per PWID	% of 2020 target (200/PWID)
AB	Not available	4,361,701	0.16	6979	-	-
BC					336 ³⁴	168%
MB	3,200,000	1,369,954	0.97	13,289	241	121%
NB	Not available	777,128	0.99	7694	-	-
NL	773,080	523,427	0.82	4292	180	90%
NS	1,600,000	970,243	0.58	5627	284	142%
ON	23,508,693	14,544,701	0.81	117,812	200	100%
PE	374,502	157,419	0.53	834	449	225%
QC	2,867,258	8,503,483	0.27	22,959	125	63%
SK	Not available	1,172,479	0.97	11,373	-	-
NT	Not available	45,070	N/A	N/A	-	-
NU	Not available	38,592	N/A	N/A	-	-
YT	Not available	41,362	0.63	261	-	-

Table 10. Population Size estimate of PWID and Estimated number of sterile needles and syringesdistributed per PWID/year in Canada, 2019

ii. Is Birth Dose HBV Vaccination Implemented?

Rationale:

- HBV is a vaccine-preventable disease. People exposed to HBV who develop a chronic infection will live with this for life, as there is no curative therapy for HBV, only suppressive treatment. HBV damages the liver and is a leading global cause of hepatocellular carcinoma and liver failure. Therefore, vaccination is the most important aspect of HBV prevention and elimination efforts.
- The WHO recommends that all infants receive the first dose of HBV vaccine within 24 hours of birth.³⁷ Despite these recommendations, Canadian provinces and territories offer the HBV vaccine at varying ages, from birth to 12 years.
- Infant vaccination is especially important as **over 90% of infants who become infected will develop chronic hepatitis B**, compared to 5% of adults. (95% of adults will clear a hepatitis B infection spontaneously.)

Implementing birth-dose vaccination across Canada is the #1 way to bring the number of new infections in children to zero.

While it has been put forward that offering HBV vaccination at birth is not necessary in Canada as universal prenatal screening and related interventions prevent vertical transmission, a recent study conducted in Ontario found that coverage of prenatal screening and subsequent investigation is sub-optimal and results in many Ontario-born children being given a diagnosis of HBV before age 12 years.³⁸

Monitoring & Evaluation Methodology:

A review was conducted to determine the age at which the first HBV vaccine dose is offered in each province and territory.

Figure 1. Age at which HBV vaccine dose 1 is offered across Canada, 2023

Is universal adult HBV vaccination recommended and publicly funded?

Rationale:

- With childhood vaccination programs in place since the 1990s, the majority of new cases are reported among the cohort of adults who are too old to have benefitted from these programs or otherwise missed these vaccinations, perhaps due to immigrating to Canada from a country where HBV is prevalent.
- For this reason, the United States has newly adopted a recommendation of HBV vaccination for all adults aged 19-59, in addition to the birth dose vaccination policy.¹⁴

Monitoring & Evaluation Methodology:

We reviewed the vaccination policies in each province and territory to determine if adult HBV vaccination policies recommended universal adult vaccination, and if so, if the vaccination was publicly funded.

No provinces or territories were found to recommend and publicly fund universal HBV vaccinations for adults.

Provincial Corrections

- 1. Is the Ministry of Health responsible for healthcare services in corrections?
- 2. Is access to HCV testing and treatment equivalent to access in the community, or are there additional restrictions related to length of stay or remand status, etc.?
- 3. Does the Ministry report on the number and proportion of PWAI being tested and treated?
- 4. Is a Needle Syringe Program (NSP) implemented as disease prevention?
- 5. Is OAT available to all PWAI (both maintenance and new start prescriptions?)
- 6. Is HBV vaccination offered universally to PWAI (and staff)?

Rationale:

- 1. Having the Ministry of Health responsible for healthcare services in corrections is associated with improved healthcare access and outcomes.²⁰
- 2. When the same standard of health care is not available to people in correctional facilities as in the community, it is a contravention of the UN Standard Minimum Rules for the Treatment of Prisoners (Nelson Mandela Rules).²¹
- 3. Reporting on testing and treatment numbers provides important data to inform policy choices and also provides accountability for the implementation of stated policies.
- 4. NSPs are an important disease prevention tool, including preventing reinfection.
- 5. OAT availability again speaks to the compliance with the Nelson Mandela Rules, referenced above.
- 6. NACI recommends HBV vaccination for all PWAI and corrections staff.¹⁸

Monitoring & Evaluation Methodology:

We reviewed the policies in each province and territory to complete Table 3 on page 26, and where possible, verified the data with ministry staff.

References

- Kwong JC, Ratnasingham S, Campitelli MA, Daneman N, Deeks SL, Manuel DG, Allen VG, Bayoumi AM, Fazil A, Fisman DN, Gershon AS, Gournis E, Heathcote EJ, Jamieson FB, Jha P, Khan KM, Majowicz SE, Mazzulli T, McGeer AJ, Muller MP, Raut A, Rea E, Remis RS, Shahin R, Wright AJ, Zagorski B, Crowcroft NS. The impact of infection on population health: results of the Ontario burden of infectious diseases study. PLoS One. 2012;7(9):e44103. Available at https://pubmed.ncbi.nlm.nih.gov/22962601 (accessed April 2023).
- Popovic N, Williams A, Périnet S, Campeau L, Yang Q, Zhang F, Yan P, Feld JJ, Janjua NZ, Klein MB, Krajden M, Wong W, Cox J. National Hepatitis C estimates: Incidence, prevalence, undiagnosed proportion and treatment, Canada, 2019. Can Commun Dis Rep 2022;48(11/12):540–9. Available at: https://doi.org/10.14745/ccdr.v48i1112a07 (accessed March 2023).
- Polaris Observatory. Canada HBV Dashboard. (2020) Available at: https://cdafound.org/polaris-countries-dashboard/#footnote-hbv (accessed April 2023).
- 4. World Health Organization. Global Health Sector Strategy on Viral Hepatitis 2016-2021 (June 2016). Geneva, Switzerland. Available at: https://apps.who.int/iris/bitstream/handle/10665/246177/WHO-HIV-2016.06eng.pdf?sequence=1 (accessed March 2021).
- World Health Organization. Global health sector strategy on , respectively, HV, viral hepatitis and sexually transmitted infections for the period 2022-2030. (2022) Geneva, Switzerland. Available at: https://www.who.int/teams/global-hiv-hepatitisand-stis-programmes/strategies/global-health-sector-strategies (accessed March 2023).
- 6. Public Health Agency of Canada. A Pan-Canadian Framework for Action on Reducing the Health Impact of Sexually Transmitted and Blood-Borne Infections in Canada by 2030. (2018) Ottawa, Canada. Available at: https://www.canada.ca/en/publichealth/services/infectious-diseases/sexual-health-sexually-transmittedinfections/reports-publications/sexually-transmitted-blood-borne-infections-actionframework.html (accessed March 2021).

- Public Health Agency of Canada. Government of Canada five-year action plan on sexually transmitted and blood-borne infections. (2019) Ottawa, Canada. Available at: https://www.canada.ca/en/public-health/services/reportspublications/accelerating-our-response-five-year-action-plan-sexually-transmittedblood-borne-infections.html (accessed March 2021).
- 8. Public Health Ontario. Immunization Coverage Report for School-Based Programs in Ontario: 2019-20 and 2020-21 School Years. (2022).
- The Canadian Network on Hepatitis C Blueprint Writing Committee and Working Groups. Blueprint to inform hepatitis C elimination efforts in Canada. Montreal, QC: Available at: https://canhepc.ca/sites/default/files/media/documents/blueprint_hcv_2019_05.pdf (accessed March 2021).
- INHSU. Meet the members: Professor John Dillon, University of Dundee. (July 2021) Available at: https://inhsu.org/articles/meet-the-members-professor-john-dillonuniversity-of-dundee/ (accessed March 2023).
- 11. Biondi M. What to Expect When You're Expecting...to Start Addressing HCV in Pregnancy [Conference presentation]. March 4, 2023. Canadian Liver Meeting, Halifax, NS.
- Conners EE, Panagiotakopoulos L, Hofmeister MG, et al. Screening and Testing for Hepatitis B Virus Infection: CDC Recommendations — United States, 2023. MMWR Recomm Rep 2023;72(No. RR-1):1–25. Available at: http://dx.doi.org/10.15585/mmwr.rr7201a1 (accessed April 2023).
- Coffin C, Fung S, Alvarez F, Cooper C, et al. Management of Hepatitis B Virus Infection: 2018 Guidelines for the Canadian Association for the Study of the Liver and Association of Medical Microbiology and Infectious Disease Canada. (2018) Available at: https://doi.org/10.3138/canlivj.2018-0008. (accessed March 2023).
- Weng MK, Doshani M, Khan MA, et al. Universal Hepatitis B Vaccination in Adults Aged 19–59 Years: Updated Recommendations of the Advisory Committee on Immunization Practices — United States, 2022. MMWR Morb Mortal Wkly Rep 2022;71:477–483. Available at: http://dx.doi.org/10.15585/mmwr.mm7113a1 (accessed March 2023).
- 15. Coalition for Global Hepatitis Elimination. Canada National Hepatitis Elimination Profile. (March 2023) Available at:

https://www.globalhep.org/sites/default/files/content/page/files/2023-03/National%20Hepatitis%20Elimination%20Profile-Canada-2023%20update-March27-final.pdf (accessed April 2023).

- Bartlett SR, Buxton J, Palayew A, Picchio CA, Janjua NZ, Kronfli N. Hepatitis C Virus Prevalence, Screening, and Treatment Among People Who Are Incarcerated in Canada: Leaving No One Behind in the Direct-Acting Antiviral Era. *Clin Liver Dis (Hoboken).* 2021;17(2):75-80. Published 2021 Feb 28. Available at: 10.1002/cld.1023 (accessed April 2021).
- Correctional Service Canada. 2021-22 Program Inventory. Available at: https://www.csc-scc.gc.ca/005/007/005007-4500-2021-2022-04-en (accessed April 2023).
- Government of Canada. Hepatitis B vaccine: Canadian Immunization Guide. (updated May 2022) Available at: https://www.canada.ca/en/publichealth/services/publications/healthy-living/canadian-immunization-guide-part-4active-vaccines/page-7-hepatitis-b-vaccine.html#a6 (accessed March 2023).
- McCall-Smith K. United Nations Standard Minimum Rules for the Treatment of Prisoners (Nelson Mandela Rules). Available at: https://www.jstor.org/stable/10.5305/intelegamate.55.6.1180 (accessed April 2021).
- 20. Kronfli N, Dussault C, Bartlett S, Fuchs D, Kaita K, Harland K, Martin B, Whitten C, Cox J. Disparities in hepatitis C care across Canadian provincial prisons: implications for hepatitis C micro-elimination. Canadian Liver Journal 2021: e20200035. Available at: https://canlivj.utpjournals.press/doi/pdf/10.3138/canlivj-2020-0035 (accessed April 2021).
- United Nations Office on Drugs and Crime. The United Nations Standard Minimum Rules for the Treatment of Prisoners (2015). https://www.unodc.org/documents/justice-and-prisonreform/Nelson_Mandela_Rules-E-ebook.pdf (accessed May 2021).
- Arditi B, Emont J, Friedman A, D'Alton M, Wen T. Deliveries Among Patients With Maternal Hepatitis C Virus Infection in the United States, 2000–2019. Obstetrics & Gynecology 141(4):p 828-836, April 2023. Available at: https://pubmed.ncbi.nlm.nih.gov/36897136 (accessed April 2023).
- 23. AbbVie Canada. MAVIRET® (glecaprevir/pibrentasvir) Approved by Health Canada for Paediatric Patients with Chronic Hepatitis C. Available at:

https://www.newswire.ca/news-releases/maviret-r-glecaprevir-pibrentasvirapproved-by-health-canada-for-paediatric-patients-with-chronic-hepatitis-c-838022305.html (accessed April 2023).

- Public Health Agency of Canada: Report on Hepatitis B and C in Canada: 2016.
 (2019) Available at: https://www.canada.ca/en/services/health/publications/diseases-conditions/reporthepatitis-b-c-canada-2016 (accessed March 2023).
- Public Health Agency of Canada: Report on Hepatitis B and C in Canada: 2017. (2019) Available at: https://www.globalhep.org/sites/default/files/content/resource/files/2020-06/Report%20on%20hepatitis%20B%20and%20C%20in%20Canada%202017.pdf (accessed March 2023).
- Public Health Agency of Canada. Report on Hepatitis B and C in Canada: 2018. (2021) Available at: https://www.canada.ca/en/publichealth/services/publications/diseases-conditions/report-hepatitis-b-c-canada-2018 (accessed March 2023).
- Public Health Agency of Canada. Report on Hepatitis B and C Surveillance in Canada: 2019. (2022) Available at: https://www.canada.ca/en/publichealth/services/publications/diseases-conditions/report-hepatitis-b-c-canada-2019 (accessed March 2023).
- 28. Chu RV et al. Society of General Internal Medicine Annual Meeting, 2023. (As presented by Sam So at the 2023 North American Viral Hepatitis Elimination Summit, March 25, 2023, Los Angeles, CA)
- 29. Snell G, van Gennip J, Marshall AD, Bonn M, Fuchs D, Yetman G, Butler-McPhee J, Cooper CL, Gallagher L, Kronfli N, Williams S, Bruneau J, Feld JJ, Janjua NZ, Klein M, Grebely J, Bartlett SR. (in press). Public reimbursement policies in Canada for directacting antiviral treatment of Hepatitis C virus infection: a descriptive study. Canadian Liver Journal.
- 30. IQVIA® Canada https://www.iqvia.com/locations/canada (accessed March 2023).
- Clementi E, Bartlett S, Wong S, Yu A, Pearce M, Binka M, Alvarez M, Jeong D, Wilton J, et al. Treatment differential in HCV treatment prescribers in British Columbia over time [poster abstract]. In Canadian Liver Meeting; February 28-March 1, 2020, Montreal, Canada. Available at:

https://canlivj.utpjournals.press/doi/full/10.3138/canlivj.3.1.abst (accessed March 2021).

- 32. Tadrous M, Mason K, Dodd Z, Guyton M, Powis J, McCormack D, Gomes T. Prescribing trends in Direct Acting Antivirals for the treatment of hepatitis C in Ontario, Canada. Canadian Liver Journal 4(1); 51-58. Available at: https://canlivj.utpjournals.press/doi/10.3138/canlivj-2020-0025 (accessed March 2021).
- Feld JJ, Klein M, Rahal Y, Lee S, et al. Timing of elimination of hepatitis C virus in Canada's provinces. (2022) Available at: https://canlivj.utpjournals.press/doi/full/10.3138/canlivj-2022-0003 (accessed April 2023).
- 34. Papamihali K, Ng J, Buxton JA. Harm Reduction Strategies and Services Policy Indicators Report: Review of data to December 2019. (July 2022) Vancouver, BC. BC Centre for Disease Control (BCCDC).
- 35. Jacka B, Larney S, Degenhardt L, Janjua N, Høj S, Krajden M, Grebely J, Bruneau J. Prevalence of Injecting Drug Use and Coverage of Interventions to Prevent HIV and Hepatitis C Virus Infection Among People Who Inject Drugs in Canada. American Journal of Public Health 110, 45_50, Available at: 10.2105/AJPH.2019.305379 (accessed April 2023).
- 36. Statistics Canada. Population estimates. Available at: https://www150.statcan.gc.ca (accessed March 2023).
- World Health Organization. Recommendations for Immunization, Vaccines and Biologicals; Hepatitis B. Available at: https://www.who.int/immunization/diseases/hepatitisB/en/ (accessed March 2021).
- Biondi M, Austin AM, Cronin K, Nanwa N, et al. Prenatal hepatitis B screening, and hepatitis B burden among children, in Ontario: a descriptive study. CMAJ Oct 2020, 192 (43) E1299-E1305; Available at: 10.1503/cmaj.200290 (accessed March 2021).



www.action hepatitis canada.ca