

Syphilis Point of Care Rapid Testing and Immediate Treatment Evaluation (SPRITE) in 5 Ontario Public Health Units: Barriers and Facilitators to Implementation

Lucy Mackrell¹, Megan Carter^{1,2}, Felicia Magpantay¹, Sicheng Zhao¹, Jennifer Adams³, Kandace Belanger⁴, Jennifer Burbidge⁵, Gabrielle Deschenes³, Eric Green², Melissa Greenblatt⁵, Maggie Hoover², Susan LaBrie³, Kira Mandryk⁶, Jorge Martinez-Cajas^{7,1}, Stephanie McFaul⁸, Patrick O’Byrne^{6,9}, Brooke Rasinho⁴, Patrick Sanderson², Bradley Stoner¹, Vanessa Tran⁵, Nicole Szumlanski², Stephanie Vance⁸, Sahar Saeed¹

¹Queen’s University, ²Kingston, Frontenac and Lennox and Addington Public Health, ³Leeds, Grenville & Lanark District Health Unit, ⁴Thunder Bay District Health Unit, ⁵Public Health Ontario, ⁶Ottawa Public Health, ⁷Kingston Health Sciences Centre, ⁸Hastings Prince Edward Public Health, ⁹University of Ottawa

Background

In March 2023, the INSTI® Multiplex HIV-1 / HIV-2 / Syphilis Antibody Test, a rapid point-of-care test (POCT) was licensed by Health Canada. Since June 2023, five Ontario Public Health Units implemented the “rapid POCT and treat” outreach model of care, which incorporates POCT and treatment with existing public health outreach services, bringing services to the population at highest risk, including those facing housing instability, mental health concerns, or injection drug use. **We evaluated the barriers and facilitators to implementation from the perspective of health care providers.**

Methods

We adapted a survey targeting participating health care providers to understand the barriers and facilitators of implementing this intervention within public health units¹. The adapted survey contains a series of Likert items, consisting of a discrete number of response choices per question, which resulted in subdomain scores in the areas of learnability, willingness, suitability, and satisfaction (table below). Respondents could provide further open-ended commentary after each set of domain questions.

Learnability	
Definition	Ability of the providers to understand how to perform the POCT and accurately read the results
Questions	Correctly reading and interpreting the dual HIV/syphilis POCT...
	Interpreting indeterminant dual HIV/syphilis POCT results...
	Overall, performing the dual HIV/syphilis POCT is...
	POCT kit instructions are...
	The training offered was enough to perform the dual POCT...
Willingness	
Definition	The Providers intention to carry out the POCT, wait for results, treat, and refer as necessary
Questions	I am willing to consistently offer and perform the dual HIV/syphilis POCT while providing outreach...
	Current supporting components of providing dual HIV/syphilis POCT during outreach - including training, supervision, and quality maintenance - are sufficient to integrate it into routine activities...
Suitability	
Definition	The belief that the test is relevant for the providers work and that it could be successfully integrated into existing services.
Questions	Dual HIV/syphilis POCT will improve the health of outreach clients and their contacts...
	Dual HIV/syphilis POCT is a necessary intervention to curb the syphilis outbreak in my region...
	I am confident in the results of the dual HIV/syphilis POCT while providing outreach services...
	I am confident in my ability to validly perform the dual HIV/syphilis POCT while providing outreach services...
	Routine dual HIV/syphilis POCT should continue while providing outreach services...
Satisfaction	
Definition	Feeling that completing the test is both convenient and enjoyable.
Questions	In your opinion, how do newly tested clients feel about the dual HIV/syphilis POCT?
	Use of dual HIV/syphilis POCT reduces workload for outreach nurses....
	Dual HIV/syphilis POCT is more acceptable to outreach clients than routine serology...

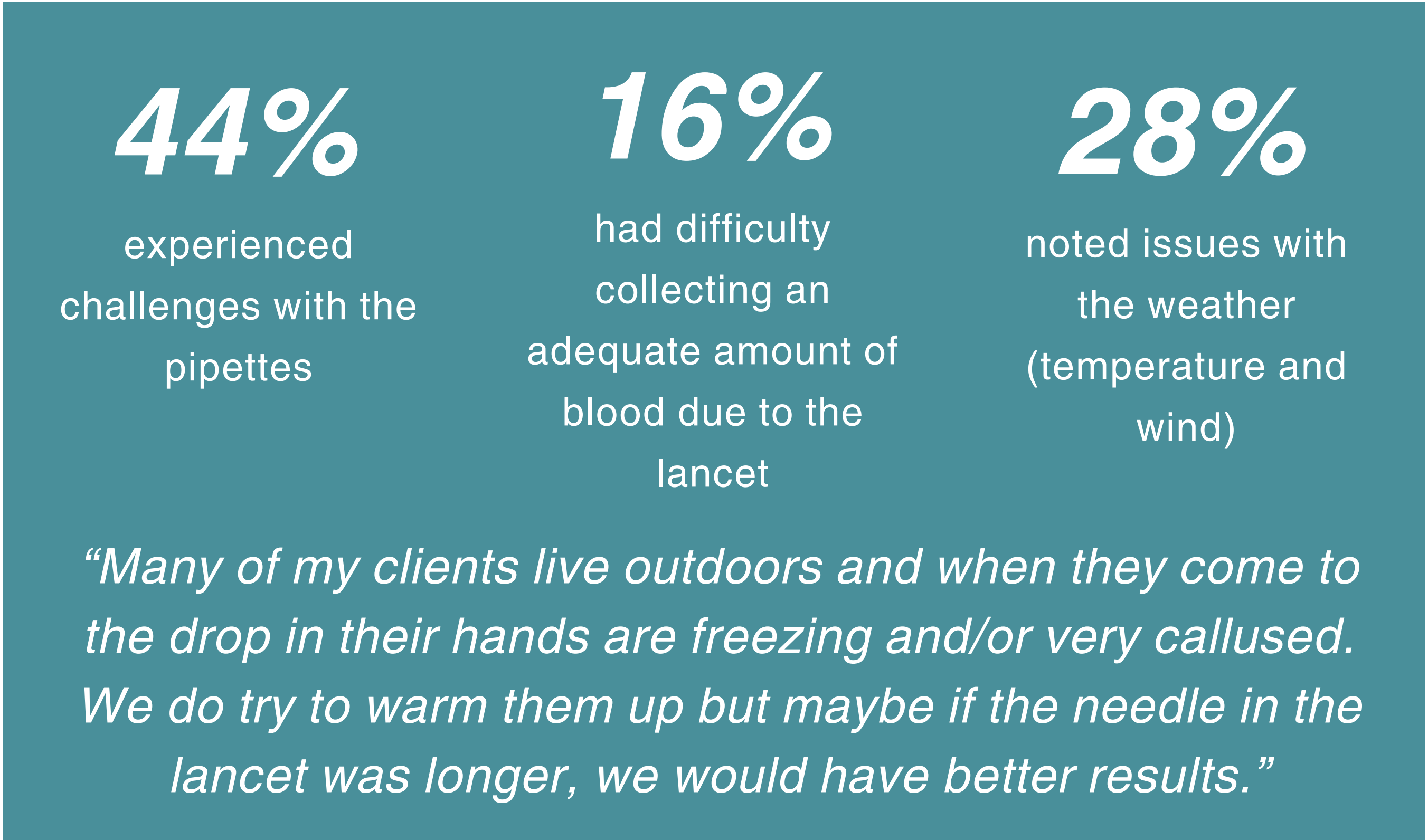
Results

In total, 18 people participated in the healthcare provider implementer survey from the following Public Health Units: Hastings Prince Edward Public Health (HPEPH), Kingston, Frontenac and Lennox & Addington Public Health Unit (KFL&APH), Leeds, Grenville and Lanark District Health Unit (LGLDHU), Thunder Bay District Health Unit (TBDHU)

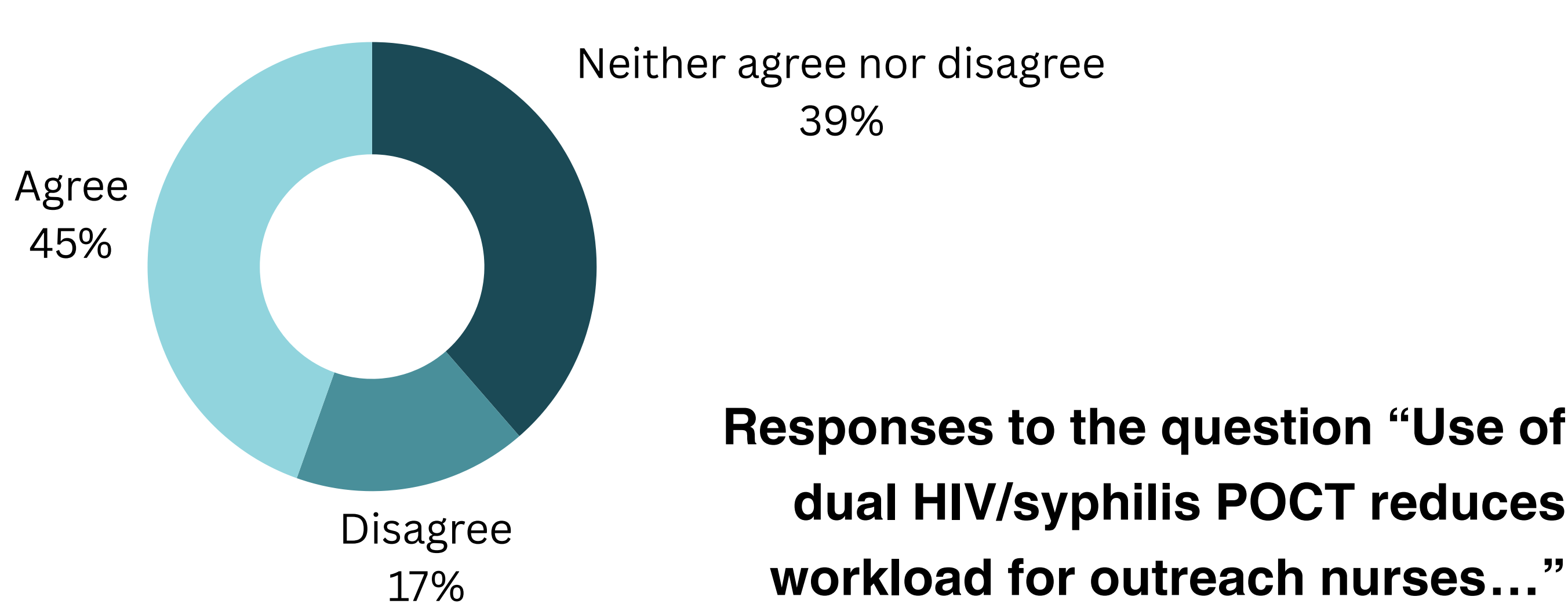
The median scores for each subdomain in the survey (out of five) demonstrate high overall feasibility of the POCT intervention.



Satisfaction had the lowest median score, which can be further explained through the following comments from participants...



These challenges also contributed to additional workload for outreach nurses...



With **suitability**, confidence in the results is noteworthy with expressing concern over the accuracy of the results, in particular for clients with low RPR in incubating or late-latent stage.

This in turn raised concerns over the utility of the POCT...

“Most clients we offer POCT to want to complete the POCT but are not interested in completing serology or even when we attempt serology are unable to obtain it for confirmation - so [for] the [test] to be truly useful, the accuracy of the POCT would need to be similar to serology.”

Agree (28%)

Despite these concerns, all participant agreed that...

Strongly Agree (72%) Agree (28%)

“Routine dual HIV/syphilis POCT should continue while providing outreach services...”

Willingness and **Learnability** responses were universally high:

Strongly Agree (72%) Agree (28%)

“I am willing to consistently offer and perform the dual HIV/syphilis POCT while providing outreach...”

1 Median number of trainings POCTs survey participants needed to perform before they felt comfortable performing the POCT in the field

An unforeseen benefit...

When asked to provide any other information important in evaluating the implementation of the POCT:

“Excellent tool to engage clients in STBBI screening. The quick result is enough to engage clients to accept POCT screening, allowing the opportunity to discuss other STBBI screening and Public Health Services they could benefit from during that encounter.”

Conclusion

While providers’ perception of the POCT and treat intervention is mostly positive, there are still areas of concern. The functionality of the test both in general and in outreach conditions with the target population, as well as the concern over accuracy of the tests in terms of missing early infectious syphilis and latent syphilis, need to be addressed moving forward.

1. Network P. Standardised protocol for a prospective cross-sectional multicentre clinical utility evaluation of two dual point-of-care tests in non-clinical settings for the screening of HIV and syphilis in men who have sex with men. BMJ open. 2022;12(6):e055275.