Hepatitis C Training Program for Healthcare in Ontario Corrections

Designed and delivered by:

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Updated: January 1, 2024

In collaboration with: Ministry of Health, Ministry of Solicitor General, CATIE

Disclosures

Financial and non-financial relationships with organizations in the last two years.

Jordan Feld, MD, MPH	Consultancy fees: Abbvie, Gilead Research grants (to institution): Abbvie, Gilead, Cepheid
Mia Biondi, PhD, NP-PHC	Consultancy fees and/or honoraria from: Specialty Rx Solutions, McKesson Investigator initiated grants: Gilead, AbbVie, Cepheid Ad boards and speaker bureaux: Gilead, AbbVie, Abbott, ViiV
Hemant Shah, MD, MSc	Employee: Specialty Rx Solutions

Four Modules – 20 Minutes Each

1. Implications for Public Health, HCV Transmission and Prevention
2. HCV Screening, Diagnosis and Linkage to Care
3. HCV Assessment: Getting A Person Ready for Treatment
4. HCV Treatment: Making the Right Choice and Monitoring Afterwards

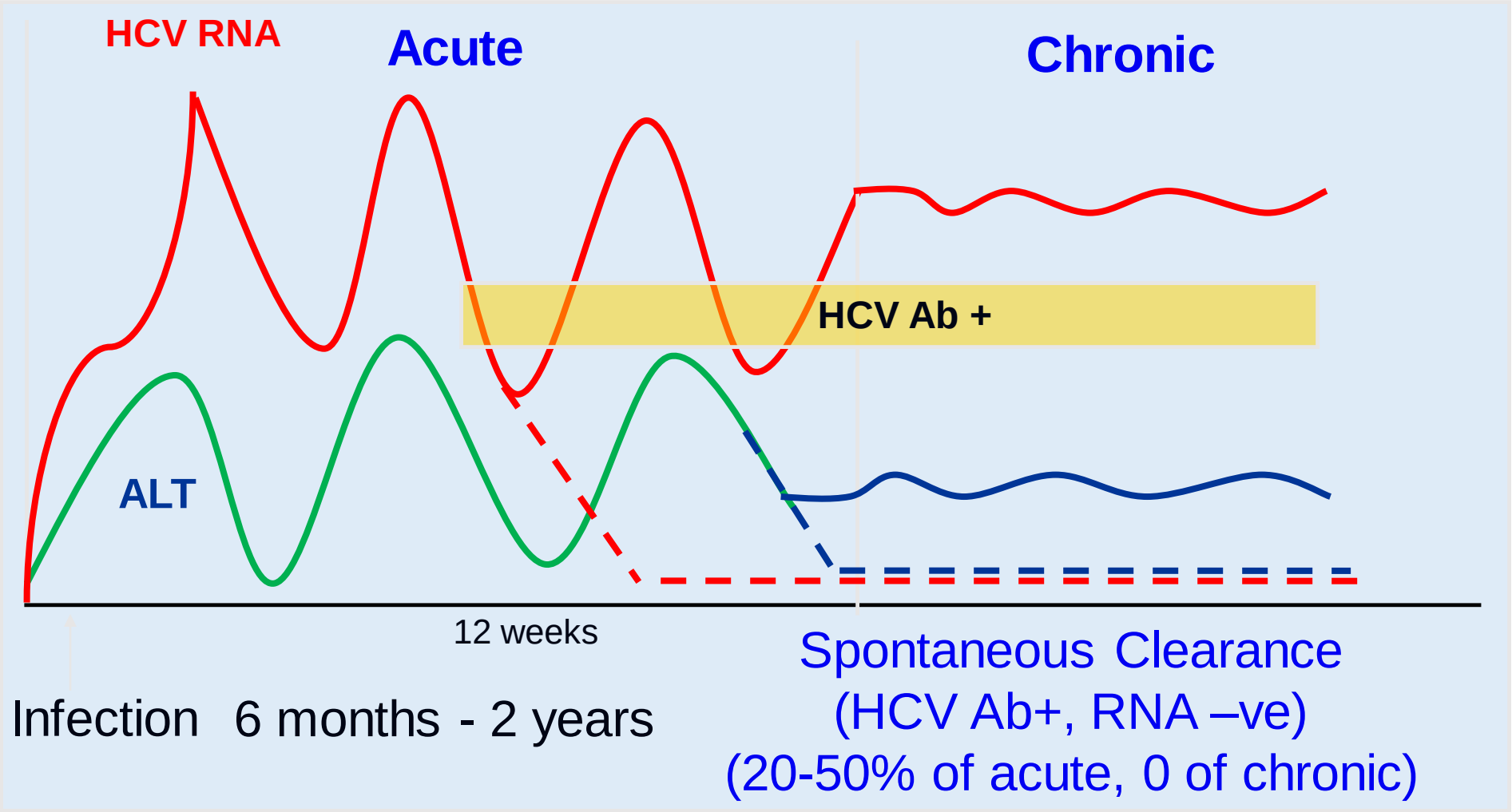
Module Two – Screening, Diagnosis and Linkage to Care

Updated: January 1, 2024

Learning Objectives

- Hepatitis C infection and how to test and diagnose
- Simplification of testing in Ontario
- Understand where people are lost from testing to treatment
  - Review opportunities for reducing these gaps through novel testing and treatment strategies
- Discuss connections to care, and what can be done in corrections to support the process of moving from diagnosis to treatment

HCV Natural History



Slide courtesy of J Feld

Types of Blood Tests

HCV Antibody

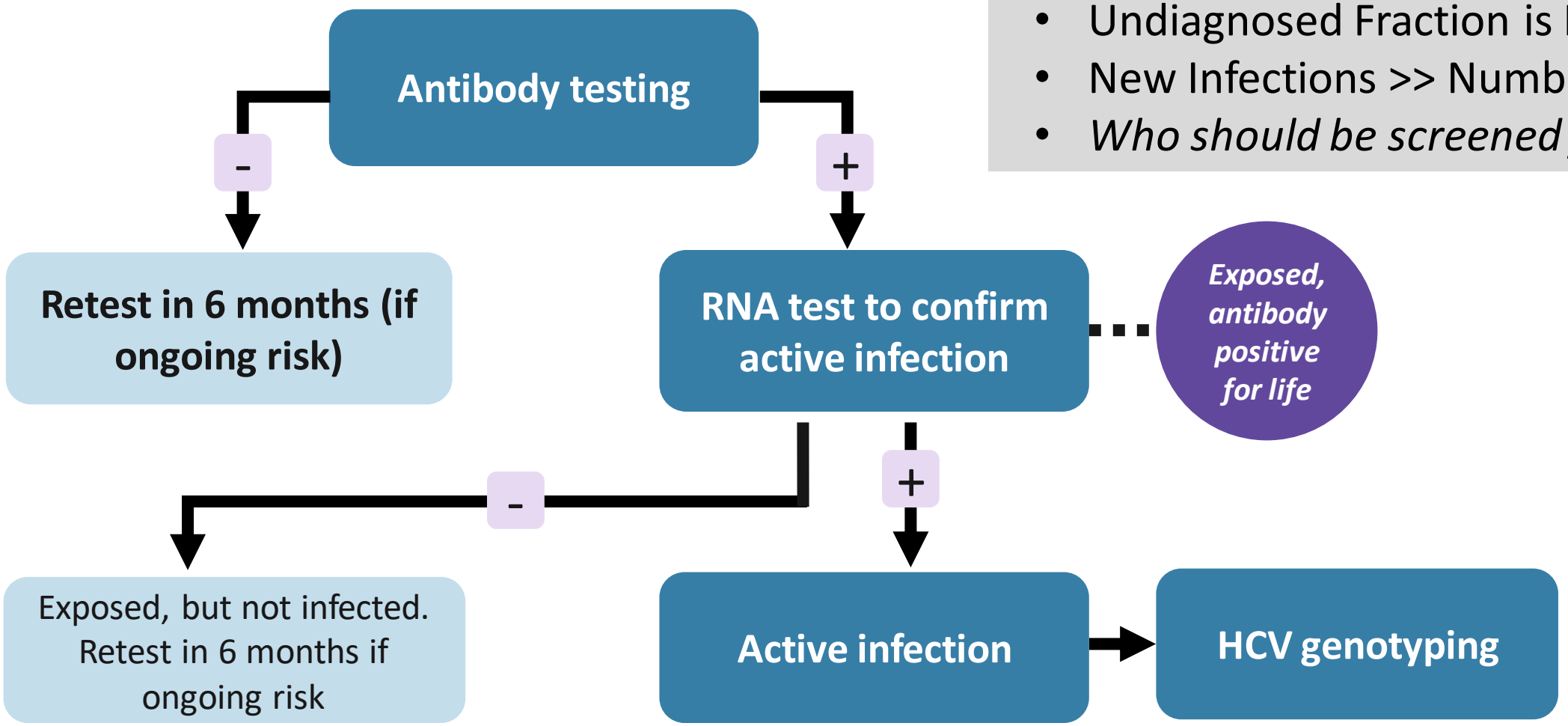
- Looks for antibodies against hepatitis C virus
- Indicates exposure to the virus
- Becomes detectable ~3 months after exposure

HCV RNA

- Detects the hepatitis C virus itself
- Detectable in acute and chronic infection
- Not detectable if the infection has been ‘cleared’ (resolved) by the person’s immune system or after successful treatment
- The “viral load” is the amount of virus in 1 mL of blood
- Genotyping less important now, but could tell you if a new infection

HCV Screening to Diagnosis Algorithm

- Undiagnosed Fraction is Huge!
- New Infections >> Number Cured
- *Who should be screened for HCV?*



Two Major Developments for Ontario

REFLEX TESTING!
Since April 2023

Single RNA with history for chronicity
Since 2021

Venipuncture

Ab+

Measurement of Infection by RNA

Eliminate the need for two tests

Treat

Same sample used for Ab and RNA

How to Confirm Infection vs Exposure

Directly order an RNA if known HCV antibody positive

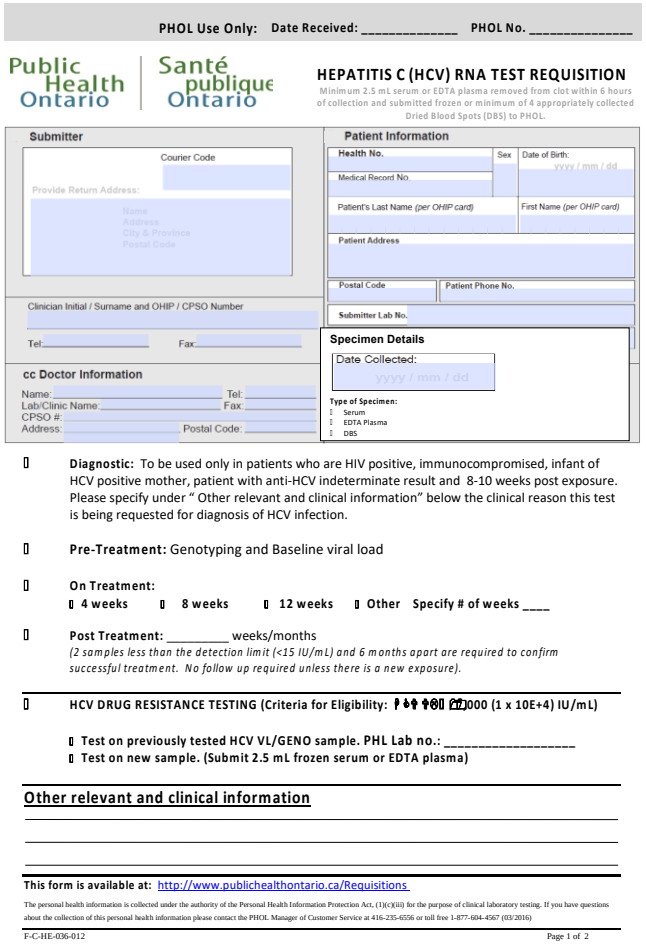
Viral load: Amount of virus per mL of blood

- Measured in IU/mL
- First number doesn't matter 1.6x10E6 > 8.2x10E2

HCV genotype: 1-6

- Automatically performed if first RNA positive
- Need to request genotype if a positive RNA already in the system (e.g. for re-infection vs HCV treatment failure)

SVR 12/Cure: Sustained virologic response 12 weeks after treatment = RNA negative 12 weeks after last dose



PHOL Use Only: Date Received: _____ PHOL No. _____

Public Health Ontario | Santé publique Ontario

HEPATITIS C (HCV) RNA TEST REQUISITION

Minimum 2.5 mL serum or EDTA plasma removed from clot within 6 hours of collection and submitted frozen or minimum of 4 appropriately collected Dried Blood Spots (DBS) to PHOL.

Submitter

Courier Code

Provide Return Address:

Name
Address
City & Province
Postal Code

Clinician Initial / Surname and OHIP / CPSO Number

Tel: Fax:

cc Doctor Information

Name: Tel:
Lab/Clinic Name: Fax:
CPSO #:
Address: Postal Code:

Patient Information

Health No. | Sex | Date of Birth: yyyy / mm / dd

Medical Record No.

Patient's Last Name (per OHIP card) | First Name (per OHIP card)

Patient Address

Postal Code | Patient Phone No.

Submitter Lab No.

Specimen Details

Date Collected: yyyy / mm / dd

Type of Specimen:
- Serum
- EDTA Plasma
- DBS

☐ **Diagnostic:** To be used only in patients who are HIV positive, immunocompromised, infant of HCV positive mother, patient with anti-HCV indeterminate result and 8-10 weeks post exposure. Please specify under " Other relevant and clinical information" below the clinical reason this test is being requested for diagnosis of HCV infection.

☐ **Pre-Treatment:** Genotyping and Baseline viral load

☐ **On Treatment:**
☐ 4 weeks ☐ 8 weeks ☐ 12 weeks ☐ Other Specify # of weeks ____

☐ **Post Treatment:** _____ weeks/months
(2 samples less than the detection limit (<15 IU/mL) and 6 months apart are required to confirm successful treatment. No follow up required unless there is a new exposure).

☐ **HCV DRUG RESISTANCE TESTING (Criteria for Eligibility: [illegible]000 (1 x 10E+4) IU/mL)**

☐ **Test on previously tested HCV VL/GENO sample. PHL Lab no.: _____**
☐ **Test on new sample. (Submit 2.5 mL frozen serum or EDTA plasma)**

Other relevant and clinical information

This form is available at: http://www.publichealthontario.ca/Requisitions

The personal health information is collected under the authority of the Personal Health Information Protection Act, (1)(c)(iii) for the purpose of clinical laboratory testing. If you have questions about the collection of this personal health information please contact the PHOL Manager of Customer Service at 416-235-6556 or toll free 1-877-604-4567 (03/2016)

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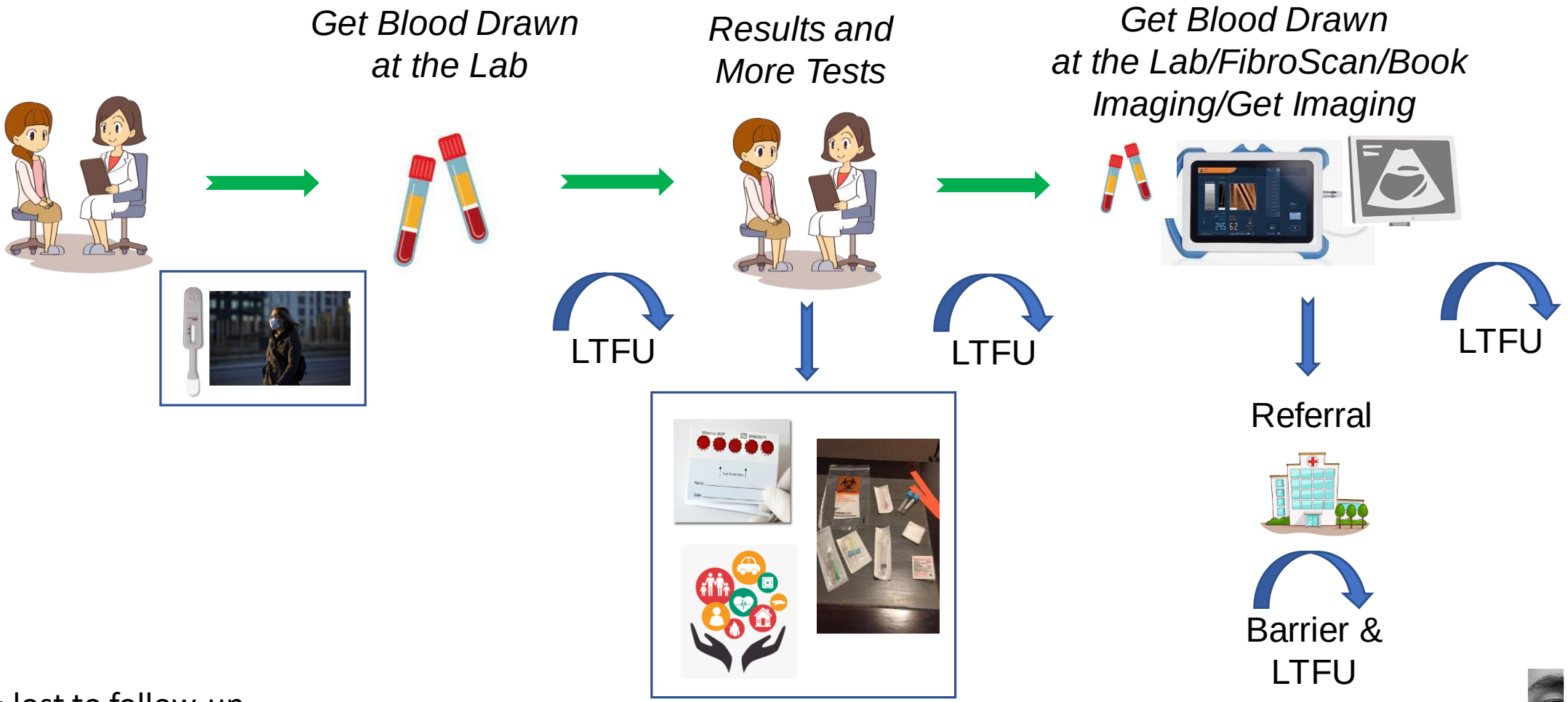
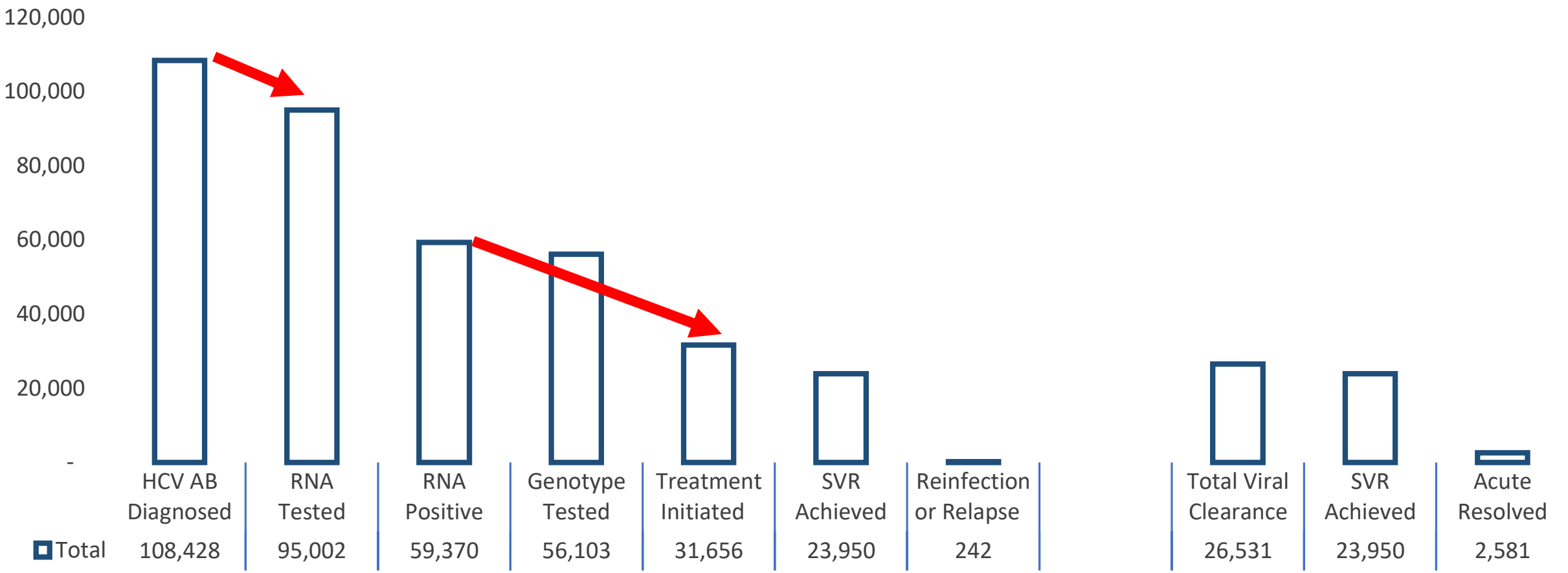
HCV Pre-Treatment Care Continuum



* LTFU = lost to follow-up

Ontario Cascade of Care: Screening to Cure to 2018



Erman *et al.* Canadian Liver Meeting (Ottawa, 2022)

Testing Modalities

<u>Goal:</u> To decrease lost to follow-up while awaiting results

Antibody Screening

RNA Testing

Venipuncture

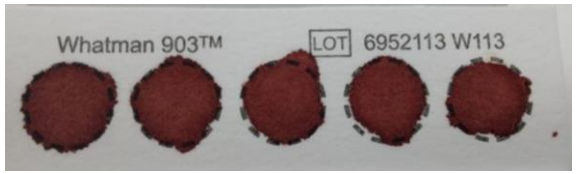
Reflexed for RNA testing if positive

Rapid Point-of-Care Finger-Prick

Venipuncture RNA

OR

Dried Blood Spot RNA



POC Antibody Testing

OraSure

Simple Fingerstick Testing Procedure

STEP 1 *Collect sample*	
STEP 1B *Mix sample in buffer*	
STEP 2 *Insert the device into the buffer*	
STEP 3 *read between 20 and 40 minutes*	
NON-REACTIVE *Line in the C Zone*	
REACTIVE *Line in the C and T Zones*	

Sensitivity 98%, Specificity 100%

VIRCAN 5-Minute Rule

- Even when using POC then DBS, people were leaving
- Hypothesized that the antibody test would become positive faster in those with active infection

OraQuick	HCV RNA(+)	HCV RNA(-)
Positive at 5 minutes	227	
Ne… mi…		
	Sensitivity: 100.0% ***(95% CI 98.4-100%)***	***Specificity: 33.8%*** ***(95% CI 27.4-40.6%)***

If test not positive by 5 minutes, then RNA negative

Dried Blood Spot RNA Testing

Pre-test counselling

- To confirm active infection
- Not POC, will need to be contacted with result
- Reiterate treatment available

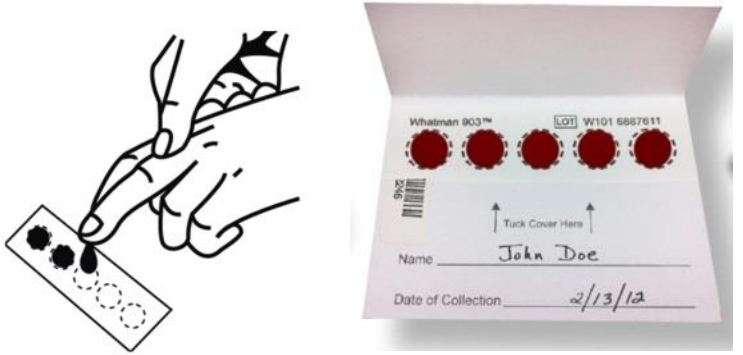
Process:

- Clean finger of person being tested with an alcohol swab, and allow to air dry
- Using a sterile, retractable lancet, puncture the skin just off the centre of the finger pad
- Make sure blood soaks into the paper to completely fill the delineated area
- At least 4 such delineated areas must be prepared

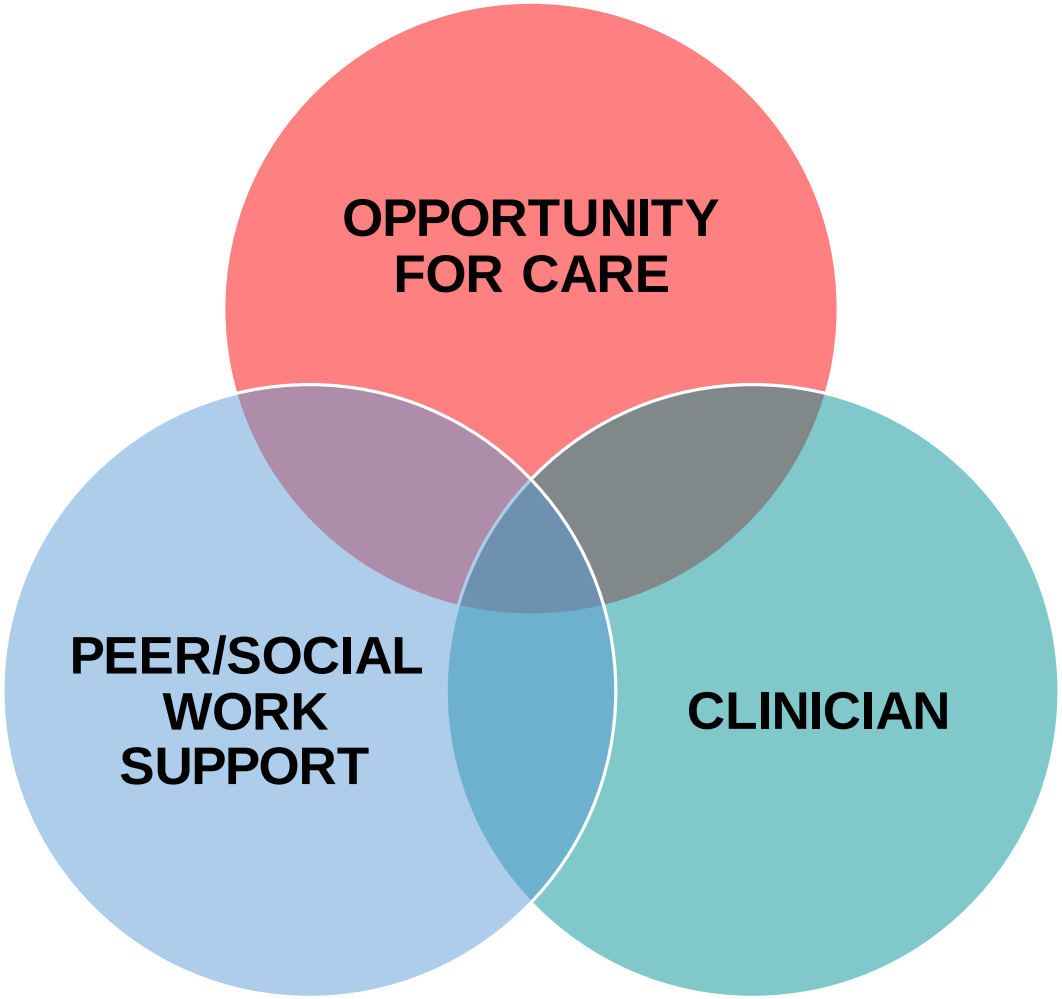
COULD USE FOR SVR!

Finger Prick

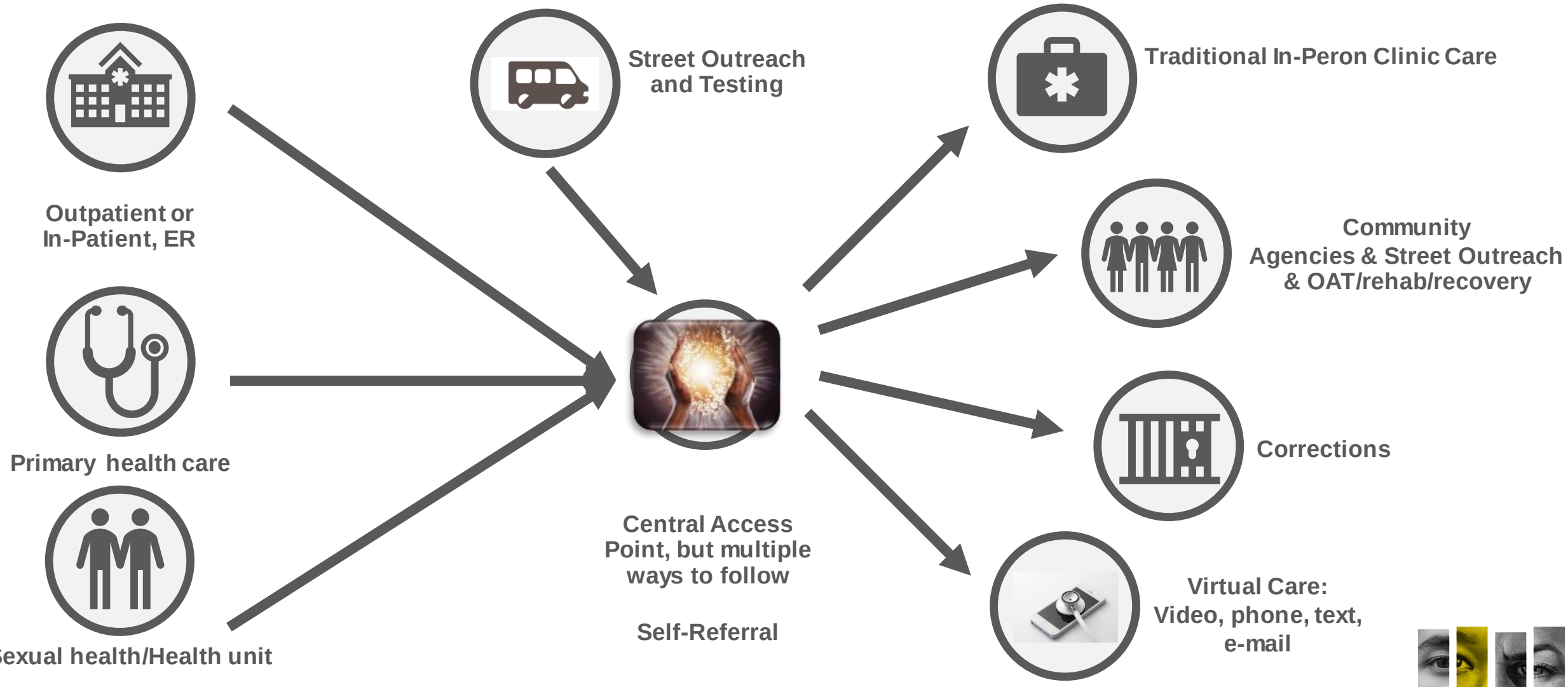
HCV RNA using DBS



A Simplified Model of HCV Care

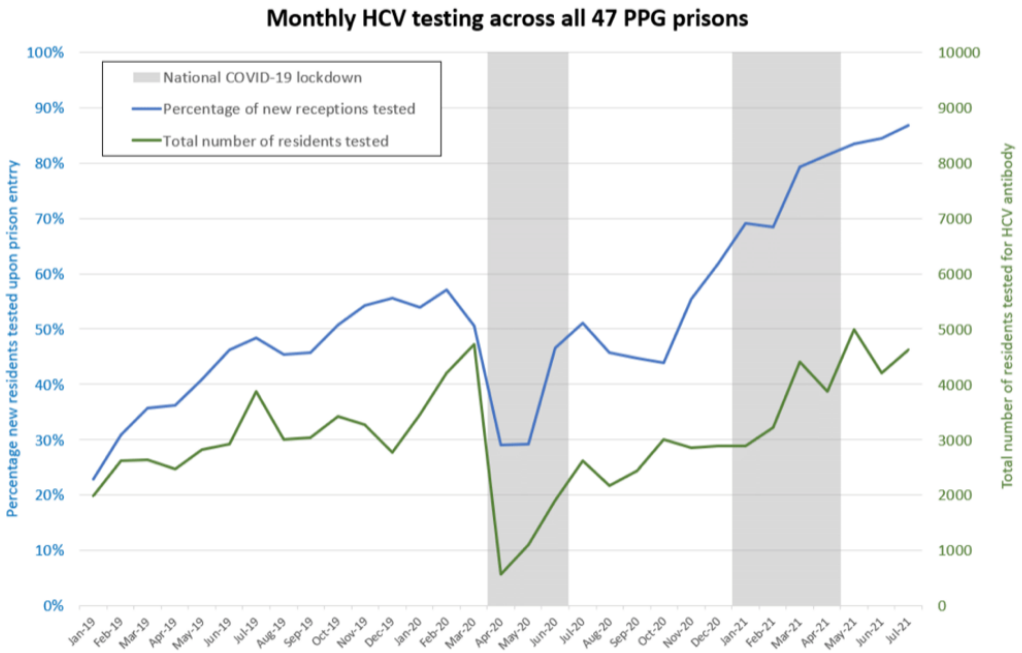


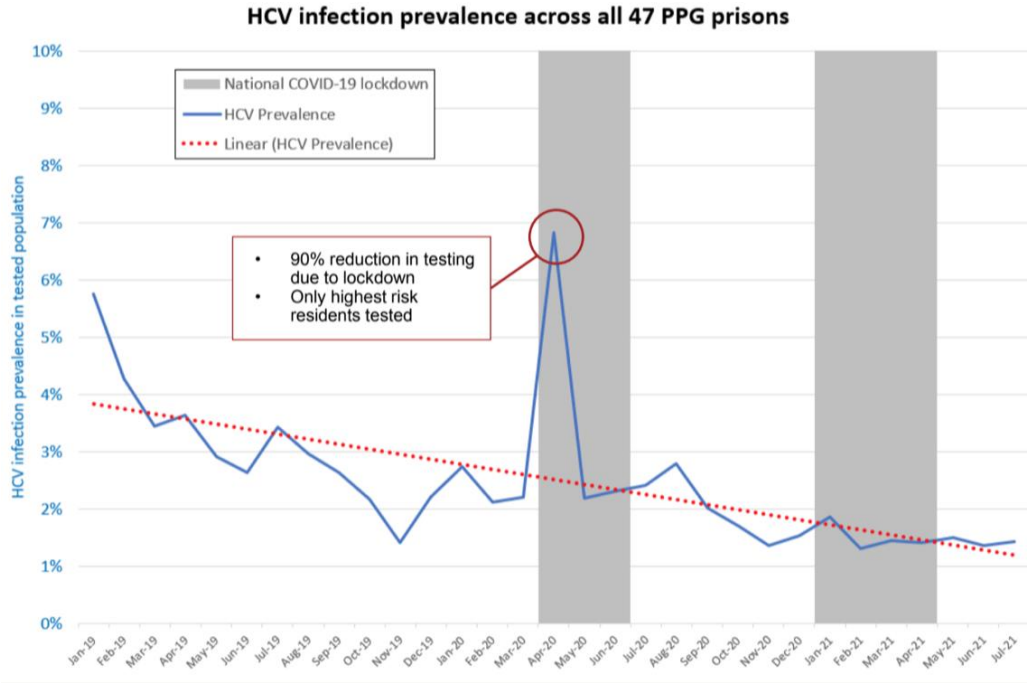
How People May Move Through the System



Global Testing and Treatment Success: Linking In

- **Elimination of HCV in 47 English Prisons** COVID-19-related national Lockdowns
- Prevalence 7%, in Jan 2019, only 25% were tested





- 85,267 HCV Ab tests May 2019-July 2021
- 1,757 newly HCV RNA+
- 1,695 were initiated on treatment

September 2021 17 prisons have achieved micro-elimination status, prevalence to 1.5%!

Troke *et al*. 2021

Global Experiences: Linking In

PEER HARM REDUCTION IN THE "YARD"

Two pilots: 5 attendees, 8 sessions
35 people tested in 2 hours

PARTICIPANT FEEDBACK

"I HAVE SPOKEN WITH PEOPLE I HAVE USED WITH ABOUT SAFER WAYS TO USE"

"A KEY TAKE AWAY MESSAGE IS NOT TO JUDGE MYSELF BY OTHER PEOPLE'S STIGMA"

ROLE OF SOCIAL CAPITAL

Post-Rx Participant Demographics	Total
Participants	23
Age	39 (mean)
Security Classification	Maximum: 20 (87%) Minimum: 3 (13%)
Time served (current sentence)	7 years (average)
Injecting drug use since treatment initiation	10 (43%)

BONDING
Similar situations

↓

BRIDGING
PWID and people who do not use

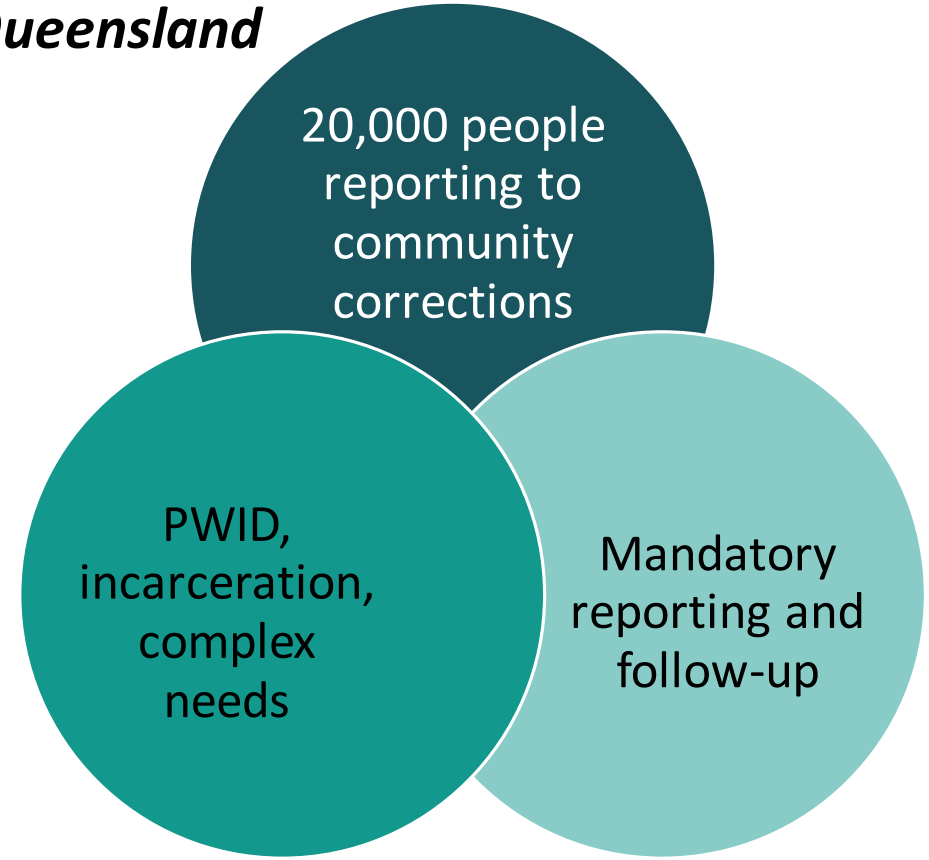
↓

LINKING
Non-judgmental care from nurses, corrections officers

Wright *et al.* 2021; Lafferty *et al.* 2021

Global Example: Linking Out

Queensland



Outcomes

16
Clinics delivered between August 2020 - August 2021

91
clients seen through the clinic across Redlands and Brisbane South Community Corrections

22
clients diagnosed with positive hepatitis C (24% prevalence)

19
clients treated in the community

3
clients referred to specialist

100%
HQ have engaged with 100% of clients on treatment

50
case managers received workforce education

Nguyen *et al.* 2021

Linkage to Care for Corrections: Lots of Options

Release planning from beginning

THEN

Diagnose and do relevant bloodwork inside (everyone)

AND

Initiate treatment inside (where possible)

Link to care for:

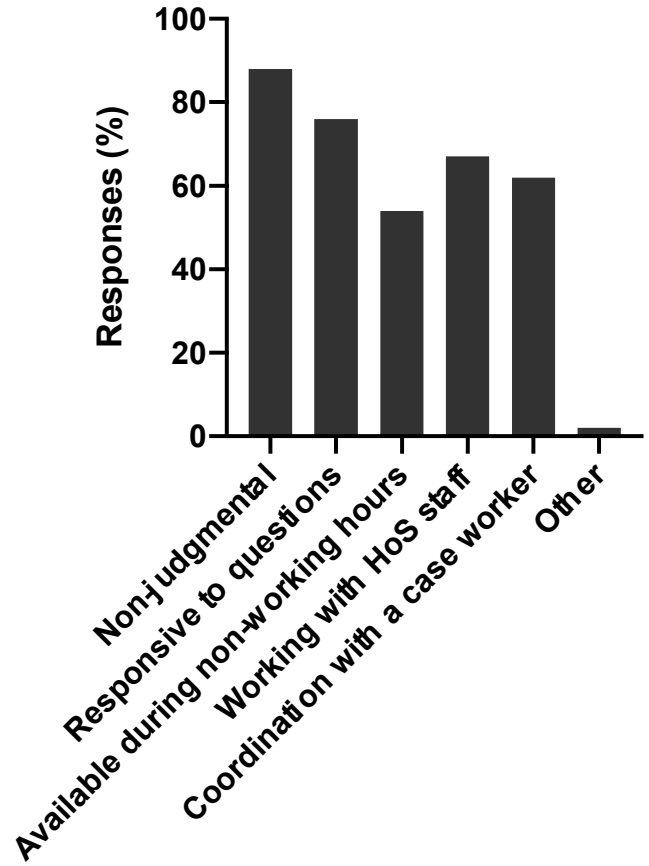
- **Initiating treatment**
- **Following on treatment**
- **Confirming cure**

Types of Organizations

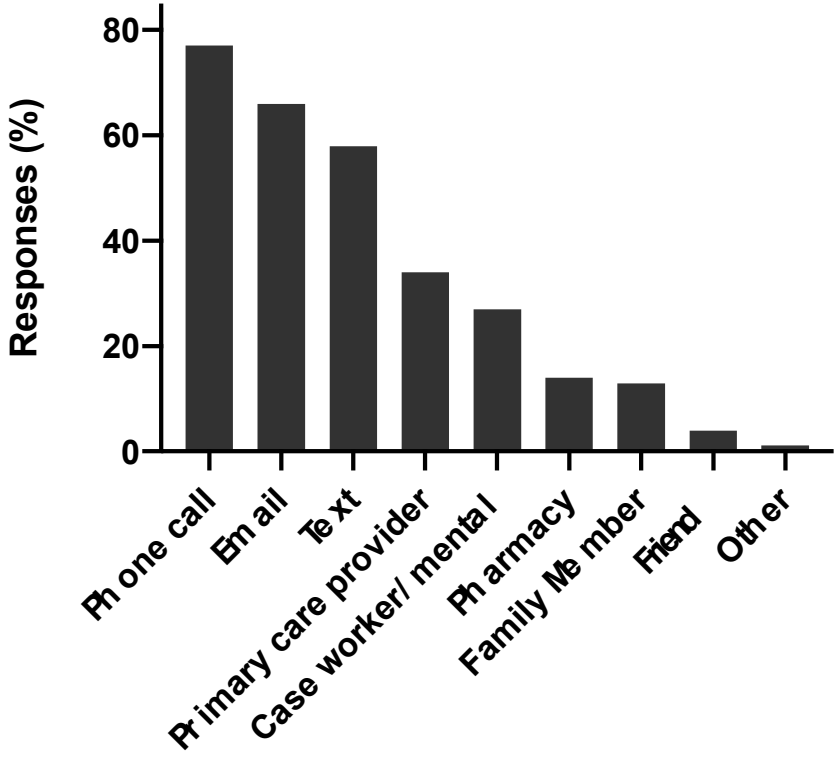
- Ontario HepC Teams
- OAT providers
- Outreach teams
  - Nurse or peer-led
- Self-referral programs
- Primary care

Facilitators for Linkage

PROVIDER ATTRIBUTES



CONTACT METHODS



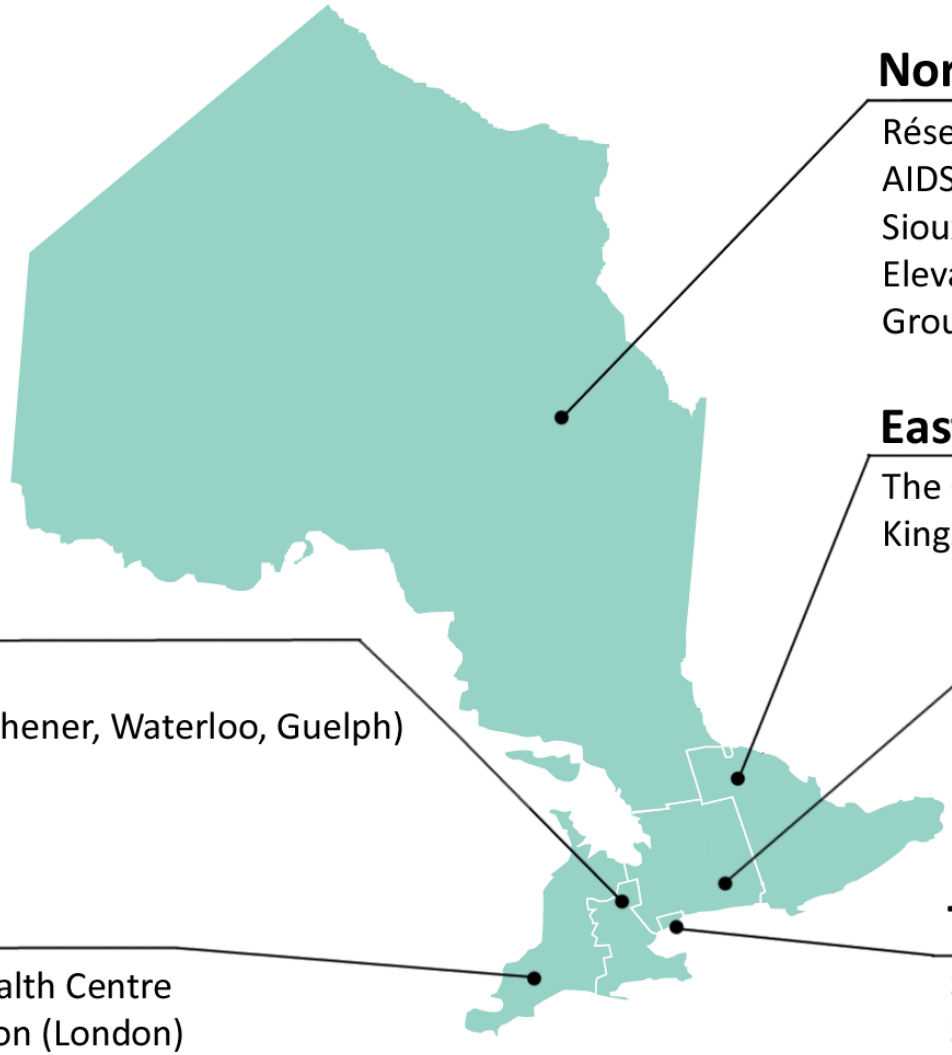
Ontario Hepatitis C Teams Network

- Community-based, interdisciplinary teams funded by Ministry of Health to provide or facilitate low-barrier wrap-around hepatitis C care
- Focused on priority populations, including people released from corrections
- Low-barrier testing and treatment, in addition to education and prevention
- 18 teams provide services in most regions of Ontario

Find your local team: **OntarioHepC.ca**

No Hepatitis C Team in your region? You can find other providers at **Where to? (whereto.catie.ca)**

Ontario Hepatitis C Teams Network



North

Réseau ACCESS Network (Sudbury)
AIDS Committee of North Bay and Area
Sioux Lookout First Nations Health Authority
Elevate NWO (Thunder Bay)
Group Health Centre (Sault Ste. Marie)

East

The Ottawa Hospital
Kingston Community Health Centres

Central West

Niagara Health System
Sanguen Health Centre (Kitchener, Waterloo, Guelph)
Wayside House of Hamilton
Bloom Clinic (Peel Region)

Central East

Durham Community Health Centre (Oshawa)
Lakeridge Health (Whitby)
Peterborough AIDS Resource Network (PARN)

South West

London InterCommunity Health Centre
Regional HIV/AIDS Connection (London)
North Lambton Community Health Centre
Windsor-Essex Community Health Centre

Toronto

South Riverdale Community Health Centre
Sherbourne Health
Prisoners with HIV/AIDS Action Support Network (PASAN)

Summary

- Screening and diagnosing HCV is a two-step process, but reflex testing and other technologies can decrease lost to follow-up
- Simplified, low-barrier models of care which include co-localizing treatment in corrections with other types of care decreases prevalence
- Diagnosing and completing a treatment work-up will facilitate treatment either in corrections, or following – HCV teams can support this post-release community connection

Module 2: 3-Minute Reflection

1. What supports would you need to support a hepatitis C testing program? What barriers exist, and how could they be addressed?

2. For an individual being released into community, what are competing priorities they may have in terms of health and social needs? What barriers does this create to accessing hepatitis C treatment?

3. Do existing relationships exist between the institution and a community HCV care team? If not, go to OntarioHepC.ca and find the ministry-funded team closest to your institution. In either situation, how could you involve them early in the process to ensure an individual is linked to care upon release?

Next Steps

This completes **Module Two.**

After considering the reflection, please continue to the next module in the training program.