Leveraging momentum: Building outreach capacity and point-of-care syphilis rapid testing and treatment practices (2024-2025)

Final Report to Public Health Ontario

October 2025

Highlights

Overview

SPRITE is a collaborative, community-based initiative designed to enhance syphilis prevention and control in Ontario through flexible outreach nursing models and point-of-care testing (POCT). Seven public health units (PHUs)[1] partnered with 86 community-based organizations (CBOs) to deliver dual syphilis/HIV POCTs in underserved settings. This knowledge mobilization report stems from the evaluation of the knowledge exchange activities of the SPRITE study, supported by Public Health Ontario's LDCP program and Canadian Institutes of Health Research funding.

Goals

- Build, sustain, and evaluate a real-time knowledge exchange network to support syphilis elimination.
    - Strengthen partnerships between PHUs and CBOs.
    - Mobilize knowledge and build capacity for POCT implementation.

Methods

- Mixed-methods case study using surveys, interviews, systematic review of meeting minutes, and documentation.
- Evaluation focused on the Community of Practice (CoP), community engagement, knowledge mobilization (KM), and outreach implementation.

Key Findings

- **Knowledge Mobilization (KM):**
  KM was the backbone of SPRITE, encompassing outreach, resource development, peer learning, and dissemination. Through presentations, tools, and shared experiences, PHUs and CBOs built a dynamic network that supported implementation and continuous quality improvement (CQI). KM activities were extensive and included local, provincial, and national engagement.
- **Community of Practice (CoP):**
  The CoP was a focused, intervention-specific network of public health nurses (PHNs), researchers, and knowledge management positions. It enabled high engagement, co-creation of study processes, and peer support. Members shared lessons learned, built partnerships, and supported each other in navigating challenges. Improvements in facilitation and clearer communication of goals are recommended for future iterations. Flexibility in funding allowed innovation by CoP members in their CBO engagement efforts but also created some uncertainty and possible confusion; future efforts should balance adaptability with clear guidance.
- **CBO Engagement:**
  CBOs played a central role in delivering POCTs and reaching underserved populations. Most CBOs

[1] As of Jan. 1, 2025, Hastings Prince Edward Public Health; Kingston, Frontenac and Lennox & Addington Public Health; and Leeds, Grenville and Lanark District Health Unit merged to form Southeast Public Health (SEPH) – even though they are now one organization, they are considered three different entities in this report since they were separate at the time of participation.

believed the initiative had a positive impact on clients and strengthened relationships with PHUs. However, the benefit to their organizations was less clear. More direct incentives and clearer expectations could improve future engagement. Some CBOs are now offering POCT independently or are preparing to do so, highlighting future opportunities for community-led testing.

- **Capacity-Building:**
  Capacity-building occurred at multiple levels:
    - **CoP members** received support through shared resources, peer mentoring, and collaborative problem-solving.
    - **Non-participating PHUs** and **other public health organizations** were engaged through one-on-one meetings and capacity-building to implement syphilis/HIV POCTs in their catchments.
    - **CBOs** were empowered through consistent PHU communication and engagement, and tailored resources to support POCT delivery and knowledge exchange.
- **Implementation and KM Challenges:**
  Common barriers included communication with CBOs, staff turnover, competing priorities, and lack of sustained funding. Rural geography posed unique logistical challenges. Dedicated, funded roles (e.g., Knowledge Mobilization Specialist - KMS) are essential for long-term success.

Discussion

SPRITE successfully built and maintained a real-time knowledge exchange network that supported syphilis POCT implementation across Ontario. The CoP model, while narrower than traditional public health CoPs, proved effective in fostering engagement and capacity-building. The study demonstrated that flexible, community-based approaches can advance syphilis prevention, especially in small-urban and rural contexts.

To scale and sustain these efforts, future initiatives must prioritize:

- Clear communication and structured engagement
- Balancing flexibility and accountability
- Long-term funding for POCT and CoP management
- Stronger bi-directional partnerships and flow of information with CBOs.

SPRITE offers a replicable model for collaborative public health innovation and knowledge mobilization.

Acknowledgments

Public Health Ontario and Locally Driven Collaborative Projects Program

With the aim of tackling an applied public health research or evaluation question of shared interest, the Locally Driven Collaborative Projects Program (LDCP) fosters collaboration across Ontario public health units (PHU) and with academic and community partners. Anticipated outcomes include applied research and evaluation evidence, increased research and evaluation capacity, and solidified partnerships. The LDCP Program is funded by Public Health Ontario (PHO). The SPRITE Team gratefully acknowledges this funding and the support provided by the PHO LDCP Team for the current (October 2024 to March 2025) and previous (August 2023 to March 2024) funding cycles.

Canadian Institutes of Health Research

The SPRITE Team gratefully acknowledges the contributions of CIHR to the SPRITE Study through a 2023 Catalyst Grant (SR8 190795), 2024 Operating Grant (AS1-192619), and Knowledge Mobilization Grant (EKS 193138) granted to the Nominated Principal Applicant, Dr. Sahar Saeed, Queen's University.

SPRITE Team

Lead

Southeast Public Health
Formerly Kingston, Frontenac and Lennox & Addington Public Health (KFL&A PH):
Dr. Megan Carter, Research Associate, Knowledge Management
Mary Southall, Clinical Nursing Facilitator, Knowledge Management
Sara Tryon, Regional Project Planner, Substance Use, Mental Health, and Injury Prevention
Nicole Szumlanski, Manager, Sexual Health Program
Dr. T. Hugh Guan, *formerly* Director, Knowledge Management and Associate Medical Officer of Health

Public Health Unit Members

Algoma Public Health (APH):
Sandra Dereski, *formerly* Acting Manager, Infectious Diseases
Casey Cassan, *formerly* Health Promotion Specialist, Infectious Diseases

Northeastern Public Health (NEPH)
Formerly Porcupine Health Unit:
Mary France Caron-Bruneau, Program Coordinator, Sexual Health Services
Kassandra Plante, Manager, Sexual Health and Immunizations

Renfrew County and District Health Unit (RCDHU):
Michael Evans, Public Health Nurse, Harm Reduction and Sexual Health
Melanie St-John, Public Health Nurse, Harm Reduction and Sexual Health

Southeast Public Health
Formerly Hastings Prince Edward Public Health (HPEPH):
Stephanie McFaul, Manager, Clinical Services, Sexual Health and Harm Reduction
Anne Charron, Public Health Nurse, Clinical Services, Sexual Health and Harm Reduction

Southeast Public Health
Formerly Leeds, Grenville and Lanark District Health Unit (LGLDHU):
Jennifer Adams, Manager, Clinical Services
Susan Labrie, Public Health Nurse, Clinical Services

Thunder Bay District Health Unit (TBDHU):
Kandace Belanger, Manager, Street Outreach, Harm Reduction and Sexual Health Programs
Brooke Rasinaho, Senior Public Health Nurse, Street Outreach, Harm Reduction and Sexual Health Programs

Academic Members

Department of Public Health Sciences, Queen's University:
Dr. Sahar Saeed, Assistant Professor
Lucy Mackrell, PhD Candidate

Community Members

Kingston Community Health Centres:
Natasha Larkin, Nurse Practitioner, Street Health Centre

Land Acknowledgment

The SPRITE Study acknowledges that this project and its partnering health units operate on the traditional territory of the Algonquin Anishnaabeg, Anishinaabe, Apitipi Anicinapek, Attawapiskat, Batchewana, Constance Lake, Fort Albany, Garden River, Haudenosaunee, Hornepayne, Huron-Wendat, Kashechewan, Martin Falls (Ogoki Post), Mattagami, Michipicoten, Missanabie Cree, Mississauga, MoCreebec, Moose Cree, Onondaga, Ojibwe, Sagamok, Serpent River, Taykwa Tagamou, Thessalon, Weenusk (Peawanuck) and Wendake Nionwentsio First Nations.

We extend respect to all First Nations, Inuit, and Métis peoples, their elders, their ancestors and their valuable past and present contributions to this land. As a collaborative research group, we have a responsibility to understand the colonial history of Canada and the legacy of inequities that are ongoing. We are committed to reducing these inequities, and through our work strive to support truth and reconciliation and improve health equity.

We recognize the importance of the land and environment in establishing and sustaining optimal health, and we vow to respect this land as we undertake our work.

List of Acronyms

APH	Algoma Public Health
HPEPH	Hastings Prince Edward Public Health
CBO	Community-based organization
CoP	Community of practice
CNF	Clinical Nursing Facilitator
CQI	Continuous quality improvement
KE	Knowledge expert(s)
KFL&APH	Kingston, Frontenac and Lennox & Addington Public Health
KM	Knowledge mobilization
KMS	Knowledge Mobilization Specialist
LGLDHU	Leeds, Grenville and Lanark District Health Unit
NEPH	Northeastern Public Health
POCT	Point-of-care test(s)(ing)
PHN	Public health nurse
PHU	Public health unit
QA	Quality assurance
QI	Quality improvement
RCDHU	Renfrew County and District Health Unit
SEPH	Southeast Public Health
STBBI	Sexually transmitted and blood-borne infections
TBDHU	Thunder Bay District Health Unit

Disclaimer

The views expressed in this publication are the views of the project team, and do not necessarily reflect those of PHO or CIHR.

Table of Contents

List of Figures

List of Tables

Background

Syphilis, a curable sexually transmitted infection, is increasing significantly in Ontario, especially in public health units (PHUs) serving smaller urban and rural areas (1). If left untreated, syphilis can cause serious health outcomes including neurological, cardiovascular, and musculoskeletal complications (2). Congenital syphilis, which is treatable in utero, can have devastating effects leading to stillbirth, neonatal death, or long-term health effects (2). Underserved populations, including people who are un(der)housed, street-involved, participate in sex work, or use substances are known to be disproportionately affected by syphilis (3,4). Traditional methods to address infectious syphilis in underserved groups are inadequate. Instead, testing and treatment need to occur at the same visit, outside of the traditional clinic setting where underserved groups live, socialize or access services; low barrier interventions using point-of-care tests (POCT) have been found to be acceptable and reliable for other sexually transmitted and blood-borne infections (STBBI)s (5), and have shown promise for syphilis in Canada (6).

In early 2023, as part of an LDCP, five PHUs began collaborating on a regional implementation evaluation of outreach nursing models incorporating the POCT - INSTI® Multiplex HIV-1 / HIV-2 / Syphilis Antibody Test (7) using the RE-AIM (Reach, Effectiveness, Adoption, Implementation and Maintenance) framework (8) (SPRITE – Syphilis Point-of-care Rapid Testing and Immediate Treatment Evaluation). Each PHU tailored this intervention based on its capacity to test and treat syphilis cases with reliance on partnerships with community-based organizations (CBOs). Community-based organizations include, but were not limited to, supervised consumption sites, temporary housing and mental health services. SPRITE aims to inform improvements for future implementation, build capacity for other PHUs wanting to implement POCTs, and provide information necessary for program decision-making through implementation science research. Please see here for the LDCP evaluation report for 2023-2024 (9).

Since the original LDCP SPRITE evaluation, with funding support from the Canadian Institutes of Health Research (CIHR), this study has expanded to include seven PHUs: Algoma Public Health (APH); Hastings Prince Edward Public Health (HPEPH); Kingston, Frontenac, and Lennox & Addington Public Health (KFL&A PH); Leeds, Grenville and Lanark District Health Unit (LGLDHU); Northeastern Public Health (NEPH, formerly Porcupine Health Unit); Renfrew County and District Health Unit (RCDHU); and Thunder Bay District Health Unit (TBDHU). Analyses and reporting of the SPRITE study are ongoing.

A Community of Practice (CoP) was formed early in the study as a way for participating PHUs to share their experiences and lessons learned, exchange resources, and provide mutual support. A CoP is a social learning model that allows professionals with the same task, passion, or interest in a specific domain or field to collectively come together at regular intervals to share best-practices, ideas, resources, tools and other knowledge to solve similar problems (10).

Members continue to meet on a regular basis with representation from all seven PHUs. Also, as part of CIHR research, a community advisory group (CAG) was assembled, with representation from clinicians, CBOs, people with lived/living experiences, and participating PHUs, to allow for the community to provide input regarding ongoing research studies.

The success of SPRITE is rooted in meaningful community partnerships and a multi-disciplinary team that uses a decentralized, nurse-led model of care. There now exists an opportunity to leverage these experiences and mobilize knowledge, particularly for PHUs in small-urban and rural settings that may face resource and capacity limitations. By building a real-time knowledge exchange network between CBOs,

PHUs, and other relevant parties, CQI and evidence-informed decision-making can be supported and enhanced.

Research Goal

The overall aim of this project is to evaluate a real-time knowledge exchange network based on ongoing capacity-building from the SPRITE study to support the ultimate end-goal of syphilis elimination in Ontario.

Research questions include:

1. How does creation of a real-time knowledge exchange network around the SPRITE study provide support to address syphilis in Ontario?

2. Can an understanding of this support be used to translate and improve SPRITE, especially in small-urban and rural contexts?

Research Objectives

1. Expand and establish a formal network of CBOs associated with the PHUs participating in the SPRITE study and target underserved people most at risk for syphilis and other STBBIs.

2. Continuously engage the network to establish a broader knowledge mobilization network around outreach and POCT for syphilis and other STBBIs.

Methods

Study Design

The current SPRITE LDCP is intended to further knowledge gained throughout the established SPRITE study and follows the essence of community-based participatory research (CBPR). This approach involves developing meaningful partnerships that build trust and capacity, while empowering communities to enhance the relevance and effectiveness of research (11). This includes collaboratively identifying research questions, refining protocols, collecting and interpreting data, better tailoring of interventions, and improving the dissemination and translation of findings to support evidence-informed decision-making (11). This study endeavours to build on strengths and resources within the community, foster co-learning and capacity building among all partners and to disseminate results to all partners and involve them in the wider dissemination of results.

There is one Knowledge Mobilization Specialist (KMS) for the study and at least one dedicated Knowledge Expert (KE) from each participating PHU, who are instrumental in nurturing a tri-directional relationship between PHUs implementing the POCT, participating CBOs and researchers. Other knowledge users include PHUs interested in implementing the POCT and treatment model, public health decision-makers

at the local, provincial and federal levels, researchers (including research trainees) working in syphilis prevention and control, health-care professionals, and CBOs with diverse mandates that include reducing health inequities for underserved groups at high risk of syphilis or other STBBIs. The KMS supports and delivers KM activities with PHUs and their CBOs, including data collection, analyses and reporting. Supporting PHUs through knowledge exchange while also supporting them in their own delivery of knowledge exchange is critical to effectively motivate KEs and CBOs, thus enhancing the delivery of the SPRITE study objectives.

This is a mixed methods case study encompassing various activities. A major component is an evaluation of the CoP, KM and engagement with community partners - this focuses on measuring the mediators, outcomes, and group factors in a CoP public health evaluation model proposed by Richard et al (12).

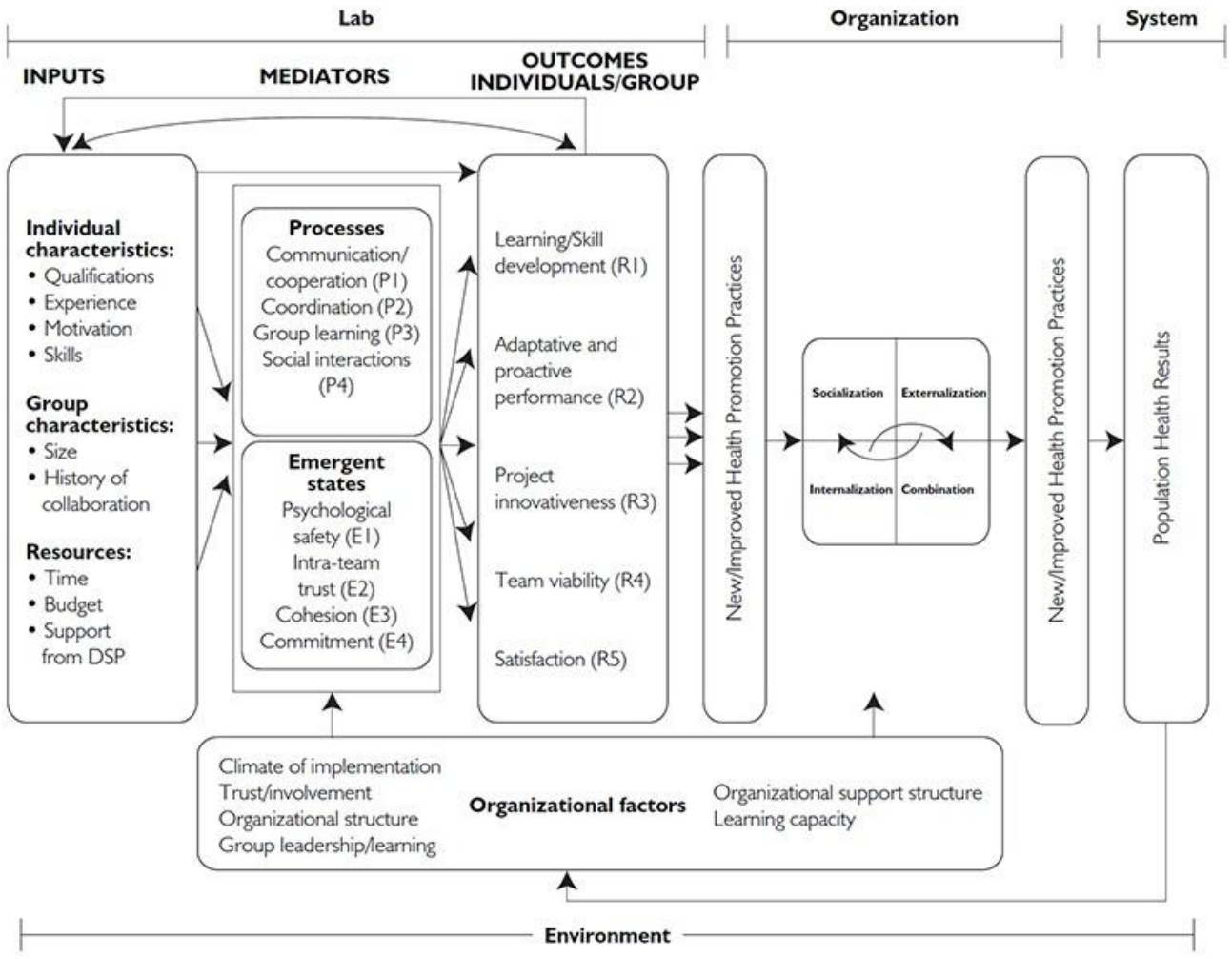

Figure 1. CoP evaluation model: Healthcare Policy. 2014 Feb;9(3):26–39

Study Activities

- Understand and develop the resources needed by PHUs to engage CBOs in knowledge dissemination of SPRITE results and syphilis prevention as part of a CQI process.
- Understand the number and types of CBOs in each of the participating PHUs, and how this landscape may change over the course of the study period.
- Dedicated one-time funding for PHUs to engage their CBOs and target audiences around sharing of SPRITE results, POCT implementation and/or syphilis screening and treatment.
- Explore readiness of CBOs to offer POCTs and participate in SPRITE - develop and offer training workshops, webinars, and other capacity-building activities to empower CBOs.
- Evaluate the CoP, KM, and implementation in participating PHU catchments – Objective 1) assess engagement of CBOs by PHUs and understand CBO perceptions of SPRITE/POCTs; Objective 2) determine the effectiveness of the CoP and areas for improvement; and Objective 3) determine areas for improvement in implementation of outreach and POCTs.
    - An evaluation framework and work plan were developed based on evaluation best practices and the model described previously (12) - it is available on request. This received an ethics exemption from the Queen's Health Sciences Research Ethics Board as it was deemed to fall under the parameters of a quality improvement/quality assurance or program evaluation #6044072.
- Disseminate SPRITE findings, experiences, and lessons learned with various audiences through presentations at relevant conferences - include an evaluation component if feasible to improve dissemination effectiveness.
- Provide capacity-building support for interested PHUs or other public health organizations not currently involved in outreach and/or syphilis POCT delivery.
- Support of the Community Advisory Group (which is supported by CIHR-funded research of SPRITE).

Data Collection

In order to support the study activities and to inform and improve KM, engagement and collaboration for PHUs in Ontario wanting to implement syphilis/HIV POCTs, several data collection methods were used.

Knowledge Experts (KEs) were asked to submit a tracking document describing the CBOs they have worked with to offer POCTs to date. Details collected and compiled on the CBO tracking document include name, type of location, services they provide, and frequency of involvement between PHU and CBO. These were submitted by KEs in March 2025; KEs were asked to update them in August 2025.

From July to August 2025, an anonymous online convenience survey of CBO staff members was conducted to gather quantitative and qualitative data on awareness of POCTs and the SPRITE study, perceptions of impact on organizational relationships and client experiences, and suggestions for implementation improvement. It included closed-ended (e.g., Likert-type scales) and open-ended

questions. Members of the CoP were asked to circulate the survey link to key contacts at their CBOs and they in turn were encouraged to forward the link on to anyone they thought would be relevant, either in their organization or in other organizations. This survey was collaboratively developed and tested with KEs.

An anonymous online survey of CoP members (KEs) was conducted to gather quantitative and qualitative data on experiences around CoP KE activities, impact on members, and suggestions for improvement. It included Likert agreement scales, and open-ended questions. Members were asked to complete the survey at the end of a scheduled virtual meeting in July 2025. The link was again shared via email for those unable to attend the meeting. No restrictions on the number of respondents per PHU were applied.

Key informant interviews were conducted by the KMS and Clinical Nursing Facilitator (CNF) in February 2025 and then again in mid-August 2025 with KEs. These interviews were semi-structured and held virtually on Microsoft Teams for approximately 60 minutes. The KMS took notes but also recorded the meeting so that they could double-check notes for accuracy. Even though each interview had a specific set of questions, prompts were organic depending on the response. As interviews were being conducted, information was sometimes shared by the KMS with the KE about processes at other PHUs. For example, the KEs were asked how they were incentivizing clients to receive POCT, treatment or serology. The KMS would share tactics that the other PHUs were doing to incentivize. This type of informal knowledge exchange happened between the KMS and the KE throughout both February and August interviews.

A systematic review of CoP meeting minutes from all meetings (2023-2025) was conducted to identify key discussion points related to capacity-building and engagement during the SPRITE study (e.g., sharing resources, joint decisions/actions, helping other CoP members, KM for the team). This was coupled with an examination of program documents, reports, or other evidence related to actions that were agreed upon or initiated during or outside CoP meetings that were related to engagement and KM.

Finally, all KM activities such as conferences and publications were tracked in one location noting the title, authors and presenter(s), date of the conference or publication, audience, and purpose of the activity.

Data Analysis

Quantitative analysis was conducted on the CBO August 2025 tracker to determine total number of CBOs participating, number of Indigenous-led CBOs, number of CBOs by PHU, number of CBOs by type, and noting any changes from March 2025.

Close-ended results from the surveys were analyzed quantitatively using the survey platform Medallia, tabulating frequencies and percentages. Open-ended results were analyzed for themes and key quotes and are reported verbatim.

Key informant interviews were inductively analyzed for cross-cutting themes. In February, themes emerging from the interviews were used by the KMS to better support KEs in engagement and KM in their communities as part of a CQI process.

A mixed content analysis was undertaken for the review of meeting minutes and relevant documents – to identify trends and patterns in engagement and KM. Meeting items and follow-up documents were analyzed deductively to determine if they fit into one of five KM categories: engagement – CoP members

engaging each other, participating or sharing, co-creation; capacity-building – providing lessons learned, best practices or resources for POCT implementation; building partnerships with CBOs; facilitating uptake of SPRITE and the dual POCT by decision-makers (e.g. BOH presentations and presentations to provincial co-ordinating committees); translating SPRITE research for other knowledge users (e.g., conference submissions and presentations). These were then inductively coded into themes and reported to fill gaps and provide a more comprehensive picture of KM. Barriers to implementation were also noted, as well as the number of PHUs represented at each of the CoP meetings.

Results

Characteristics of Community-Based Organizations

The participating KEs were asked to submit partner tracking forms in March 2025 and then update them in August 2025. Very few changes were made. One PHU, given staffing capacity and funding issues, could not continue to partner and offer POCTs in summer 2025. Their partners, however, are included in this analysis.

Based on aggregating the completed CBO tracking forms from all seven participating PHUs, there are **86** CBOs partnering to host POCT implementation in the community from October 2024 to September 2025 (Table 2).

Most of these CBOs (n=50) are considered "hubs" that are frequented by individuals who are street-involved in the community, providing at least one type of service or program, with about 50% providing at least two different types. Types of services or programming include drop-ins, emergency assistance (e.g. providing clothes, food), food or meal programs like food banks or soup kitchens, mental health and addictions support (e.g., Canadian Mental Health Association drop-in sites), health or health promotion services, STBBI screening and treatment, libraries, religious services, social services/programming or referral, or harm reduction resources or programming.

Table 1. Types of Community-Based Organizations Involved in SPRITE October 2024 to August 2025

Type of Community-Based Organization	Number
Community Service Hub	50
Congregate Setting or Shelter	23
Paramedic Services	1
Primary Care Centre	12
Total	**86**

Congregate settings or shelters are organizations whose primary responsibility is to provide shelter in an emergency or to those already unhoused to rest or get out of the elements. It also encompasses community/supportive housing, or transitional housing (e.g. Elizabeth Fry). Often included are other services like emergency assistance, meals, mental health and addictions support, and social services/programs or referral.

Primary care centres are organizations that provide primary care health services to community residents, with a specific mandate to serve equity-deserving populations (e.g. community health centers). They also include clinics providing addictions treatment like opioid agonist therapy.

Table 2 shows the number of CBOs by PHU. As discussed previously, for some PHUs, many of these links have been established as a result of becoming involved in SPRITE. Some CBOs are not included here even though they may be important partners around KM (e.g. sharing resources, tools, information about SPRITE with other partners or the target population). **Seven** out of the 86 CBOs were Indigenous led; four were community service hubs, two were primary care centres, and one was a congregate setting/shelter.

Table 2. Number of Community-Based Organizations Involved in SPRITE by PHU October 2024 to August 2025

PHU	No. Community-Based Organizations linked
APH	4
HPEPH (SEPH)	10
KFL&APH (SEPH)	20
LGLDHU (SEPH)	7
NEPH (formerly Porcupine HU)	11
RCDHU	22
TBDHU	12
Total	**86**

Community-Based Organization Survey

Twenty-nine people staffed at CBOs initially responded to the CBO Survey. They were first asked a series of questions about their awareness and familiarity with the SPRITE study and syphilis POC testing in general (**Figure 2**).

Awareness, Knowledge and Perceptions of SPRITE and KE

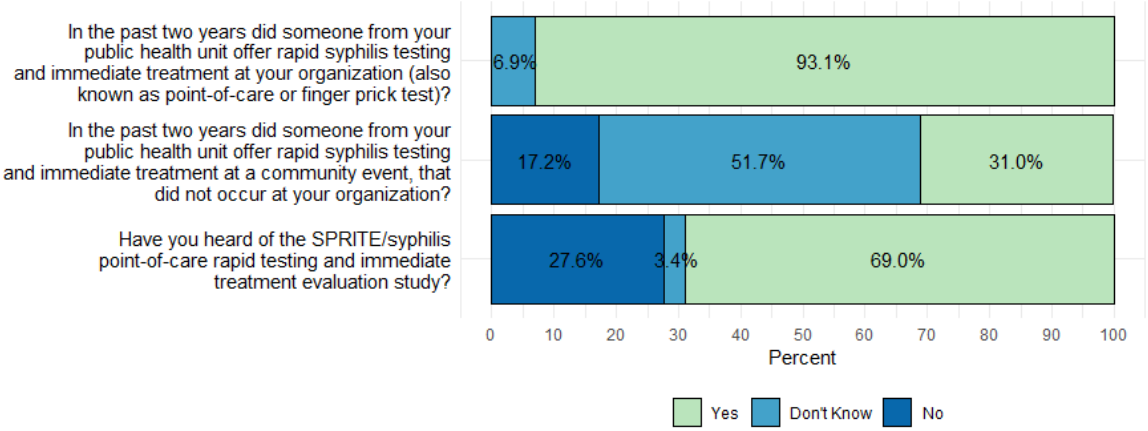

Figure 2. CBO Awareness of SPRITE and Syphilis Point-of-care Testing (N=29)

Most responded that syphilis POC testing had happened at their organization (**93%**); however, fewer had heard of the SPRITE study specifically (**69%**). Respondents were least familiar with POC testing happening outside of their organization (**31%**).

If respondents were aware of any of these three things, they were then asked more detailed questions about their knowledge and perceptions of the SPRITE initiative (N=26), starting with whether their organization had received the following information or resources from their PHU/nurse (**Figure 3**).

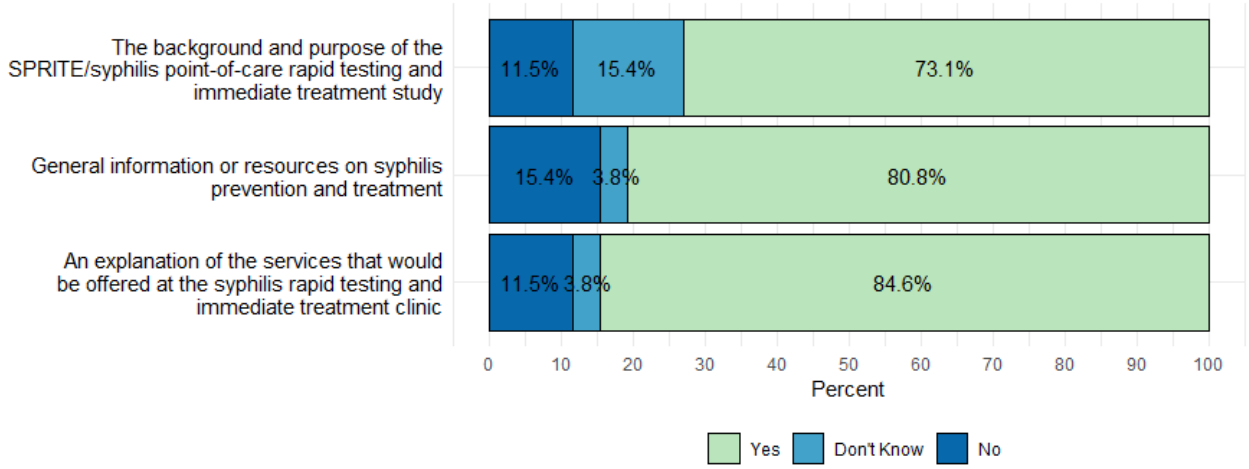

Figure 3. Information or Resources on SPRITE/ Syphilis Point-of-Care testing that CBOs Received from PHU/nurse (N=26)

Respondents most often said **(85%)** that they received an explanation of what would be offered at the syphilis/HIV POCT clinics, followed by general information on resources for prevention and treatment

(81%). Fewer respondents **(73%)** reported receiving information about SPRITE study specifically **(Figure 3).**

Of the 26 respondents, almost **77%** knew the purpose of the SPRITE/syphilis point-of-care rapid testing and immediate treatment study, 4% didn't know if they knew, and 19% did not know the purpose. About **23%** (of the 26) said that they had received incentives to host syphilis rapid testing and immediate treatment clinics - for example: in-kind donations of supplies, gift cards, etc., - the same percentage said they didn't know, and 54% said no, their organization had not received any incentives. Of those that received incentives, three reported receiving gift cards.

When asked if anyone in their organization had attended knowledge exchange event(s) about syphilis prevention and the syphilis point-of-care rapid testing and immediate treatment study in the past two years (N=25), overall, **36%** said yes, they had:

- **16%** Yes, one event
- **20%** Yes, more than one event
- 48% No
- 16% Did not know

Respondents largely felt that the syphilis POCT initiative had a positive impact on their organization's clients and the relationship between their organization and the PHU (**Figure 4**). Their ratings were less positive for the impact on their organization as a whole.

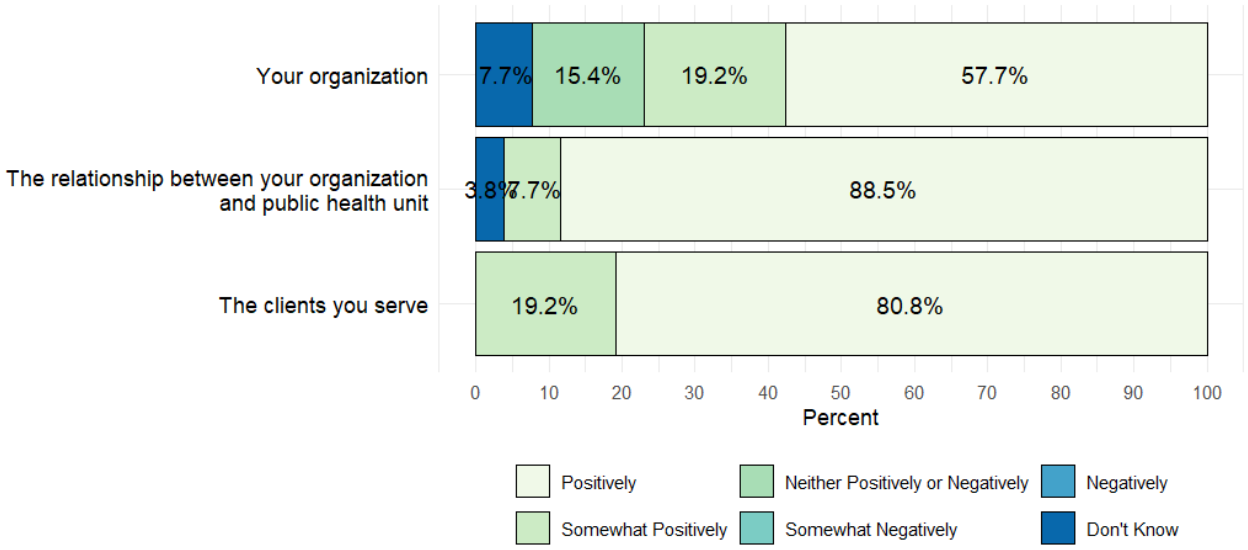

Figure 4. CBOs' Perceived Impact of Syphilis Rapid Testing and Immediate Treatment (POCT) Initiative on Clients, the Organization and Relationship with Public Health (N=26)

Most respondents (**85%,** 22/26) agreed or strongly agreed that the syphilis rapid testing and immediate treatment initiative aligned with the goals of their organization. Some **(12%)** had received feedback about

the initiative from their clients. One person noted: *"Many [clients] are grateful for this service, the team that comes have created a great relationship with our clients."*

In terms of continued involvement, **84%** (21/25) of respondents said they would consider hosting a syphilis rapid testing and immediate treatment clinic in the future.

Suggestions for Improvement to SPRITE

Finally, respondents were asked for ways that the SPRITE initiative could improve. Five respondents provided input.

- Three of these responses highlighted the 'good work' of public health. As an example, one respondent said, *"service was provided with empathy and understanding of client's needs, especially those experiencing homelessness and addiction."*
- One respondent highlighted the lack of funding – *"I wish this program was a staple funded program."*
- And the last respondent provided some constructive feedback – *"It would be nice if public health staff consistently helped the agency in engaging clients about the testing and working to sign them up. Sometimes public health staff is happy to take a wait and see approach while others are much more motivated to engage and work with clients. From an organizational perspective, it works best when both my staff and public health staff are communicated [sic] and engaging with the clients."*

Respondent Demographics

Of the 25 that responded in this section, most respondents were from eastern Ontario [KFL&A PH (**32%**), RCDHU (**24%**), LGLDHU (**24%**), HPEPH (**8%**)] with the remainder in northern Ontario (APH and NEPH, **12%**).

All but two respondents were full-time staff – **44%** were front-line staff, **32%** were managers, and **16%** were directors or executive directors.

Community of Practice Survey

Of the seven participating PHUs, **13** staff participating in the CoP responded to the survey.

Effectiveness and Improvement of the Community of Practice

Respondents were first asked to state whether they strongly disagreed, disagreed, neither agreed or disagreed, agreed, or strongly agreed with several statements about CoP leadership, communication, engagement, and functioning. **Figure 5** shows that CoP members mostly agreed to strongly agreed with these statements.

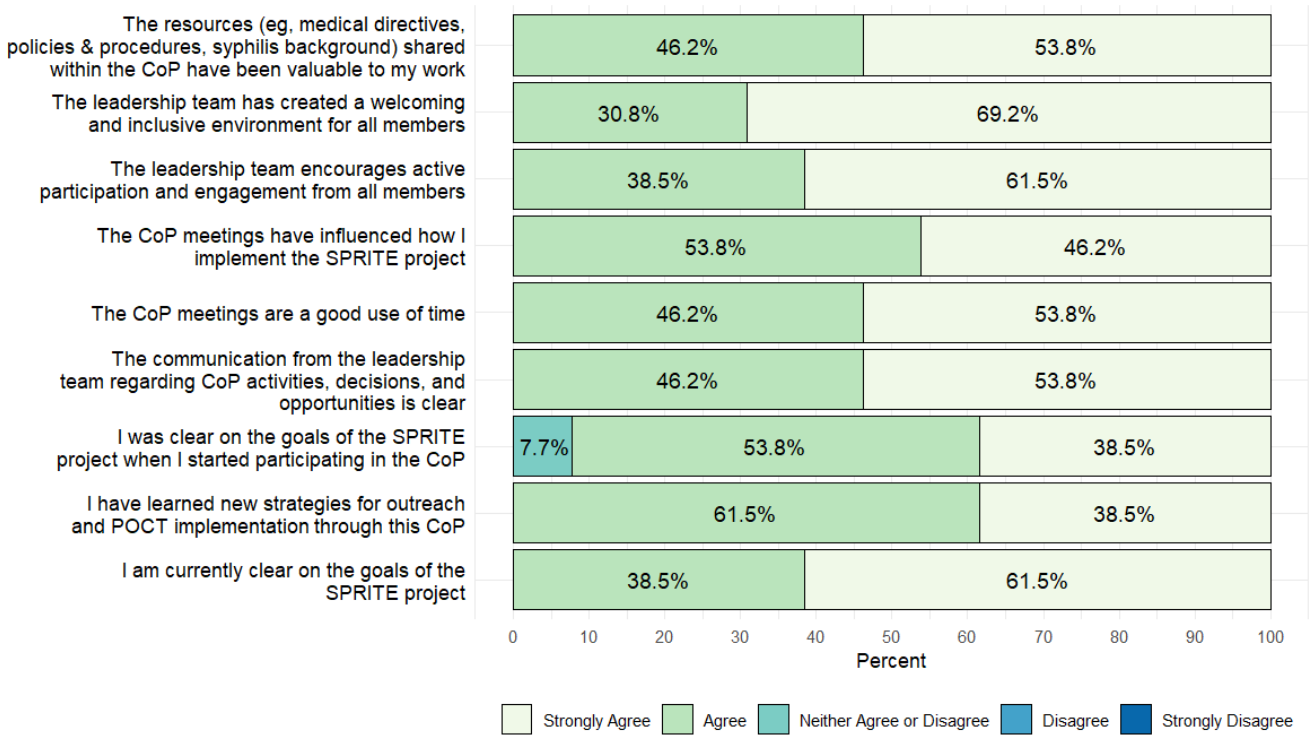

Figure 5. SPRITE - Member Perceptions of CoP Functioning (N=13)

When asked about what could be improved in the CoP, 11 responded.

- The most frequently selected item was for the core team to create and share more handouts or other resources for CBOs and clients (n=4). This was followed by:
- More meaningful member discussion about experiences (n=2), improved clarity of the study details overall (n=2), and more details on funding (n=2).
- More opportunities to present, more communication from the SPRITE team outside of meetings, and better understanding of how my work relates to the study were each selected by one member.
- One member provided some self-reflection on their own CQI in relation to the CoP – *"Perhaps more suggestions or feedback on how our health unit in particular can improve and better help the project/study."*
- Finally, one member suggested more formal sharing within the CoP: "*I would love to see an opportunity for members to present more in-depth about what they are doing for SPRITE events and knowledge translation events to inspire other members' activities."*

Knowledge Translation and Engagement

- **85%** (11/13) of responding CoP members said they had connected with CoP members outside of CoP meetings to discuss elements of the SPRITE project.
- **91%** (10/11) said that they had shared information on SPRITE with colleagues or partners outside of the CoP, such as presentations, resources and informal meetings.

- **Eight** said they had shared information on SPRITE internally either through board of health presentations, lunch and learns, in-service/training, or formal presentations to different departments.
- **Four** had formally shared externally with partners; examples include lunch and learns, media releases, meetings with local family health teams, meetings to encourage community partners to start delivering POCTs themselves. One CoP member emphasized sharing externally to support referrals - *"We have also shared information with other partners as a way [to] support referrals to our testing locations/events"*.
- **One** CoP member commented on presenting at conferences and meeting informally with organizations in Canada outside of Ontario.

Public Health Unit Key Informant Interviews

As a component of the evaluation of the SPRITE project, the SPRITE KMS and the CNF conducted a set of key informant interviews with KEs at participating PHUs to further analyze KM, community engagement and implementation of POCT for syphilis and HIV as part of a CQI process. These interviews were follow-up to a round of interviews at the mid-point of the project in February 2025 (refer to the mid-term report for details). Information from these interviews was used to improve KM throughout the LDCP timeframe. Interviews were approximately 60 min and held virtually on Microsoft Teams in mid-August 2025. A semi-structured template of questions based on evaluation objectives and questions was administered during the interview. The following is a synthesis of KE perceptions and experiences categorized by the objectives and their associated questions.

Lessons Learned in Community Engagement and Knowledge Mobilization

Knowledge exchange can happen in many forms and with a variety of audiences. Each interaction with a client involved informal sharing of knowledge on the POCT, on syphilis and HIV, PHU services and many other topics that were relevant to the client. CBO partners were informed on syphilis and HIV, current syphilis rates, importance of testing, and services the local PHU can provide during a testing event. One PHU expressed that "*part of the success with [their CBO], was that they were able to work with them regularly at monthly events. That consistency and opportunity to do knowledge translation in an informal way was more successful, than with the less common CBOs that attended their one event*."

The SPRITE core team developed and provided print resources for PHUs to use when chatting with clients about syphilis and the POCT and for CBOs when describing the SPRITE project. At the time of the interviews only a few PHUs had the opportunity to use the SPRITE resources, however everyone expressed their interest in using the resources to support knowledge exchange with clients and CBOs.

To further support knowledge exchange with community partners, each participating PHU received $2,000 with the intended purpose of engaging CBOs in knowledge exchange. The PHU was not given perimeters on how they must engage CBOs in knowledge exchange – there was some confusion in how to spend the funds and by when. Three PHUs hosted a learning event for CBOs. Attendance levels varied, audiences included CBOs, health-care providers and local Indigenous Elders. Methods of engagement included a film screening and presentations on syphilis and HIV. One PHU used Continuing Professional Education credits as an incentive for health-care providers to attend. All health units were already receiving $5 gift

cards to provide to clients as a participation incentive - a few PHUs spent the funds on additional incentives, such as snacks, gift cards, hand sanitizer, lip chap and some provided cash as an incentive. One health unit allocated a portion of their funds to their local Indigenous primary care group to incentivize partnership. Overall, PHUs reported the uptake of the POCT was positive, however most mentioned that it is difficult to know what drew the clients to receive POCT as incentives were always offered as well as other services. One PHU KE stated, "*we were struggling to get people engaged and decided to use incentives to get people*".

All PHUs except for one, offer many other services during POCT for syphilis; some CBOs have their own services they offer. Additional services offered included harm reduction supplies, wound care, vaccines, referrals, primary care, STBBI testing etc. Most PHUs were not required to use their own funds to deliver the syphilis and HIV POCT clinics. The project generally supplied the tools and resources required to implement the POCT clinics.

Status of Partnerships with Community-Based Organizations

When asked how the PHUs' relationships with CBOs were going, KEs reported that the majority of relationships were positive, but engagement level varied depending on the CBO. One KE shared that they found the CBOs that have physicians on site were making more referrals for their services, "*his level of understanding and support is high*". Also mentioned was the difficulty of meaningful engagement with CBOs, due to frequent staff turn over, variation in PHU capacity, and competing priorities between PHU and the CBO/clients.

Despite these challenges, KEs felt that since they started the POCT for syphilis and HIV, relationships with their CBOs have gotten stronger and, in many instances, they have developed new relationships. A few found it difficult to speculate if the relationship was impacted by the POCT events, but they still reported strong relationships with CBOs. A few PHUs shared that, because of the POCT, they are finally getting out and connecting with the underserved community; one of these initiated their outreach program because of the SPRITE project. Most PHUs felt they could further expand their reach for the POCT and connect with new CBOs or community groups.

Challenges with Outreach Implementation

The majority of PHUs would set up each testing event by reaching out to the key contact, explaining the project and setting up dates. Two PHUs had standing clinic times. A few PHUs would bring their own tables and room dividers, however, most relied on the CBO to provide the space and tables. PHUs mentioned that privacy for client interactions was difficult to obtain, as each organization varied in what they could offer for private clinic space.

Predictable and sudden public health priorities can shift staff capacity and the immediate priorities of the PHU. Four out of seven PHUs reported public health priorities, such as measles, seasonal vaccines, school vaccines and a tuberculosis outbreak as interfering with POCT clinics. The remaining three PHUs did not find public health priorities interfered with POCT clinics. All seven PHUs reported staffing capacity, such as turn over, illness, leave of absence and holidays impacted their ability to deliver as many POCT clinics as they would like.

Other factors that impacted scheduling and delivering clinics included weather, the opening and closing of CBO locations, incidence of violence that temporarily closed spaces, and internal safety policies for outreach workers.

Future Outreach Implementation and Improvements

Although none of the KEs could confirm with certainty that they will continue with POCT after the SPRITE study, five felt it was likely they would continue, two were unsure and one felt confident they would not be able to continue. All respondents felt funding was the key factor to continuing the POCT for syphilis and HIV.

Some KEs noted the seamlessness of the programming change after integrating the POCT for syphilis and HIV, as they were already performing POCT for HIV. On the other hand, another KE described how they did not have an outreach team prior to the SPRITE project, and the study has led to new partnerships, and connection with vulnerable clients they have not reached out to in the past. One KE shared "*We made huge progress with our priority populations, being able to go to them"*. Another KE expressed that they found *"incorporating the POCT syphilis model helped focus what we are doing during outreach"*.

Most KEs had their own unique set of lessons learned, however, good communication with CBOs and the use of incentives to help motivate clients to get tested was the most frequently shared lesson learned. One KE encouraged PHUs not to be afraid to reach out to new organizations and to keep connecting with them. Another KE encouraged other KEs to consider the hierarchy of needs when addressing clients, *"do not start with immunization or serology, rather ask the client how you can help them and then work towards testing"*.

Review of Community of Practice Meeting Minutes and Documentation

A systematic review of CoP meeting minutes and study documents was conducted from the very beginning (August 2023) to August 2025 by the study research associate. Minutes were categorized into one of five KM themes 1) engagement, 2) capacity-building and support, 3) building partnerships, 4) translating SPRITE results for different audiences, and 5) facilitating uptake of SPRITE into practice. Barriers to implementation were also noted. These discussions were cross-referenced with other documents like emails and resources to follow-up on actions taken. From these broad themes, minutes were further inductively analyzed and reported.

All meetings were recorded and a program assistant created comprehensive notes based on the recording; the recording was deleted afterwards. All meetings were 60 to 90 minutes in length and held monthly or bi-monthly.

Over the two-year timeframe, **18** meetings were held:

- 8 meetings (44%) had 100% participation.
- 6 meetings (33%) where one PHU was not represented.
- 3 meetings (17%) where two PHUs were not represented.
- 1 meeting (6%) where three PHUs were not represented.

- During the current LDCP timeframe**, 8** meetings were held (October 2024 to August 2025).

Higher participation rates were noted at the start of funding cycles where new PHUs were beginning to implement the syphilis/HIV POCT. Lower participation rates occurred when multiple PHUs were experiencing staff capacity issues, turnover, and competing priorities (e.g. PHU mergers).

Internal Engagement

Engagement occurred consistently throughout meetings. At the very beginning, the group co-created many study processes such as the consent process, the process to collate record-level data, the method for sending data securely to the core team (survey platform), decisions on what data was important to include (e.g. RPR), appropriate recruitment settings, documenting in iPHIS, and how to procure tests. Data collection was later revisited to ensure everyone was interpreting and entering the same way and to determine if more data would be relevant to collect (e.g., risk factors like inhalation drug use, type/name of drug used, rural residence, etc.). The group also discussed whether to increase incentives, determined the feasibility of asking for CBO feedback directly for evaluation purposes, and provided input into translation needs for various documents and resources.

At various times, KEs asked for input into a client-POCT situation that was out of the ordinary or help developing a knowledge product. In all instances, at least one PHU or member of the core team was able to respond, and the group was able to arrive at a satisfactory course of action.

The core research team continually engaged PHU KEs, asking for feedback on reports, grant proposals, presentations, resources, and if KEs wanted to be featured on the www.spritestudy.ca website, present, and/or be authors of scientific articles (7 KEs have presented, 12 KEs are co-authors).

Over the two-year study period, each PHU was given a certain number of POCTs based on their own testing projections. On several occasions, PHUs shared surplus POCTs with neighbouring PHUs who were in need, or returned them to the core team for later redistribution.

Capacity-Building

Interactions and discussions around increasing KEs' capacity to implement outreach with POCT happened consistently across the two-year period, especially when KEs were just beginning to develop the process or did not already have an established outreach model. Since the core team was the first to be established and offer the tests, they provided a lot of upfront sharing and resource development (e.g., examples of medical directives, clinical policies and procedures, POCT FAQ). However, all KEs were involved, especially as they became more seasoned implementers. Some have helped the core team onboard new PHUs to the study and CoP and have reached out independently to PHUs not yet participating.

Best-practices and lessons learned included:

- Ordering a Hepatitis C (HCV) serology along with that for syphilis and HIV – one KE shared that they had started to diagnose more HCV cases because of this.
- Strong counselling for those who refuse serology [that POCTs may be incorrect] – some false positive tests.

- Creating a one-stop shop for people, in addition to POCTs, including opportunities for vaccination, wound care, harm-reduction, and perks like food or drinks – one KE shared that they do this, and another KE followed suit and added flu vaccination.
- If operating in a small space, the team still needs a private area, even if it is just a corner, to administer tests and treatments.
- POCT is a good relationship-building tool [with clients]; people like getting an answer on the spot.
- Incentives work very well to get people tested – people rarely decline. In this population, word travels very well by mouth. One KE shared that they provide $5 cash for the syphilis/HIV POCT and $5 cash for serology and that this works well. Another KE copied this model and used it successfully.
- Foodbanks are a great way to reach the target population.
- Posters in recruitment settings work to encourage people to get tested for syphilis specifically.
- Having a volunteer play guitar nearby helped to relax clients.
- Guidance from PHO CoP members on how to enter positive POCTs into iPHIS (syphilis or HIV)(13).
- Ways to deal with a case's penicillin allergy – suggestions were pairing doxycycline with a methadone clinic, or a penicillin challenge (with incentives) in consultation with an allergist.
- Guidance on engaging with Indigenous populations in a culturally safe manner (14).
- Suggestions on respectfully depicting marginalized populations in knowledge products – follow what the Ontario Drug Policy Research Network does in their public reports and infographics (15).
- How to reach high-risk populations such as sex workers and people who use drugs who typically congregate in private dwellings/homes – advice included putting leaflet ads in harm reduction kits, co-ordinating with local addictions clinics, and building trust with the community through regular visits to known places of congregation and with partners providing other services.

Building Partnerships

In 2023, five PHUs began participating, but partnerships were forged with three new PHUs that began participating in the CoP and SPRITE study in the spring of 2024. At this time, a CBO also partnered to deliver their own POCTs to their clients – a department of a community health centre targeted to street-involved individuals. Finally, a northern PHU signed onto the CoP and POCT implementation in the spring of 2025. Many other PHUs and other organizations (e.g., prisons, Indigenous Services Canada) have met with the core team or other KEs to discuss feasibility and requirements.

Throughout CoP meetings, many KEs shared which CBOs they planned to partner with to deliver outreach and POCTs. Many of these CBOs were those which KEs did not already have a working relationship with. This was particularly the case for smaller PHUs who did not already have an established outreach model. From meeting to meeting, these KEs would provide updates on partnership progress. Several resulted in successful new partnerships such as with opioid agonist therapy clinics, HART hubs, foodbanks, community veterinary outreach, remote mental health and addictions services, EMS mobile services, an Indigenous reserve, several Indigenous-led organizations, and working with an Indigenous primary care organization to deliver outreach and STBBI testing more broadly.

Two PHUs began actively supporting an interested Indigenous primary care team to administer their own tests – syphilis/HIV POCT has not yet been implemented in this case; however, the relationship is ongoing, and a data sharing agreement has been signed by both parties. A northern PHU plans to engage Indigenous service organizations to determine their desire to administer their own tests.

Translating Research and Facilitating Uptake

As with a normal KM cycle, results take time so being able to facilitate the uptake of results for decision-makers and translate research for different audiences happened later in the two-year period. By the fifth meeting (January 2024), preliminary results were already being shared with decision-makers at the federal/provincial/territorial level. Much of this information has already been shared or will be shared in the following section of this report. In the minutes, members made each other aware of what conferences or presentations were happening, resources that had been developed and could be shared, and KT/KE events that they were hosting in their communities.

Barriers to Implementation

The following were challenges to implementation noted by at least one PHU:

- Ensuring wording of medical directives was satisfactory to the MOH.
- Changing the EMR to include the necessary data fields for the study.
- Lab access in a northern area.
- Communication with CBOs.
- Logistics and miscommunication with the POCT supplier.
- Two public health mergers affected four out of the seven PHUs.
- Geographical location of PHU.
    - One PHU discussed their location between two large cities. Members of the target population are transient and tend to migrate between the cities, making it difficult to find people.
    - Several PHUs discussed challenges with rurality and travel times to clinics.

Knowledge Mobilization Activities

The following **Table 3** breaks down knowledge mobilization activities by LDCP funding cycles and type of activities - references for most of these can be found in the Appendix.

Table 3. Summary of Knowledge Mobilization Activities

Type of KM Activity	Start of SPRITE to Current LDCP Sep '23 -Sep '24	Current LDCP period Oct '24 – Aug '25	Total
Community of Practice (COP)			
Monthly KE and SPRITE team meetings	10	8	18
1:1 Capacity-Building Meetings/Interactions			
To implement SPRITE or POCTs in other organizations in Ontario and across Canada (e.g. non-participating PHUs, Indigenous primary care centre, prison, One Yukon, Nova Scotia Public Health Branch, etc.)	7	7	14
Community Advisory Group Meetings	-	2	2
Presentations			
• Provincial or local KM events (e.g. conferences, PHO Rounds)	4	5*	9
• Decision-makers or funders	4	4	8
• National/international conferences or invited presentations**	4	8	12
• Accepted national/international conferences or invited presentations (not yet happened)		2	2
Papers			
• Published scientific papers	-	2	2
• Reports, protocols	-	2	2
• Synopses of published articles	-	1	1
Traditional Media			
• News (article, podcast)	-	6	6
• Hosted website (www.spritestudy.ca)	-	1	1
• Digital newsletter	-	1	1
• Posters for CBOs	-	1	1
• Postcards for clients	-	1	1
KE Interviews			
• KMS interviews with participating PHUs	-	14	14
Total KM events/activities	**29**	**65**	**94**
Research Training			
• Doctoral or Post-doctoral students***	3	3	4
• Masters of Science students	2	2	2
• Undergraduates	2	2	2
Total Trainees	**7**	**7**	**8**

*1 award for best presentation of the day, **Invited to speak to the Division of Sexually Transmitted Disease Prevention at the U.S. Centers for Disease Control and Prevention (CDC), ***A fourth doctoral student started after August, 2025 and is not included here.

Discussion

The findings of this study indicate that the second LDCP cycle of SPRITE successfully achieved its overarching aim: to create and evaluate a real-time knowledge exchange network rooted in ongoing capacity-building efforts, ultimately supporting syphilis elimination in Ontario. More research is needed to directly answer the research question of how the creation of a real-time knowledge exchange network around SPRITE supports syphilis response in Ontario, and whether this understanding can improve SPRITE implementation in small-urban and rural contexts. However, the study provided valuable insights into KM and syphilis/HIV POCT implementation across PHUs and CBOs.

The CoP developed for this case study differs from traditional public health CoPs described in the literature (12,16–18). Rather than being broad and multidisciplinary, this CoP was tightly linked to a specific research intervention and funding cycle, with membership primarily composed of public health nurses (PHNs), researchers, and KMS. Learning and engagement were focused on knowledge exchange within PHUs, with subsequent mobilization into their respective communities. While the CoP loosely aligns with the "Knowledge Mobilization" model described by Brooks et al. (16), it also shares characteristics of other models they describe.

Several areas for improvement were identified in CoP administration and functioning. At the start of the project (in 2023), some KEs lacked a clear understanding of SPRITE's goals. Although the project charter for the 2023/2024 LDCP cycle outlined these goals, future CoP management could benefit from incorporating a mission statement, values, membership guidelines, member benefits, and rules of engagement, as recommended by the National Network of Public Health Institutes' guidebook (17). Facilitation could also be enhanced to better identify and deliver resources in a timely manner. Finally, meetings could periodically be structured to allow members to share detailed lessons learned or best practices, rather than asking for general updates, which may improve engagement and satisfaction.

Despite these areas for improvement, CoP KE members found overall that the network was effective and useful; they demonstrated high levels of participation and actively shared knowledge both within and beyond their PHUs, including with CBOs and external audiences. They co-created many study processes, were proactive in seeking partnerships to host clinics and disseminate SPRITE-related resources, and their feedback to the KMS contributed to resource development and CQI.

Funding provided to PHU KEs for community engagement was intentionally flexible, allowing for innovation but also contributing to confusion and reduced accountability. Future initiatives should aim to strike a balance between flexibility and clear direction. CBOs reported a strong mission alignment with syphilis/HIV POCT and felt the partnership positively impacted their clients and relationships with PHUs. However, the perceived benefit to the organizations themselves was less clear. Offering additional incentives or in-kind benefits may improve organizational buy-in and trust.

The evaluation also highlighted the need for more bi-directional information flow between CoP KEs and CBOs, particularly if future efforts aim to incorporate community-based research (11). Notably, one CBO has begun offering POCT independently, and another Indigenous-led CBO is being onboarded to implement POCTs. This presents an opportunity for future research to explore effective strategies for onboarding CBOs to independently offer syphilis/HIV POCT services.

The project documented numerous lessons learned, tools, and templates that can support other organizations in implementing syphilis/HIV POCT. Several challenges remain, however. Communication between CoP KEs and CBOs was often difficult due to competing priorities, limited staff capacity, and funding constraints - issues common to both public health and community outreach settings. Sustained funding for POCT is a critical concern, as these services are not provincially covered. Dedicated, funded positions for CoP management (e.g., co-ordinator and manager roles) are essential for long-term sustainability (12,16,17). In this project, the KMS role was funded only briefly, and the manager role was provided in-kind.

Many of the challenges or barriers experienced, such as communication issues and funding constraints, were common across all participating PHUs. Some barriers, like rural geography, were specific to certain PHUs and not as relevant to others. These context-specific challenges should be considered when adapting POCT and KM efforts to different regions.

This evaluation was based on a single case study and is not representative of all PHUs or CBOs. While the involvement of the core team in conducting the evaluation provided valuable insight and contextual understanding, it also introduces potential bias. Nevertheless, the primary goal was to inform ongoing network development and improvement rather than to assess causal relationships between interventions and outcomes.

The survey of CBOs was conducted using a convenience sample, which may have skewed responses toward more engaged or favorable participants. Despite this, respondents still identified areas for improvement. Additionally, the KMS interview process involved a bi-directional flow of information, which may have influenced KE responses. However, this approach was intentional, aiming to co-create ideas and build KE capacity.

Conclusion

The SPRITE project successfully established and evaluated a real-time knowledge exchange network that supported syphilis POCT implementation and capacity-building across PHUs and CBOs in Ontario. The CoP model, while distinct from traditional public health CoPs, proved effective in fostering engagement, resource development, and KM. Key lessons learned and tools developed through this initiative offer valuable guidance for future POCT and KM efforts.

To enhance future CoPs, clearer communication of goals, improved facilitation, and structured engagement strategies are recommended. Addressing funding and sustainability challenges, particularly for POCT services and CoP management roles, is essential. Strengthening partnerships with CBOs through incentives and bi-directional information sharing will further support community-based syphilis prevention and testing.

Ultimately, this evaluation underscores the importance of flexible yet accountable approaches to KM and POCT implementation, especially in diverse public health contexts. Continued investment in collaborative networks like the SPRITE CoP will be critical to advancing syphilis elimination efforts across Ontario.

References

1. Public Health Ontario. ENHANCED EPIDEMIOLOGICAL SUMMARY Infectious Syphilis and Early Congenital Syphilis in Ontario: Focus on 2022 [Internet]. Toronto: PHO; 2024 Jan [cited 2024 Feb 12]. Available from: https://www.publichealthontario.ca/-/media/Documents/S/2023/syphilis-ontario-focus-2022.pdf?rev=65558c76d7df4a13addbc19c16565dab&sc_lang=en

2. Tuddenham S, Hamill MM, Ghanem KG. Diagnosis and Treatment of Sexually Transmitted Infections: A Review. JAMA. 2022 Jan 11;327(2):161–72.

3. Centre for Communicable Diseases and Infection Control, Public Health Agency of Canada. Syphilis in Canada, Technical Report on Epidemiological Trends, Determinants and Interventions [Internet]. Ottawa: Government of Canada; 2020 [cited 2023 Mar 10]. Available from: https://www.canada.ca/content/dam/phac-aspc/documents/services/publications/diseases-conditions/syphilis-epidemiological-report/syphilis-eng.pdf

4. Mangione CM, Barry MJ, Nicholson WK, Cabana M, Chelmow D, Coker TR, et al. Screening for Syphilis Infection in Nonpregnant Adolescents and Adults: US Preventive Services Task Force Reaffirmation Recommendation Statement. JAMA. 2022 Sep 27;328(12):1243–9.

5. LeBlanc MA. Point of Care Testing for Sexually Transmitted and Blood-Borne Infections: A Canadian Realist Review [Internet]. National Collaborating Centre for Infectious Diseases; 2019 [cited 2024 Feb 1]. Available from: https://nccid.ca/wp-content/uploads/sites/2/2019/11/Point-of-Care-Testing-for-Sexually-Transmitted-and-Blood%E2%80%90Borne-Infections-A-Canadian-Realist-Review.pdf

6. Singh AE, Ives N, Gratrix J, Vetland C, Ferron L, Crawford M, et al. Sensitivity and specificity of two investigational Point of care tests for Syphilis and HIV (PoSH Study) for the diagnosis and treatment of infectious syphilis in Canada: a cross-sectional study. Clin Micribiol Infect. 2023 Jul 1;29(7):940.e1-940.e7.

7. bioLytical (R) Laboratories Inc. INSTI (R) Multiplex HIV-1/2 Syphilis Ab Test [Product Monograph] [Internet]. 2020 [cited 2023 Mar 2]. Available from: https://insti.com/wp-content/uploads/2021/10/51-1143-L-IFU-Multiplex-INSTI-One-EN-11x25.5.pdf

8. Glasgow RE, Vogt TM, Boles SM. Evaluating the public health impact of health promotion interventions: The RE-AIM framework. AJPH. 1999;89(9):1322–7.

9. Carter M, Szumlanski N, Hoover M, Sanderson P, Geen E, McFaul S, et al. Syphilis Point-of-care Rapid testing and Immediate Treatment Evaluation (SPRITE): A Locally-Driven Collaborative Project (2023-2024) [Internet]. Kingston, ON: KFL&A Public Health; 2024 Oct. Report No.: Final Report to Public Health Ontario. Available from: https://www.publichealthontario.ca/-/media/Documents/L/24/ldcp-syphilis-rapid-testing-sprite.pdf?sc_lang=en&rev=86ba80074d3b429982902b2dd5c5e538&hash=34AB11343353C16B82DD2A4F565FAFA3

10. Wenger-Trayner E, Wenger-Trayner B. Introduction to communities of practice [Internet]. 2015 [cited 2025 Sep 23]. Available from: https://www.wenger-trayner.com/introduction-to-communities-of-practice/

11. Minkler M, Salvatore AL, Chang C. Participatory Approaches for Study Design and Analysis in Dissemination and Implementation Research. In: Brownson RC, Colditz GA, Proctor EK, editors. Dissemination and Implementation Research in Health: Translating Science to Practice. Oxford University Press; 2017. p. 175–90.

12. Richard L, Chiocchio F, Essiembre H, Tremblay MC, Lamy G, Champagne F, et al. Communities of Practice as a Professional and Organizational Development Strategy in Local Public Health Organizations in Quebec, Canada: An Evaluation Model. Healthc Policy. 2014 Feb;9(3):26–39.

13. Public Health Ontario. Outbreak and STD Modules: Entering Point-of-Care Test Results [Internet]. Toronto, ON: Public Health Ontario; 2024 Mar [cited 2024 Apr 4]. Available from: https://www.publichealthontario.ca/-/media/Documents/I/24/iphis-outbreak-std-reference-guide.pdf?rev=c455418d155b4e08b571dcc7369483dc&sc_lang=en&hash=8A94088CF5F38F973E0704901B63592C

14. Indigenous Primary Health Care Council. Indigenous Patient, Family and Community Engagement Toolkit [Internet]. Port Perry, ON: Indigenous Primary Health Care Council; 2024 Jan [cited 2025 Feb 22]. Available from: https://iphcc.ca/wp-content/uploads/ninja-forms/2/Indigenous-Patient-Family-Community-Engagement-Toolkit.pdf

15. The Ontario Drug Policy Research Network [Internet]. Publications & Reports. [cited 2025 Mar 18]. Available from: https://wordpress-1113400-5430275.cloudwaysapps.com/publications-and-reports/

16. Brooks SP, Ekpe Adewuyi E, Wasylak T, Thomson D, Davison SN, Storey K. How to use communities of practice to support change in learning health systems: A landscape of roles and guidance for management. Learning Health Systems. 2024 Jul;8(3):e10412.

17. National Network of Public Health Institutes, Institute for Public Health Innovation. A Guidebook for Developing Public Health Communities of Practice [Internet]. National Network of Public Health Institutes; 2020 [cited 2025 Sep 16] p. 46. Available from: https://nnphi.org/wp-content/uploads/2020/07/Developing-Public-Health-Communities-of-Practice-Guidebook-2.pdf

18. Machta R, Bosold A, Brenner J, Crawford A. Knowledge Dissemination Among State, Tribal, Local, and Territorial Public Health Agencies Through Communities of Practice During the COVID-19 Pandemic [Internet]. Washington, DC: Mathematica; 2024 Sep [cited 2025 Sep 16]. Report No.: Contract No. HHSP233201500035I, Task Order No. 75P00122F37070. Available from: https://www.aspe.hhs.gov/sites/default/files/documents/86740b551fb11db10b379f3b11718518/Communities-of-Practice-Report.pdf

Appendix

References for SPRITE Knowledge Products

Papers

Published

1. Mackrell L, Carter M, Hoover M, O'Byrne P, Larkin N, Magpantay F, Zhao S, Stoner B, Richard-Greenblatt M, Mandryk K, Belanger K, Burbidge J, Charette G, Deschenes G, Dinh D, Featherstone A, Khandakar F, Martinez-Cajas J, Tran V, Szumlanski N, Vance S, Saeed S; for the SPRITE Study. The Syphilis Point of Care Rapid Test and Immediate Treatment Evaluation (SPRITE) Study: a mixed-methods implementation science research protocol of eight public health units in Ontario, Canada. BMJ Open. 2024 Dec 20;14(12):e089021. Available from: https://bmjopen.bmj.com/content/14/12/e089021
2. Zhao S, Saeed S, Carter M, Stoner B, Hoover M, Guan H, Magpantay FMG. Edge-based modeling for disease transmission on random graphs: an application to mitigate a syphilis outbreak. R Soc Open Sci. 2025 Apr 30;12(4):240805. Available from: https://royalsocietypublishing.org/doi/10.1098/rsos.250032
3. Syphilis Point-of-care Rapid testing and Immediate Treatment Evaluation (SPRITE): a locally-driven collaborative project (2023–2024). Final report to Public Health Ontario. Toronto (ON): Public Health Ontario; 2024 Oct. Available from: https://www.publichealthontario.ca/-/media/Documents/L/24/ldcp-syphilis-rapid-testing-sprite.pdf?sc_lang=en&rev=668a131f2ab84ebe9072e62456ad4f5b&hash=02290B638A0C2A81810ECCD0F0348602
4. Mackrell L, Antoun JP, Carter M, Larkin N, Burnside J, Hoover M, Khandakar F, O'Byrne P, Cassan C, Burbidge J, Vance S, Belanger K, Saeed S. Intersecting risk factors associated with high syphilis seroprevalence among a street-involved population in Canada. Open Forum Infect Dis. 2025 Aug 7;12(8):ofaf442. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC12368418/

Submitted

1. Dinh DA, Mackrell L, Antoun JP, Carter M, Southall M, Sanderson M, Hoover M, Saeed S. "So much other stuff going on": Clients' and Providers' Perspectives on Factors Influencing Syphilis and STBBI Testing among Street-involved Communities. 2025; Can J Pub Health

Presentations

1. **Carter M, Szumlanski N.** Syphilis point of care rapid testing and immediate treatment evaluation preliminary results. Presented at: STBBI FPT Secretariat Public Health Agency of Canada - Syphilis Response Steering Committee Meeting; 2023 Dec 14; Virtual.
2. **Carter M, Szumlanski N.** Front-line experience in syphilis testing: Recommendations to increase testing during pregnancy and point-of-care testing among un(der)housed. Presented at: Taking

Action on Congenital Syphilis in Canada: National Conference 2024, Public Health Agency of Canada; 2024 Feb 28; Ottawa, Canada.

3. **Saeed S**. Breaking barriers: Expanding syphilis point-of-care testing and immediate treatment to meet the needs of underserved communities. Presented at: Syphilis Seminar – McGill; 2024 Mar 18; Montreal, Canada.
4. **Vance S**. Public health collaboration through research: Addressing syphilis in underserved populations. Presented at: Loyalist College; 2024 Mar 12; Belleville, Canada.
5. **Carter M**. Syphilis point of care testing and immediate treatment evaluation (SPRITE) in five Ontario public health units. Presented at: Canadian Public Health Association Conference; 2024 Apr 23; Halifax, Canada.
6. **Hoover M**. SPRITE study overview and preliminary results. Presented at: KFL&A PH Board of Health meeting; 2024 Apr 23; Kingston, Canada.
7. **Mackrell L**. Point-of-care testing and immediate treatment evaluation (SPRITE) in 5 Ontario public health units: Determining real-world accuracy of point-of-care tests. Presented at: Canadian Conference on HIV/AIDS Research; 2024 Apr 25; London, Canada.
8. **Mackrell L**. Point-of-care testing and immediate treatment evaluation (SPRITE) in 5 Ontario public health units: Barriers and facilitators to implementation. Presented at: Canadian Conference on HIV/AIDS Research; 2024 Apr 25; London, Canada.
9. **Carter M, Guan H.** Local syphilis prevention initiatives: Prenatal testing and point-of-care testing and rapid treatment. Presented at: Public Health Sector Coordinating Table; 2024 May 8; Virtual.
10. **Hoover M, Sousa J.** Syphilis: Disease overview and public health initiatives in the KFL&A region. Presented at: Maple Family Health Team; 2024 Jun 26; Kingston, Canada.
11. **Saeed S**. Advancing syphilis elimination: Leveraging public health and academic partnerships to build capacity. Presented at: Public Health Sciences Department, Queen's University; 2024 Sep 27; Kingston, Canada.
12. **Saeed S**. Breaking barriers: Expanding syphilis point-of-care testing and immediate treatment to meet the needs of underserved communities. Presented at: Canadian Institutes of Health Research; 2024 Dec 12; Virtual.
13. **Saeed S**. Leveraging public health and academic partnerships to meet the needs of underserved communities. Presented at: Division of Sexually Transmitted Disease Prevention, U.S. Centers for Disease Control and Prevention; 2024 Dec 12; Virtual.
14. **Carter M, Mackrell L.** Update on syphilis research at South East Health Unit. Presented at: Public Health Sector Coordinating Table; 2025 Jan 16; Virtual.
15. **Belanger K, Mackrell L, Vance S**. Leveraging momentum: Building outreach capacity and point-of-care syphilis rapid testing and treatment practices: Overview of results of a locally developed collaborative project 2023–2024. Presented at: Public Health Ontario; 2025 Jan 23; Virtual.
16. **Antoun** J, Carter M, Mackrell L, Saeed S, Sayyad S. Adopting a syphilis "test and treat" outreach model of care: A judgment and decision-making lens. Presented at: Canadian Association for Health Services and Policy Research; 2025 May 26; Ottawa, Canada.
17. **Mackrell L,** Carter M, Larkin N, O'Byrne P, Tran V, Szumlanski N, Hoover M, Mandryk K, Khandakar F, Burnside J, Saeed S, for the SPRITE Study. Intersecting risks: Heightened syphilis seropositivity among equity-deserving populations in Ontario, Canada. Presented at: STI & HIV World Congress; 2025 Jul 26–30; Montreal, Canada.
18. Mackrell L, Carter M, Larkin N, O'Byrne P, Tran V, Szumlanski N, Hoover M, Mandryk K, Khandakar F, Burnside J, **Saeed S**, for the SPRITE Study. Intersecting risks: Heightened syphilis seropositivity

among equity-deserving populations in Ontario, Canada. Presented at: IWHOD; 2025 Mar 27–29; Spain.

19. **Hoover M,** Carter M, Szumlanski N, Larkin N, Vance S, Belanger K, Rasinho B, Burnside J, Mackrell L, Mandryk K, Evans M, St John M, Dereski S, Caron-Bruneau MF, Leggett L, Southall M, O'Byrne P, Stone B, Martinez-Cajas J, Tran V, Burbidge J, Saeed S. Syphilis point-of-care rapid testing and immediate treatment evaluation (SPRITE): Implementation across five Ontario public health units. Presented at: Canadian Public Health Association; 2025 Apr 29–May 1; Winnipeg, Canada.
20. **Sayyad S,** Antoun J, Mackrell L, Carter M, Saeed S. Contextual facilitators to public health units' adoption of the rapid syphilis "test and treat" outreach model of care. Presented at: STI & HIV World Congress; 2025 Jul 26–30; Montreal, Canada.
21. Mackrell L, Hoover M, Saeed S, Stoner B, Szumlanski N, **Belanger K**, Vance S, Larkin N, Deschenes G, Rasinho B, Mandryk K, O'Byrne P, Tran V, Greenblatt M, Martinez-Cajas J, Burbidge J, Burnside J, Southall M, Carter M. Monitoring results from the syphilis point-of-care rapid testing and immediate treatment evaluation. Presented at: The Ontario Public Health Convention; 2025 Mar 26; Virtual.
22. **Larkin N,** Southall M, Carter M, Hoover M, Saeed S. Responding to syphilis with a rapid "test and treat" outreach nursing model of care. Presented at: Kingston Nursing Research Conference; 2025 Mar 21; Kingston, Canada.
23. **Zhao S**. Disease transmission on random graphs using edge-based percolation and its application to syphilis control in KFL&A area. Presented at: Canadian Applied and Industrial Mathematics Society Annual Meeting; 2024 Jun 24; Kingston, Canada.
24. **Dereski S, Cassan C**. Syphilis and the SPRITE study. Presented at: Algoma Public Health Board of Health; 2025 Jan 29; Kingston, Canada.
25. **Mackrell L, Dinh D**, Carter M, Antoun J, Larkin N, Belanger K, Cassan C, Leggett L, Martinez-Cajas J, Szumlanski N, Vance S, Saeed S. Evaluating the reach of the syphilis point-of-care rapid test and immediate treatment model of care across five Ontario public health units. Presented at: Association of Public Health Epidemiologists in Ontario Conference with Ontario Public Health Evaluation Network; 2025 May 4; Kingston, Canada.
26. **Larkin N**, Saeed S, Southall M, Carter M, for the SPRITE Study. Responding to syphilis with a rapid "test and treat" outreach nursing model of care. Accepted: Canadian Society of Addiction Medicine Conference; 2025 Oct 16–18; Montreal, Canada.
27. **Dinh D,** Mackrell L, Carter M, Southall M, Sanderson P, Hoover M, Saeed S. "Ease up on us a little": Barriers to syphilis testing among un(der)housed individuals and people who use drugs in Kingston, Ontario. Accepted: Issues of Substance Conference; 2025 Nov; Halifax, Canada.
28. **Vance S**. Advancing syphilis testing and treatment through community engagement. Presented at: South East Health Unit Board of Health; 2025 May 28; Kingston, Canada.
29. **Saeed S**. Culturally relevant and effective research responses to emerging and reemerging infections: Advancing the government of Canada's STBBI action plan priorities. Presented at: STI & HIV World Congress; 2025 Jul 27; Montreal, Canada.
30. **Zhao S**. Edge-based modeling for disease transmission on random graphs – an application to mitigate a syphilis outbreak. Presented at: Society for Mathematical Biology Annual Meeting; 2025 Jul 18; Edmonton, Canada.
31. **Zhao S**. Disease transmission on random graphs using edge-based percolation and its application to syphilis control in KFL&A area. Presented at: Workshop for Mathematical Ecology; 2025 Jul 24; Kingston, Canada.

Website

1. SPRITE: Syphilis Point-of-care Rapid testing and Immediate Treatment Evaluation. Available from: www.spritestudy.ca

KM Resources

1. What is the SPRITE Study? (for CBOs). Available from: https://www.spritestudy.ca/_files/ugd/e23804_3e3cd4b8ffc84378b42ff62f51ea3dd2.pdf
2. Syphilis and the Point-of-care Test (for clients). Available from: https://www.spritestudy.ca/_files/ugd/e23804_a52713ae195e46e4a696a714dfd64bac.pdf

Media Hits

1. Hendry L. Syphilis study speeds up testing, treatment amid rising cases. **Belleville Intelligencer**. 2024 Oct 21. Available from: https://www.intelligencer.ca/news/syphilis-study-speeds-up-testing-treatment-amid-rising-cases
2. Balogh M. Kingston-led study hopes to curb syphilis cases. **The Kingston Whig Standard**. 2024 Oct 28. Available from: https://www.thewhig.com/news/kingston-led-study-hopes-to-curb-syphilis-cases
3. **All in a Day with Alan Neal.** How one public health project plans to deal with the rise of syphilis in rural communities. CBC Listen. 2024 Oct 29. Available from: https://www.cbc.ca/listen/live-radio/1-92-all-in-a-day/clip/16104859-how-one-public-health-project-plans-deal-rise
4. Taylor D. Syphilis on the rise, but Algoma Public Health fighting it with SPRITE. **SooToday.com**. 2025 Jan 30. Available from: https://www.sootoday.com/local-news/syphilis-on-the-rise-but-algoma-public-health-fights-it-with-sprite-10153397
5. Fox M. How mathematical models are helping fight syphilis outbreaks: Queen's researchers are using a new mathematical approach to better understand and mitigate the spread of syphilis. **Queen's Gazette.** 2025 May 2. Available from: https://www.queensu.ca/gazette/stories/how-mathematical-models-are-helping-fight-syphilis-outbreaks
6. Hendry L. South East Health Unit: measles decline, name change, syphilis study. **Belleville Intelligencer.** 2025 May 29. Available from: https://www.intelligencer.ca/news/south-east-health-unit-measles-decline-name-change-syphilis-study