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CENTRE *for* EXCELLENCE  
*in* HIV/AIDS



## LESSONS FROM THE HEALTH CONNECT STUDY: ENHANCING STBBI TESTING AND LINKAGE-TO- CARE FOR PEOPLE WHO USE DRUGS

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## LAND ACKNOWLEDGEMENT

I acknowledge I am an uninvited settler on the traditional, ancestral, unceded and occupied homelands of the xʷməθkʷəy̓əm (Musqueam), Skwxwú7mesh Úxwumixw (Squamish), səliłwətaʔt (Tsleil Waututh), kʷikʷətləm (Kwicketlem), Katzie First Nations and the Inuit & Metis peoples who call this land home.

This acknowledgment is a reminder of the discriminatory, racist, and colonial practices that have had a lasting legacy, and continue to create barriers for Indigenous peoples in the healthcare system.



# DISCLOSURES

- Relationships with financial sponsors:
  - Grants/Research Support: CIHR
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  - Consulting Fees: None
  - Patents: None
  - Other: Employee of BC-CfE/PHC; Faculty at UBC (DoM)
  - No relationships to financial sponsors/No other conflicts to disclose



# OVERVIEW OF TODAY'S TALK

Setting the stage: STBBIs in context

Review the Health Connect study

Discuss opportunities for future innovation



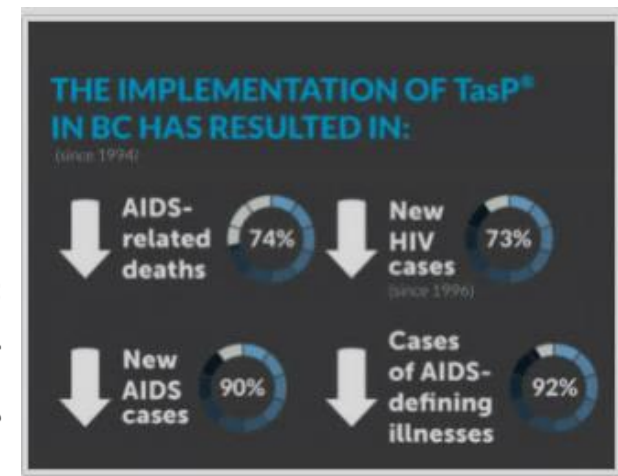
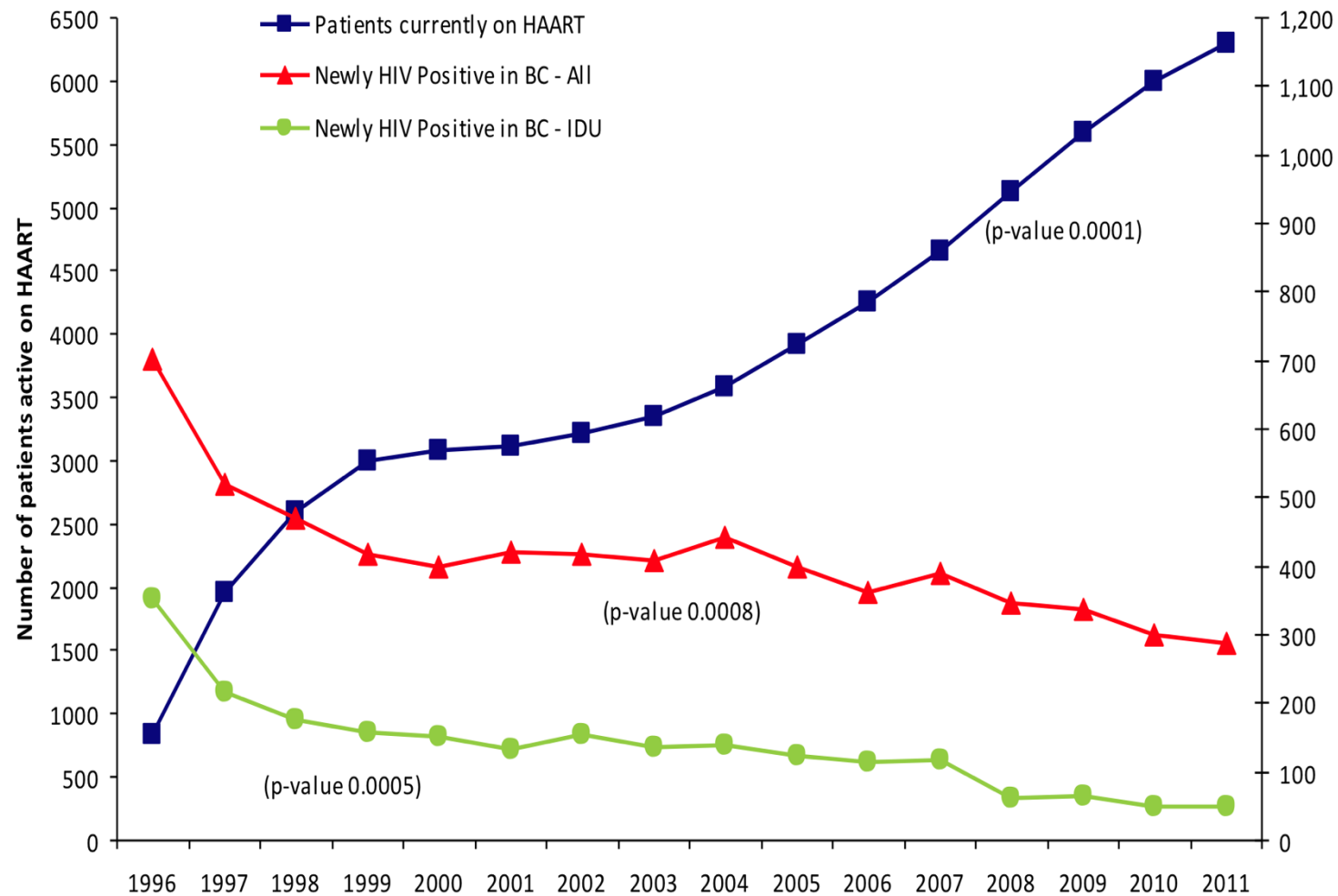
# SETTING THE STAGE: EPIDEMIOLOGY OF STBBIS

- People who use drugs (PWUD) in Vancouver's Downtown Eastside and similar urban settings face **unique vulnerabilities** to acquiring STBBIs.
- Global estimates of HIV prevalence among PWUD are around ~18%.<sup>2</sup>
- **HIV prevalence estimates** in inner-city PWUD cohorts in Vancouver have been similar (~17% in 2006)<sup>1</sup>, however, the uptake of treatment and harm reduction interventions have been widely successful in reducing the incidence of HIV.
- Global and Canadian data show that **>50% of people who inject drugs have been infected with HCV.**<sup>2</sup>
- Some data from DTES report very high seroprevalence (~70%), although HCV incidence has declined in some Vancouver studies following expanded testing/treatment.
- Syphilis transmission has resurged in BC over the last 4 years; the extent to which it is impacting DTES residents and/or PWUD is unclear.

1- Tyndall MW, Wood E, Zhang R, Lai C, Montaner JS, Kerr T. HIV seroprevalence among participants at a Supervised Injection Facility in Vancouver, Canada: implications for prevention, care and treatment. Harm Reduction Journal. 2006 Dec 18;3(1):36.

2-Artenie A, Stone J, Fraser H, Stewart D, Arum C, Lim AG, McNaughton AL, Trickey A, Ward Z, Abramovitz D, Alary M. Incidence of HIV and hepatitis C virus among people who inject drugs, and associations with age and sex or gender: a global systematic review and meta-analysis. The Lancet Gastroenterology & Hepatology. 2023 Jun 1;8(6):533-52.

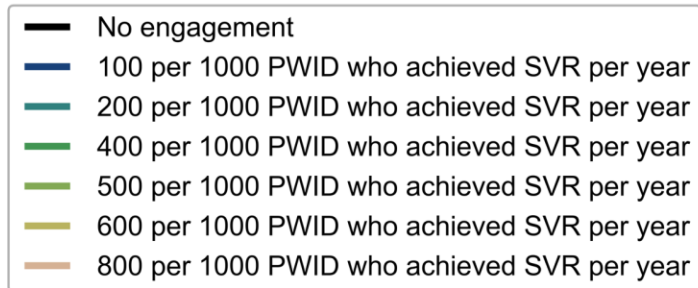
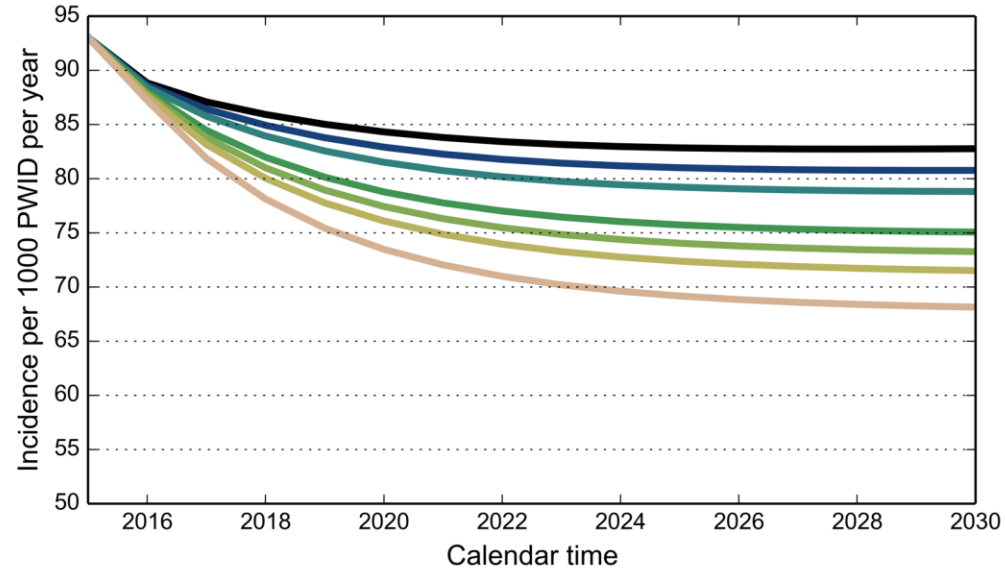
# SETTING THE STAGE: EFFECTIVENESS OF STBBI TREATMENTS



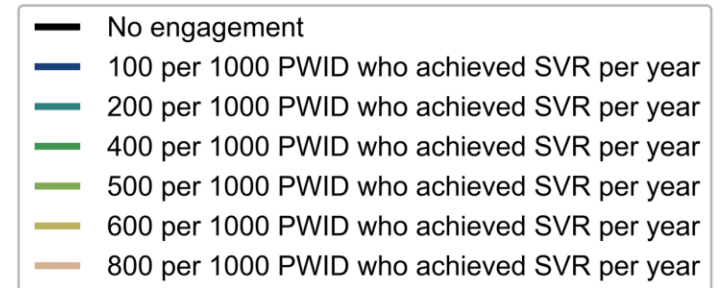
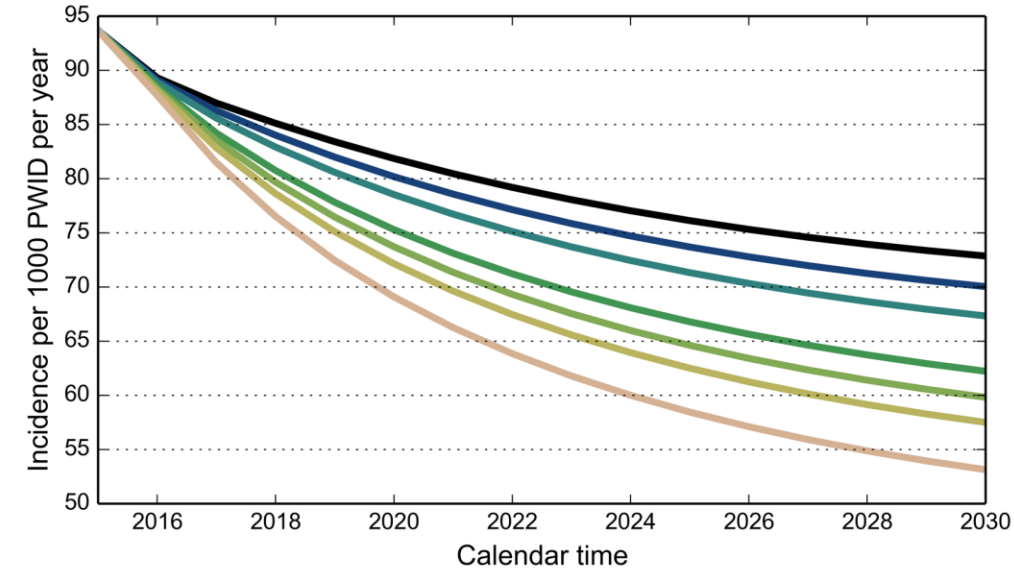
Montaner JS, Lima VD, Barrios R, Yip B, Wood E, Kerr T, Shannon K, Harrigan PR, Hogg RS, Daly P, Kendall P. Association of highly active antiretroviral therapy coverage, population viral load, and yearly new HIV diagnoses in British Columbia, Canada: a population-based study. *The Lancet*. 2010 Aug 14;376(9740):532-9.

# SETTING THE STAGE: EFFECTIVENESS OF STBBI TREATMENTS

(A)



(B)



Lima VD, Rozada I, Grebely J, Hull M, Lourenco L, Nosyk B, Krajdén M, Yoshida E, Wood E, Montaner JS. Are interferon-free direct-acting antivirals for the treatment of HCV enough to control the epidemic among people who inject drugs?. PloS one. 2015 Dec 3;10(12):e0143836.

# SUPERVISED CONSUMPTION SITES (SCS) AND OVERDOSE PREVENTION SITES (OPS)



Hope to Health SCS



St. Paul's Hospital OPS

RESEARCH

Open Access

# Scaling up hepatitis C testing and linkage-to-care among people who use drugs: lessons learned from a pilot project implemented at a supervised consumption site



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## Abstract

**Background** Despite rolling out publicly-funded hepatitis C virus (HCV) treatment across the province of British Columbia (BC), Canada, 35% of people returning positive HCV RNA results in 2020 did not initiate treatment. The HCV epidemic in Canada continues to disproportionately impact people who use drugs and yet, this population has the lowest proportional uptake of HCV treatment. Evidence suggests linkages to healthcare after diagnosis is one of the key factors that impacts uptake of HCV treatment among this priority population. The *Hep C Connect* pilot project was implemented to characterize HCV testing outcomes and linkage-to-care rates within a low-barrier supervised consumption site (SCS) in Vancouver, BC.

**Methods** All clients (aged  $\geq 19$  years) attending the Hope to Health SCS in Vancouver, Canada were invited to participate in the pilot study between November 2021 and December 2022. Interviewer-led surveys were conducted and participants were offered same-day HCV point-of-care (POC) antibody (Ab) testing. Participants received a cash honorarium for sharing their time and experiences. Descriptive statistics are shared in order to describe the reach and impact of this pilot project.

**Results** The study enrolled 186 participants including 123(66.1%) men and 59(31.7%) women, with a median age of 42 (Q1,Q3- 34,49). Forty-seven (25.3%) participants stated that they use an SCS regularly and 123(66.1%) stated that they get new rigs every day. Notably, 64(34.4%) participants reported not having a primary care provider yet more than three-quarters of the participants (144, 77.4%) reported having been ever tested for HCV. All 186 participants agreed to HCV POC Ab testing with 59.7% returning a positive HCV POC Ab result. Despite good HCV POC Ab uptake and high rates of HCV knowledge, 49(44.1%) of the HCV Ab positive participants chose not to engage in confirmatory ribonucleic acid (RNA) testing.

**Conclusions** The *Hep C Connect* pilot explored the gaps evident in the HCV cascade-of-care as it pertains to people who use drugs. Findings suggest that, despite high levels of HCV knowledge, the employment of blood draw RNA testing deterred people from engaging in confirmatory testing. Improving the HCV cascade-of-care will require alternative strategies that are more acceptable to this population.

**Aim: How can we optimize care and services offered at SCS/OPS to address intersecting health concerns among people who use drugs?**

## LESSONS LEARNED:

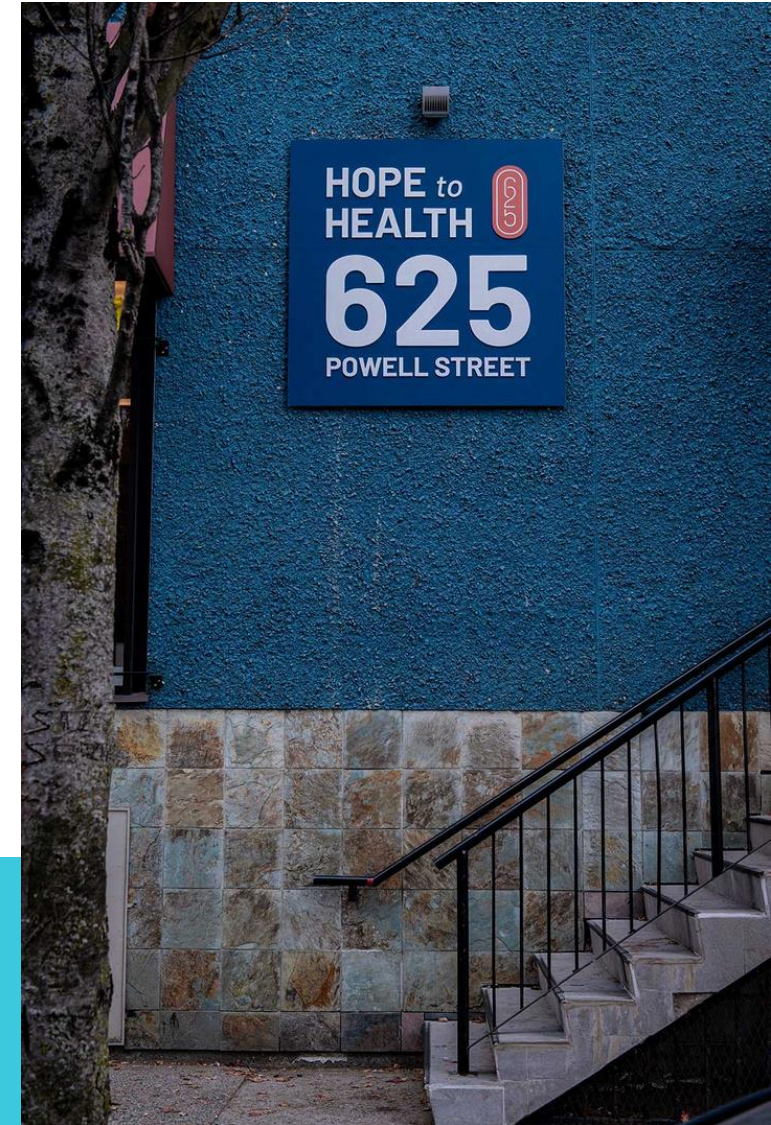
- Sero-prevalence ~60%
- POC tests acceptable
- Blood draws often a limiting factor
  - Nearly half of clients declined confirmatory testing
- Linkage-to-care can be peer led and should happen immediately

# HEALTH CONNECT: OVERVIEW

Launched in January 2024 at the Hope to Health (H2H) supervised consumption site (SCS)

## Project Aims

- Characterize access to primary and community healthcare among a cohort of under-served clients of the H2H SCS
- Evaluate a patient-centered linkage-to-care intervention for clients who engaged in dried-blood-spot testing for HCV, HIV and syphilis through the H2H SCS



# RATIONALE

- People who use drugs experience high rates of STBBIs including **HCV, HIV** and **syphilis**. (1,2)
- Testing is an essential part of preventing STBBIs as well as linkage to care and treatment
- However, significant barriers exist for PWUD and as a result many folks remain undiagnosed and/or tested but not able to access treatment (3)
- **Dried-blood-spot (DBS) testing** is an alternative to traditional methods of STBBI tests that could reduce some barriers and thereby reduce the proportion of people who are undiagnosed (3)



## Bottom line

The traditional method of STBBI testing offered in Canada can be a barrier to the diagnosis and treatment of STBBIs.

1. Khan MR, Berger A, Hemberg J, O'Neill A, Dyer TP, Smyrk K. Non-injection and injection drug use and STI/HIV risk in the United States: the degree to which sexual risk behaviors versus sex with an STI-infected partner account for infection transmission among drug users. *AIDS Behav.* 2013 Mar;17(3):1185–94.
2. Pines HA, Rusch ML, Vera A, Rangel G, Magis-Rodriguez C, Strathdee SA. Incident syphilis infection among people who inject drugs in Tijuana, Mexico. *Int J STD AIDS.* 2015 Dec;26(14):1022–7.
3. Harrigan M. Dried blood spot collection for hepatitis C and HIV testing in Canada [Internet]. *CATIE*; 2021 Feb [cited 2025 Jun 23]. Available from: <https://www.catie.ca/prevention-in-focus/dried-blood-spot-collection-for-hepatitis-c-and-hiv-testing-in-canada>

# DRIED-BLOOD-SPOT (DBS) TESTING

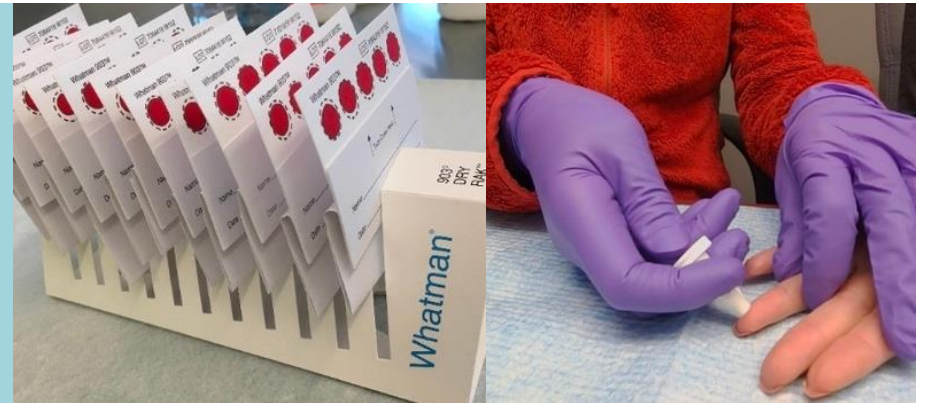
## Intravenous testing

- The traditional method of testing for sexually transmitted and blood-borne infections (STBBIs)
- Blood is drawn from the vein into a collection tube using a needle
- Testing method currently being offered in Canada



## DBS testing

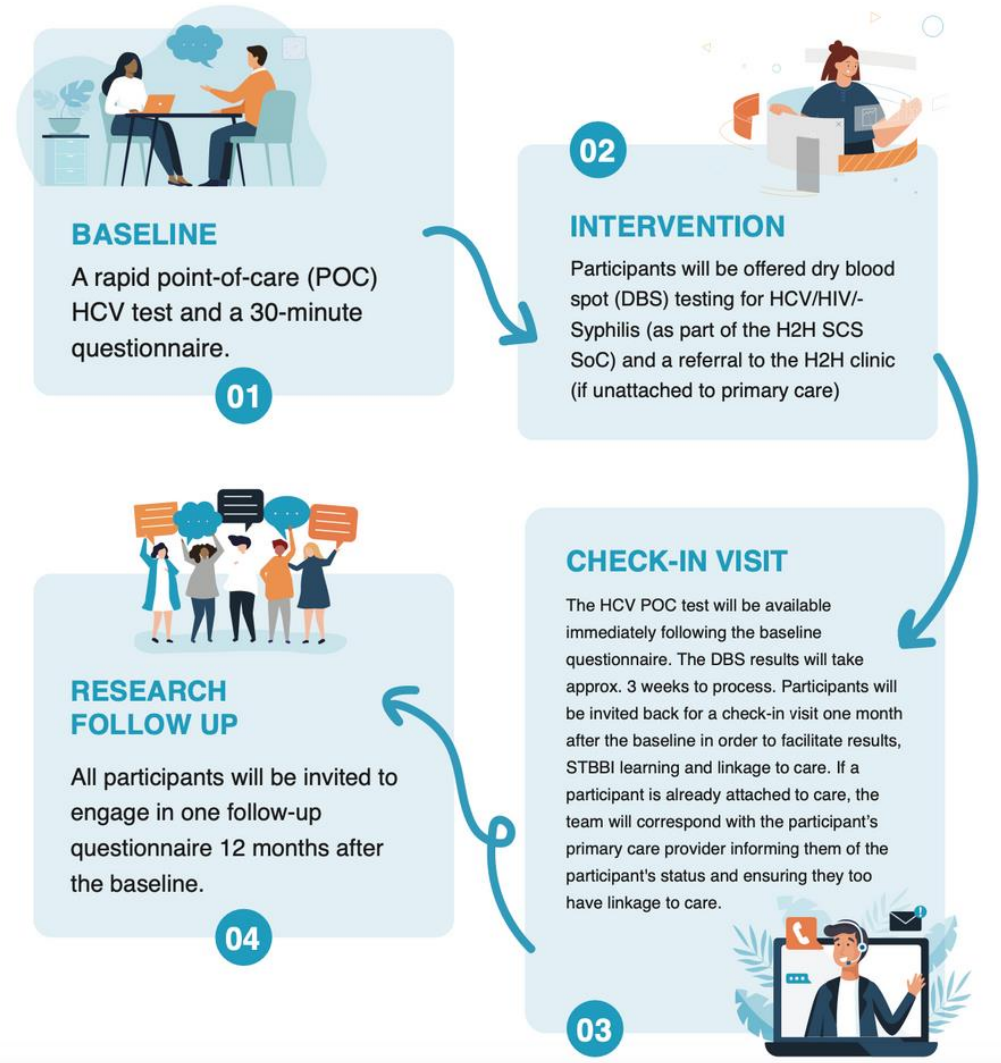
- Newer approach to STBBI testing
- Blood sample is collected through a finger prick
- Droplets are collected on a filter paper, dried, then tested
- Not yet widely offered in Canada



# WAVE 1

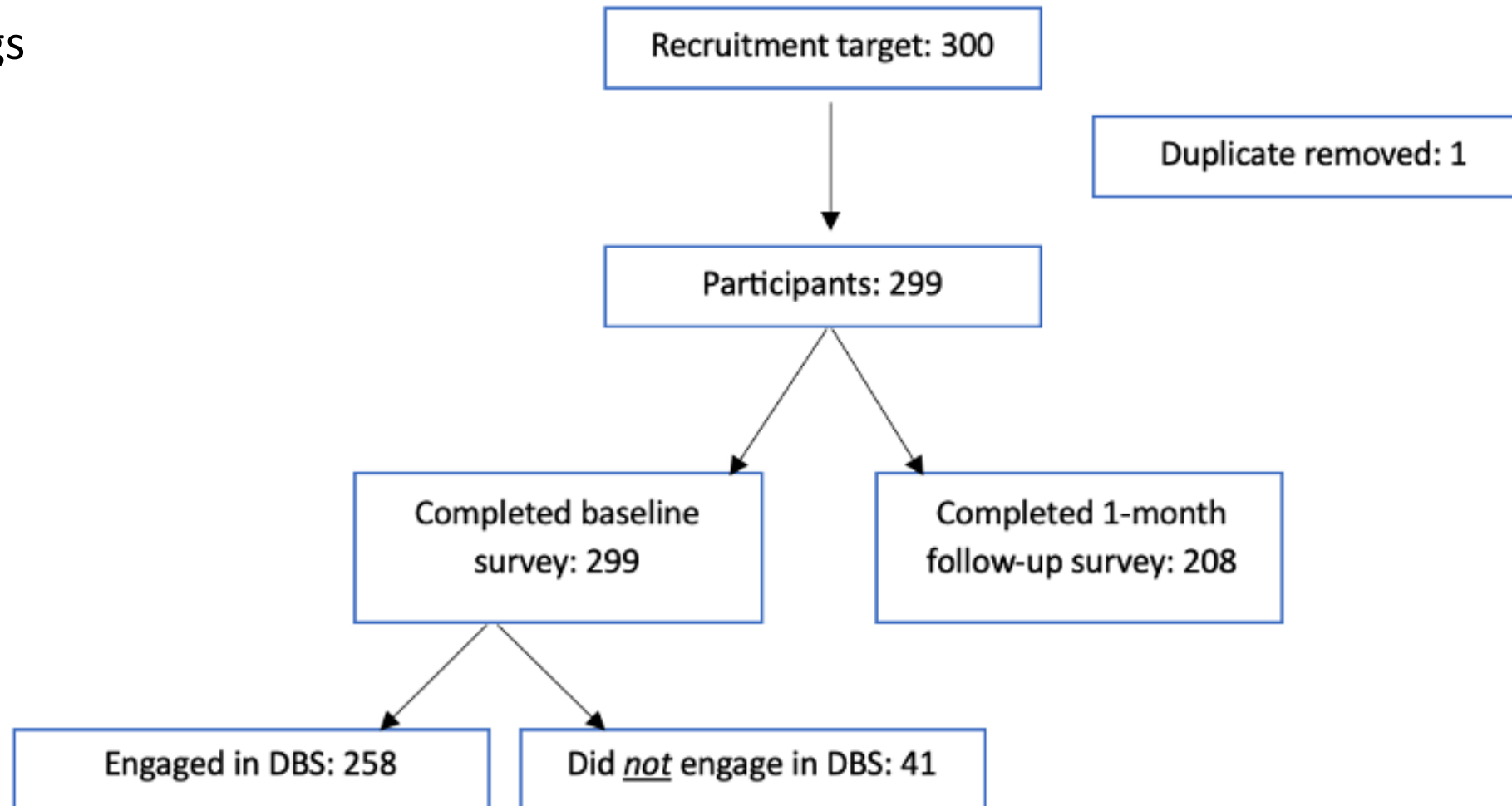
January - November 2024

- The research team completed **300 baseline interviews** with clients accessing services at the H2H SCS in Wave 1.
- The Wave 1 baseline survey was approximately 30-minutes in length and was facilitated by research team members.
- Survey included sections on socio-demographics, substance use, harm reduction, and STBBI testing engagement, history and knowledge.
- Participants enrolled in Wave 1 were offered **point-of-care** and **DBS testing** as a standard-of-care at the H2H SCS.



# WAVE 1

## Findings



# Participant Sociodemographic Characteristics (N=299)



Table 1. Sociodemographic characteristics of Health Connect study participants (N=299)

Sociodemographic characteristics		Median (IQR) or N(%)
Age	Median (IQR)	41(34-48)
Gender	Women	116(39)
	Men	169(57)
	Non-binary or any other answer	14(4)
Sexual Orientation	Straight	226(76)
	LGBQA+	52(17)
	Other	12(4)
	Prefer not to answer	9(3)
Ethnicity	Indigenous	113(38)
	White	119(40)
	Other racialized groups	64(21)
	Prefer not to answer	<5
Incarceration history	Yes(in the past 12-months)	60(20)
	Yes(not in the last 12-months)	158(53)
	No	77(26)
	Prefer not to answer	<5
Perceived housing stability (p3m)	Very/somewhat satisfied	63(21)
	Neutral	18(6)
	Somewhat/very unsatisfied	214(72)
	Prefer not to answer	<5
Frequency of SCS use (p3m)	Never (0%)	55(18)
	Rarely (25%)/Sometimes (50%)	136(45)
	Often (75%)/Always (100%)	106(35)
	Prefer not to answer	<5

# ENGAGEMENT WITH HARM REDUCTION SERVICES

	Never (n=55)	Rarely/Sometimes (n=135)	Often/Always (n=106)
Age**			
<30	5%	5%	14%
30-45	49%	70%	60%
>45	45%	25%	25%
Gender			
Women	44%	39%	37%
Men	51%	58%	57%
NB	<5%	<5%	6%
Recent homelessness**			
Yes	35%	63%	56%
No	60%	37%	42%
Smoking or injecting daily			
Yes	5%	15%	26%
No	95%	85%	74%



# HOW DOES ENGAGEMENT WITH SCS/OPS IMPACT HEALTH OUTCOMES?

After controlling for age, gender and housing status (recent homelessness), people who used SCS/OPS often/always (vs rarely/sometimes and never) had a **2.25 greater odds** of reporting having a regular primary healthcare provider.

However, higher levels of engagement with SCS/OPS was **NOT** associated with higher odds of actually seeing a doctor in the previous 12 months.



# ENGAGEMENT IN PRIMARY CARE AND AVOIDANCE OF HEALTHCARE

## Primary health care

74.2% reported **access to regular primary care**

85.3% reported **accessing primary care** in the previous year

## Healthcare avoidance

35.8% reported **avoiding healthcare** in the previous year

**Hospitals** were the most commonly reported place clients tried to avoid

## Drug-use related stigma in healthcare

46.0% reported experiencing **stigma in healthcare** because of drug use

Drug-use related stigma was associated with **2.3 (95% CI: 1.4-2.0) greater odds** of health care avoidance



## Key aspects of healthcare engagement, experience, utilization, and avoidance among participants

- 32% of participants said they would like to change their primary care provider (n=216)
- Of those, the majority (57%) report that they are unsatisfied with their quality of care
- Reasons for avoiding health care in the past 12 months include (n=107):
  - Anticipation of poor care
  - Inadequate care previously
  - Needs have not been addressed/prioritized
  - Feels judged by provider



**‘Do you ever feel judged or stigmatized by healthcare providers for using drugs?’  
(N=299)**



**45% or 135  
people said YES**

**“Healthcare providers aren't as non-judgemental as they think they are. They're not really listening.”**

“My family doctor is judgemental and that's why I don't go there often.”

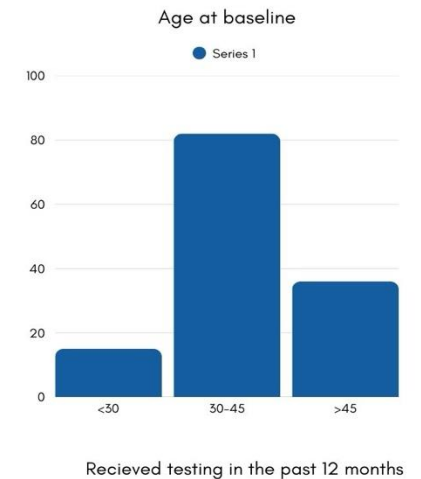
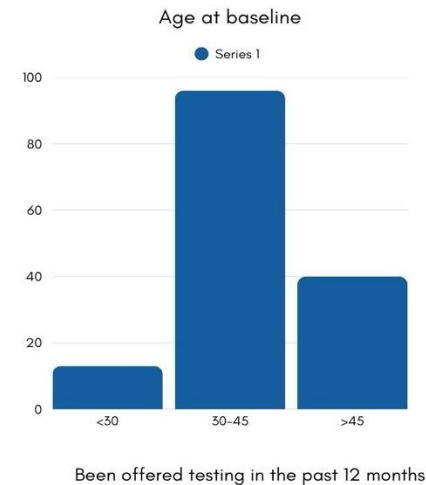
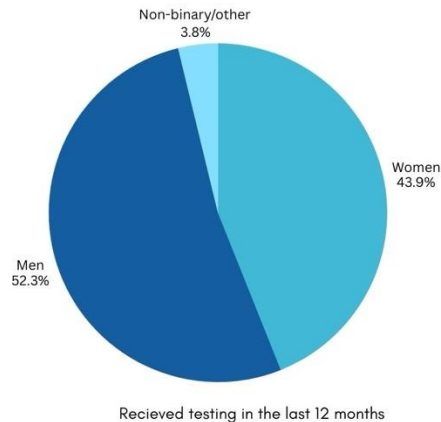
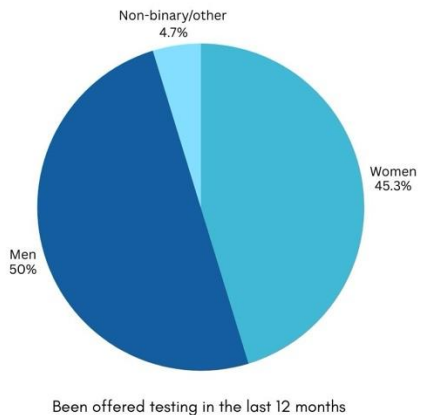
“I feel looked down upon cause I use and I'm homeless”

“My heritage and culture sometimes is a barrier to me seeking care.”

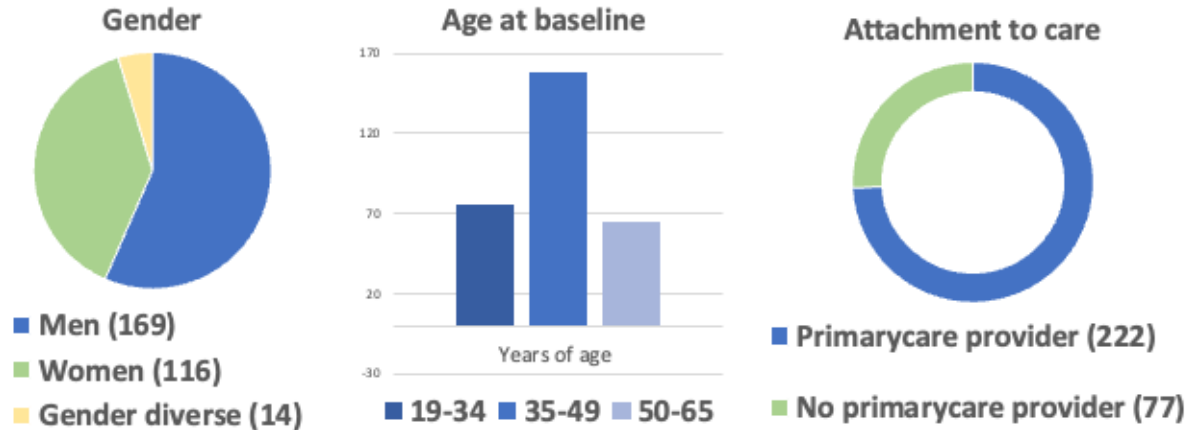
“Even when I am trying to change things for myself, they don't take me seriously.”

# RECENT STBBI TESTING

- In the Health Connect Cohort, 149 (51%) participants reported having been **offered** some form of STBBI testing in the past 12 months (n = 288)\*.
- Among participants who were **offered** STBBI testing, 133 (89%) reported having engaged in healthcare in last 12 months and 63 (42%) participants reported using at a safe consumption site often and/or always.
- 133 (48%) participants reported **engaging** in STBBI testing in the past 12 months (n= 277)\*.
- 120 (90%) of the 133 participants who engaged in STBBI testing were ~2 x the odds of also being engaged in healthcare in the past 12 months.



# EXAMINING WILLINGNESS TO PARTICIPATE IN DRIED-BLOOD-SPOT TESTING



Dried-blood-spot STBBI results (N=258)	
HCV RNA	39 (15%)
HIV RNA	15 (6%)
Syphilis (Ab) positive	60 (23%)

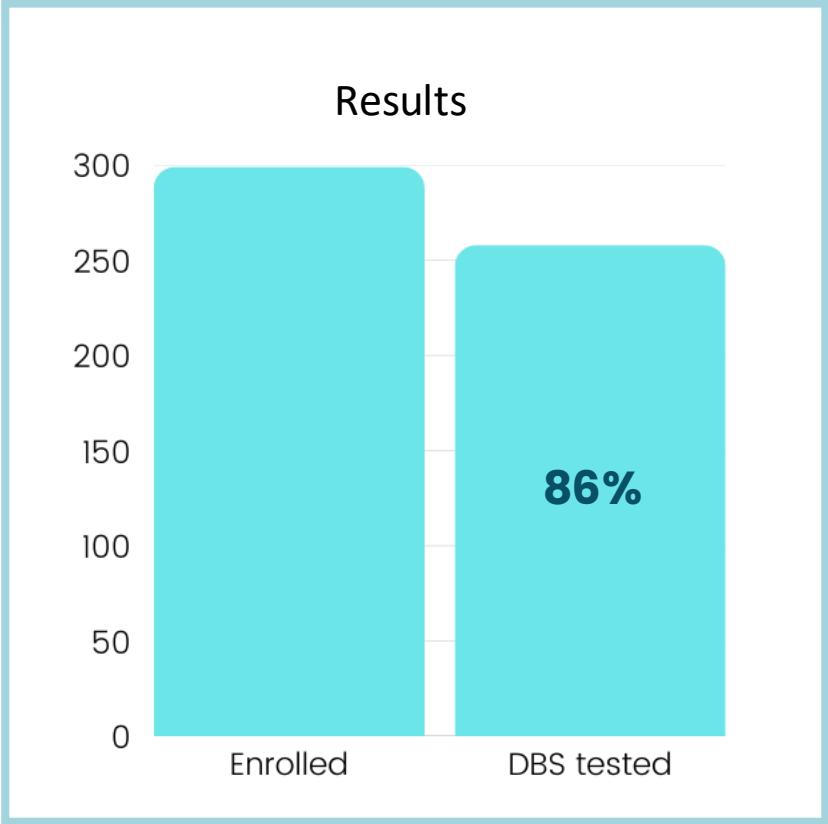
- 258 (**86%**) participants elected to participate in DBS testing (HCV, HIV and syphilis)
- 163 (**55%**) participants reported regular engagement ( $\geq 50\%$  of the time) in SCS services when using drugs
- 246 (**82%**) participants reported visiting a doctor in the past 12-months
- Among the 41 participants who declined to participate in DBS testing, **56%** reported having completed STBBI testing in the past 12-months

# DBS ENGAGEMENT IN HEALTH CONNECT (N=299)

Health Connect STBBI knowledge results (N=208)							
Variable	Overall		Engaged in DBS testing				
	(N=208)		Yes (N=189)		No (N=19)		
Total N	N	(%)	N	(%)	N	(%)	
	Media n	(Q1-Q3)	Media n	(Q1-Q3)	Media n	(Q1-Q3)	
<b>Total</b>	<b>208</b>	<b>7</b>	<b>7</b>	<b>(6-8)</b>	<b>7</b>	<b>(6-9)</b>	

Variable		Unadjusted Odds Ratio (OR) (95%CI)
<b>Demographics</b>		
Age	<30	Ref
	30-45	2.13(0.77,5.85)
	>45	1.88(0.63,5.62)
Gender	Woman	Ref
	Man	1.09(0.55,2.14)
	Other/Non-binary	1.89(0.23,15.59)
Perceived housing stability	Very/somewhat satisfied	Ref
	Neutral	1(0.19,5.29)
	Somewhat/very unsatisfied	0.74(0.31,1.77)
<b>Substance Use</b>		
Daily substance use (past 3 months)	Yes	Ref
	No	0.63(0.07,5.78)
<b>Healthcare</b>		
Currently have a healthcare provider	Yes	Ref
	No	1.71(0.85,3.47)
<b>Sexual Health and Behaviours</b>		
Sexually active (past 3 months)	Yes	Ref
	No	1.24(0.62,2.45)
Taken HIV PreP	Yes	Ref
	No	4.18(1.01,17.23)
	Never heard of PreP	2.15(0.64,7.18)

# BIG “TAKE AWAYS” FROM HEALTH CONNECT



- High uptake suggests that offering DBS testing in a low-barrier setting is appropriate
- DBS could enhance testing engagement, provide earlier diagnosis, and reduce the risk of loss to follow up for diagnostic testing.
- Reduce unnecessary blood draws
- There is an opportunity to use DBS testing to engage clients at high risk of STBBIs who may not otherwise be tested using traditional methods.

## WAVE 2

Launched September 2025

- Wave 2 of the Health Connect study launched in September 2025 and focus's solely on the Health Connect interviewer administered survey.
- We will continue data collection into 2026.



## KTE PLANS AHEAD

- Continue to work on knowledge translation activities (newsletters, presentations, publications etc...)
- Will work on knowledge to action plans
  - Contribute to growing body of evidence
  - Align with amazing other provincial efforts and initiatives (e.g., Roadmap, etc.)



# Knowledge Users



## Community members

Research participants, SCS clients, H2H clients, members of local community organizations, other community members



## Practitioners & service providers

Clinic staff; SCS staff; content experts in the field



## Decision makers

Internal & external partners at provincial and health authority level, provincial organizations and leaders in public health



# ACKNOWLEDGEMENTS

- Honour the DTES community and those working with and for the community
- Appreciate our research group and everyone who supports it: Alannah Hannigan, Douglas Vickers, Nandini Krishnan, Sarah Kelly and many others
- I would like to thank all of the clients and participants of the Hope to Health complex
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- Co-Investigators
- BC-CfE research team: Jill Jackson, Nada Gataric, Raja Dutta, Gerardo Mondragon, Jason Trigg, Scott Emerson, Paul Sereda, Erin Ding, Shannon Bytelaar, Adrian Wu, Wendy Zhang, Cameron Collins, and many many others!
- BC-CfE leadership for support
- CIHR for funding



# THANK YOU!



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