Evaluation Findings from the Pilot Phase of BC’s Provincial Point of Care HIV testing Program: The First 18 Months

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- Amrit Rai – Fraser Health Authority
- Heather Winnichuk – Fraser Health Authority
- Elena Kanigan – First Nations Health Authority
- Denise Thomas – First Nations and Inuit Health
- Denise McKay – Interior Health Authority
- Lori McClenaghan – Interior Health Authority
- Kathy MacDonald – Northern Health Authority
- Meaghan Thumath – Vancouver Coastal Health
- Audrey Shaw – Vancouver Island Health Authority
- Shelley Dean – Vancouver Island Health Authority
- Brynn Grierson – Providence Health
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Finally, we’d like to thank the various stakeholders who participated in interviews that comprised the qualitative portion of the evaluation. These narratives brought very important and personal dimensions to the evaluation that will be critical to future planning.

Thank you!
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Executive Summary

This report describes the evaluation of the first 18 months of the Provincial Point of Care HIV Testing Program. In 2010, the BC Ministry of Health requested that the BC Centre for Disease Control (BCCDC) in partnership with the Provincial Health Services Authority Laboratory develop a centralized, province-wide point of care (POC) HIV testing distribution and quality assurance program. This program was funded through the provincial pilot project, Seek and Treat for the Optimal Prevention of HIV/AIDS (STOP HIV/AIDS). The two-year Provincial POC HIV Testing Program pilot officially launched April 1st, 2011. The program was intended to increase uptake of HIV testing in the province by providing an acceptable and accessible alternative to standard HIV laboratory testing. The overall goal of this report was to evaluate the first 18 months (April 2011 to September 2012) of Provincial POC HIV Testing Program implementation through describing process and summary outcomes.

METHODS

Quantitative data was collected from a multitude of sources based on priority indicators such as testing volumes and new HIV diagnoses as well as some process outcomes. Other quantitative data sources included data collected through the POC training evaluation forms collected anonymously from training session participants, website statistics, and POC-related feedback from anonymous clinic client satisfaction surveys.

Qualitative data was collected through semi-structured interviews with 20 key stakeholders who were decision-makers involved in the development and implementation of POC testing across the province. Interviews were conducted by the POC HIV Testing Program Manager (first author). Participants were purposively sampled based on principles of diversification regarding individual roles (e.g., managers and front-line POC providers/testers), regional representation, and organizational factors such as testing volume, rural versus urban location, and First Nations versus non-First Nations experience.

FINDINGS

The evaluation findings were categorized into five key themes relating to the successes and challenges of expansion of HIV testing in BC through POC HIV testing availability including: extending HIV testing reach; POC as engagement; First Nations and rural/remote communities; common tensions; and program recommendations. Key program successes included: reaching marginalized populations; engagement of clients into care; program responsiveness; and creation of provincial standards of HIV POC testing practice and training curricula.

Extending Reach - Diversifying HIV Testing in BC: At the end of the first 18 months of the program (September 30th, 2012), there were 54 active testing sites in BC with sites in all Health Authorities. Public Health / STI clinics and clinical outreach services accounted for 26% of sites and over 80% of HIV POC tests over the 18 month period. Of the 17029 diagnostic tests, 16848 (98.9%) of the tests were non-reactive (negative), 13 (0.08%) indeterminate and 168 (1.0%) preliminary positive. The percent positivity (# preliminary positive/ # diagnostic tests) of the program as a whole was 1.0%. The overall program specificity was 99.9% and the positive predicative value was 94.5%. There were 9 false positives since the beginning of the POC program which is 0.5 per 1,000 POC tests, and four individuals having a preliminary positive result were lost to follow-up. Of the 154 confirmed positive results, 126 persons were new HIV diagnoses (diagnosis rate of 0.7%). Overall 30.2% of new HIV diagnoses in BC during this period were first detected via POC testing.

Findings from the key informant interviews showed that the provision of the POC HIV test kits and quality control materials free-of-charge to the testing sites was viewed as a significant facilitator of the success of the program and as cost effective for individual sites. Participants highlighted the
responsiveness of the program and appreciated characteristics such as timely feedback for problems/requests/questions and investigating problems that arose with the testing kits. POC HIV testing was viewed by many as just one of the many tools facilitating client-centered care and supporting their practice. Another advantage expressed by participants was that POC extended the reach of testing beyond just those providers who had skills in phlebotomy. In addition, there were over 700 visits to the program website www.bccdc.ca/POC in the first four months after its launch in the Spring of 2012.

**POC as a tool for engagement:** To explore client perspectives on POC, we drew on a case example of the Bute Street Clinic and a sample of clients (n=223) who completed anonymous client satisfaction surveys. As a reason for coming to the clinic to access services, 149/223 (66.8%) of respondents agreed or strongly agreed that it was because “I can get a point of care (rapid) HIV test” and 23/223 (10.3%) said getting a POC HIV test was the main reason for coming in that day. Over 40% (95/223) included a POC test as a preferred testing technique.

A key theme from the interviews demonstrated that POC often was a reason for bringing clients in the door for testing and that, alongside the rapidness of the test result, the novelty of the POC testing technology was also an incentive to present for HIV testing. This provided opportunities for providers to have discussions with their clients about their sexual behaviours as well as other types of STI tests that could be performed.

As part of the provincial POC program, healthcare providers working at sites that were in the process of planning or implementing POC testing would participate in a training session of approximately three hours. The vast majority of POC trainees during the pilot phase of the POC program were registered nurses (including several nurse practitioners) working in either regional public health or First Nations communities. By the end of the 18 months of evaluation, over 100 nurses had been trained through the BCCDC’s 11 training sessions. Overall, the responses of training participants on the anonymous evaluations showed high satisfaction ranging from 91-99% in the responses.

**First Nations and rural/remote communities:** The key informant interviews highlighted that rural and remote communities face unique considerations for implementing POC HIV testing as well as standard HIV testing. The sub-themes that emerged included stigma, resource limitations, and structural challenges to confirmatory lab testing such as geography and restrictive healthcare provision policies.

**Common Tensions:** Participants in the key informant interviews were asked to share their perspectives of the key challenges associated with the POC program. These were categorized into the following three binary sub-themes: accessibility versus confidentiality; provider versus client preference; and primary care versus public health models.

**Program Recommendations:** Key informant interviews uncovered several recommendations for the program that could be grouped into the following: wider promotion of POC HIV testing and the provincial program; creation and maintenance of relationships between POC sites; manufacturer improvements in test quality; policy changes and integration of POC into operations; improving accessibility for FN and rural/remote communities; and expanding scope of POC testers to non-nurses and through train-the-trainer models.

**LESSONS LEARNED**

Lessons learned throughout the first 18 months of operations of the Provincial POC HIV Testing Program were gleaned from both the quantitative and qualitative data collected during the evaluation of the program as well as the experience of program staff. Some key lessons learned from the program in the first 18 months included:

- Maintaining a POC Advisory Committee is important
• Partnerships with other programs and the Regional Health Authorities are facilitators to POC uptake by providers and their healthcare sites
• Clients like POC and ask for it
• Many providers still prefer standard testing
• A central program contact and resources adds value
• Training and site support is key to success
• Rural/remote and acute care sites have unique considerations with regard to POC start-up
• Strategies for improving quality control and assurance processes are needed
• Regional standards and infrastructure is needed to connect laboratories and sites
• Data quality and collection need further development
1.0 Introduction

This report describes the evaluation of the first 18 months of the Provincial Point of Care (POC) HIV Testing Program. In 2010, the Ministry of Health requested that the BC Centre for Disease Control (BCCDC) in partnership with the Provincial Health Services Authority Laboratory develop a centralized, province-wide point of care HIV testing distribution and quality assurance program. This program was funded through the Seek and Treat for the Optimal Prevention of HIV/AIDS (STOP HIV/AIDS) pilot project implemented in Vancouver and Northern Interior Health Service Delivery Areas. This report describes program outcomes obtained through a variety of data sources including data provided by POC HIV testing sites, POC program trainings, clinic client satisfaction surveys, and the perspectives and narratives of decision-makers involved in the development and implementation of POC HIV testing across the province. These results informed the development of recommendations for sustaining / expanding the provincial POC HIV testing program beyond the pilot period.

1.1 Provincial POC HIV Testing Program description

Point of Care (POC) HIV tests (also known as “rapid” HIV tests) are HIV antibody screening tests that can be performed on-site while the client waits and provide results within minutes. People who screen negative (non-reactive) on the POC HIV test will know their status within a few minutes - as long as they have not been exposed to HIV during the three months prior to the test (called the “window period”). People who screen positive (reactive) on a POC HIV test will have another test done to confirm the result using a venous blood sample sent for laboratory testing.

The two-year POC HIV program pilot officially launched on April 1, 2011, and since then POC HIV testing has been used in all health authorities in British Columbia (BC) as well as in select First Nations communities. The project was ultimately intended to increase uptake of HIV testing in the province by providing an acceptable and accessible alternative to standard HIV testing. BCCDC provides provincial guidelines for implementing POC HIV testing in healthcare settings in communities and works with sites throughout the province to optimize their readiness and ability to use the tests. This is accomplished through partnerships and assessment and training of healthcare providers. The program provides ongoing support, documentation templates, troubleshooting, as well as a centralized repository of provincial POC HIV test results. For the pilot, the program targeted training and education of registered nurses (RNs) in the province. The program sought to complement regional HIV strategies and the STOP HIV/AIDS goals that seek to increase HIV testing, reduce transmission and optimize care.

1.2 Goals of the POC HIV Testing Program

The POC HIV testing program is aligned with goals of the STOP HIV/AIDS Pilot Project, including prevention of new HIV infections through reducing the number of HIV positive individuals who are unaware of their HIV status and linkage of HIV positive individuals to care, treatment, and support services. POC HIV testing programs have been shown to lead to increased HIV test uptake and overall HIV testing volume, which may enhance provincial case-finding efforts and reduce the number of individuals with undiagnosed HIV infections. There are three stated indications for expanding POC HIV testing in BC:

- Labour and delivery settings for pregnant women near term or in labour with undocumented HIV status or ongoing risk of HIV infection in pregnancy.
- Emergency rooms for testing of the source person during occupational blood and body fluid exposures, and for clinical diagnosis of acutely ill patients suspected of being HIV positive.
• HIV testing settings where: there is a high prevalence of HIV among clients; high risk clients may not return for test results; providing POC tests will improve public health follow-up or connection to HIV clinical care; and, in settings accessed by populations with low rates of testing whereby POC HIV testing may lead to increase uptake of testing.

1.3 STOP HIV/AIDS Goals

1. Ensure timely access to high-quality and safe HIV/AIDS care and treatment
2. Reduce the number of new HIV infections
3. Reduce the impact of HIV/AIDS through effective screening and early detection
4. Improve the patient experience in every step of the HIV/AIDS journey
5. Improve the efficiency and cost-effectiveness of HIV/AIDS service delivery

The Provincial POC HIV Testing Program pilot acted primarily towards accomplishment of three of the STOP goals by:

• Enhancing effective screening processes (STOP Goal 3) by providing POC test kits and thus expedited (and sensitive) preliminary test screening results to clients who may otherwise not have access to HIV testing, not return to HIV testing sites for results, and/or unknowingly transmit HIV infection to partners while waiting for their HIV positive laboratory results.

• Improving patient experience (STOP Goal 4) through enabling sites to offer POC tests (e.g., by training staff, distributing of kits), developing policies and site documentation to support use of POC testing, and optimizing patient safety through quality assurance activities. Research supports that clients often prefer POC testing to standard testing.4-10

• Improving efficiency and cost-effectiveness of HIV/AIDS service delivery (STOP Goal 5) through eliminating the need for follow-up client visits (i.e. when a POC test shows a negative result and there is no further testing needed) and provision of a centralized model of POC HIV test kit ordering, storage, and distribution.
2.0 Evaluation Aims

The overall goal of this evaluation was to evaluate the Provincial POC HIV Testing Program as it relates to the first 18 months of pilot program implementation process and summary outcomes.

2.1 Objectives

• To determine the impact of the Provincial Point of Care HIV Testing Program in terms of administration, training, implementation, and HIV testing outcomes

• To assess POC providers’ (nurses’) and/or managers’ perceptions of the centralized Provincial POC HIV Testing Program successes and areas for improvement

• To explore program benefits and barriers specific to rural / remote and First Nations communities

• To develop recommendations for the ongoing implementation and operationalization of the Provincial POC HIV Testing Program

2.2 Scope

The scope of the project included assessing Provincial POC HIV Testing Program outcomes from April 1st, 2011 to September 30th, 2012 (first 18 months).
3.0 Evaluation Methodology

The evaluation framework hinged on the principles of applied health program evaluation and health services quality improvement. It was guided by the program logic model (Appendix A) and PHAC’s Population Health Framework. It used mixed methods of evaluation (quantitative and qualitative). Methodologically, the evaluation drew on such approaches as appreciative inquiry and rich qualitative description.

3.1 Quantitative Methods

We collected available quantitative data from a multitude of sources based on priority indicators such as HIV testing volumes and new HIV diagnoses as well as some process outcomes. Data was collected by POC Testing sites on HIV testing outcomes and process outcomes assessed on an ongoing basis during the POC HIV program pilot, using a data collection tool (Monthly Summary Report Form – shown in Appendix B). Forms were entered into a central access database for reporting on HIV testing volumes and new HIV diagnoses from POC tests. For more information about the process of data collection and outputs generated from the Monthly Summary Reports, please see Appendix C.

Other quantitative data sources included data collected through the POC training evaluation forms (Appendix D) collected anonymously from training session participants, and POC-related feedback from anonymous Bute Street Clinic’s client satisfaction surveys from June-September of 2012 (Appendix E). The quantitative data was analyzed using Excel to generate descriptive statistics. In addition, selective analyses were conducted to compare the BC POC program results to other similar programs operating out of Ontario, Canada, and the USA.

3.2 Qualitative Methods

We conducted semi-structured interviews with key stakeholders identified by the planning committee (See Appendix F for sample interview script). Interviews were conducted by the POC HIV Testing Program Manager (first author). Twenty participants were purposively sampled based on principles of diversification regarding individual roles (e.g., managers and front-line POC providers/testers), regional representation, and organizational factors such as testing volume, rural versus urban location, and First Nations versus non-First Nations sites. Six interviewees participated in paired interviews resulting in 17 interview sessions in total. Three interviews sessions were conducted by phone and 14 were in-person. These key informant interviews had durations of approximately 30-90 minutes and were transcribed verbatim for recorded interviews and then sent back to participants to verify their accuracy. Demographic information was collected through follow-up questions sent to participants. The qualitative data was managed and analyzed using NVivo software (Version 10). Data was coded and categorized thematically according to the objectives of the evaluation.

INTERVIEW RESPONDENTS:

The 20 key stakeholders were engaged at the macro, meso, and macro program levels and were in positions that influenced decision-making in provincial HIV POC testing policy and guideline development, program planning, and/or direct client POC HIV testing and linkage to care. Selection purposely included participants from each of the five regional Health Authorities, the Provincial Health Service Authority, and participants representing First Nations Health Service Organizations in BC. Participant characteristics are describes in Table 1 below.
Table 1: Characteristics of key stakeholder interview participants by service type

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Provincial n (%)</th>
<th>Regional n (%)</th>
<th>Total n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>2 (33)</td>
<td>2 (14)</td>
<td>4 (20)</td>
</tr>
<tr>
<td>Female</td>
<td>4 (67)</td>
<td>12 (86)</td>
<td>16 (80)</td>
</tr>
<tr>
<td><strong>Roles</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td>2 (33)</td>
<td>4 (29)</td>
<td>6 (30)</td>
</tr>
<tr>
<td>Nurse</td>
<td>2 (33)</td>
<td>10 (71)</td>
<td>12 (60)</td>
</tr>
<tr>
<td>Other (e.g. labs)</td>
<td>2 (33)</td>
<td>0 (0)</td>
<td>2 (10)</td>
</tr>
<tr>
<td><strong>Number of years experience in HIV testing</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0 – 5 years</td>
<td>3 (50)</td>
<td>5 (36)</td>
<td>8 (40)</td>
</tr>
<tr>
<td>6 – 10 years</td>
<td>0 (0)</td>
<td>3 (21)</td>
<td>3 (15)</td>
</tr>
<tr>
<td>11 + years</td>
<td>3 (50)</td>
<td>6 (43)</td>
<td>9 (45)</td>
</tr>
</tbody>
</table>
4.0 Results

The evaluation findings were categorized into five key themes relating to the successes and challenges of expansion of HIV testing in BC through POC HIV testing availability: extending HIV testing reach; POC as engagement; First Nations and rural/remote communities; common tensions; and program recommendations. Key program successes included: reaching marginalized populations; engagement of clients into care; program responsiveness; and creation of provincial standards of HIV POC testing practice and training curricula.

4.1 Extending Reach: Diversifying HIV Testing in BC

4.1.1 POC Test Sites in BC

During the first 18 months of the program, 64 sites expressed interest in offering POC HIV testing. Three sites never implemented testing; six sites discontinued after a few months or began reporting together with another site; and one site operated intermittently. At the end of the evaluation period (September 30th, 2012), there were 54 active testing sites in BC with sites in all Health Authorities (Table 2). 46% (28/61) sites began operating April 2011, 62% of which were located within Vancouver Coastal Health Authority (VCHA). Four sites represented First Nations communities in the province located in rural areas of the province.

Table 2: Number of POC tests by Health Agency, Apr 2011-Sept 2012 (n=61*)

<table>
<thead>
<tr>
<th>Health Jurisdiction</th>
<th># Sites (%)</th>
<th># Tests (%)</th>
<th>Average # tests/month (monthly range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vancouver Coastal Health</td>
<td>38 (62)</td>
<td>11144 (65)</td>
<td>619 (151, 1808)</td>
</tr>
<tr>
<td>Provincial Health Services</td>
<td>4 (7)</td>
<td>3739 (22)</td>
<td>208 (118, 293)</td>
</tr>
<tr>
<td>Providence Health Care</td>
<td>2 (3)</td>
<td>1082 (6)</td>
<td>60 (41, 76)</td>
</tr>
<tr>
<td>Northern Health</td>
<td>3 (5)</td>
<td>354 (2)</td>
<td>20 (9, 34)</td>
</tr>
<tr>
<td>Fraser Health</td>
<td>4 (7)</td>
<td>324 (2)</td>
<td>18 (3, 50)</td>
</tr>
<tr>
<td>Vancouver Island Health</td>
<td>5 (8)</td>
<td>197 (1)</td>
<td>11 (2, 48)</td>
</tr>
<tr>
<td>Interior Health</td>
<td>1 (2)</td>
<td>139 (1)</td>
<td>9 (2, 15)</td>
</tr>
<tr>
<td>First Nations Health Service</td>
<td>4 (7)</td>
<td>50 (0.3)</td>
<td>7 (0, 26)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>61 (100)</strong></td>
<td><strong>17,029 (100)</strong></td>
<td><strong>946 (437, 2152)</strong></td>
</tr>
</tbody>
</table>

*7 test sites were no longer active
Public Health / STI clinics and clinical outreach services accounted for 26% of sites and over 80% of HIV POC tests over the 18 month period (Table 3). Sites are varied and include not only clinical settings but also include private health services (e.g., correctional facilities) and private practice physicians and nurse practitioners (see map Appendix G).

Table 3: Number of diagnostic POC tests by test site category, Apr 2011-Sept 2012 (n=61*)

<table>
<thead>
<tr>
<th>Test Site Category</th>
<th># Sites (%)</th>
<th># Tests (%)</th>
<th>Average # tests/month (monthly range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Health / STI Clinic</td>
<td>8 (13)</td>
<td>6917 (41)</td>
<td>384 (283, 449)</td>
</tr>
<tr>
<td>Outreach</td>
<td>8 (13)</td>
<td>6813 (40)</td>
<td>379 (25, 1541)</td>
</tr>
<tr>
<td>Hospital</td>
<td>2 (3)</td>
<td>1084 (6)</td>
<td>60 (41, 76)</td>
</tr>
<tr>
<td>Mental Health / Addiction</td>
<td>10 (16)</td>
<td>639 (4)</td>
<td>36 (22, 49)</td>
</tr>
<tr>
<td>Primary Care Clinic</td>
<td>8 (13)</td>
<td>582 (3)</td>
<td>32 (17, 59)</td>
</tr>
<tr>
<td>Community Health Centres</td>
<td>8 (13)</td>
<td>566 (3)</td>
<td>31 (6, 48)</td>
</tr>
<tr>
<td>Youth Clinics</td>
<td>7 (11)</td>
<td>237 (1)</td>
<td>14 (3, 33)</td>
</tr>
<tr>
<td>Dentist</td>
<td>3 (5)</td>
<td>63 (0.4)</td>
<td>5 (1, 19)</td>
</tr>
<tr>
<td>Student Health</td>
<td>1 (2)</td>
<td>54 (0.3)</td>
<td>7 (0, 44)</td>
</tr>
<tr>
<td>First Nations Health Service Organizations</td>
<td>4 (7)</td>
<td>50 (0.3)</td>
<td>7 (0, 26)</td>
</tr>
<tr>
<td>Detention / Corrections</td>
<td>2 (3)</td>
<td>24 (0.1)</td>
<td>2 (0, 5)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>61 (100)</td>
<td>17,029 (100)</td>
<td>946 (437, 2152)</td>
</tr>
</tbody>
</table>

*7 test sites are no longer active

4.12 POC Testing Outcomes

Of the 17029 diagnostic tests, 16848 (98.9%) of the tests were non-reactive, 13 (0.08%) indeterminate and 168 (1.0%) preliminary positive. The percent positivity (# preliminary positive/#
diagnostic tests) of the program as a whole was 1.0% (Figure 1). The mass campaigns in the summer of 2011 through peer support workers increase volumes but not positivity. The highest positivity (2.0%) was reported by test sites operating within hospitals and sites targeting clients with mental health and addictions issues (Table 4). POC HIV testing sites were located in each regional health authority: Vancouver Coastal Health Authority (VCHA); Northern Health Authority (NHA); Fraser Health Authority (FHA); and Vancouver Island Health Authority (VIHA); Interior Health Authority (IHA) and well as part of the Provincial Health Services Authority (PHSA) and First Nations Health Authority (FNHA).

The overall program specificity was 99.9% and the positive predictive value was 94.5% (Table 4). There were 9 false positives since the beginning of the POC HIV Testing Program which is 0.5 per 1,000 POC tests. The number of false positives was much lower than would be expected based on the reported INSTI specificity of 99.3%. It was not possible to calculate program sensitivity as confirmatory testing is not recommended for non-reactive POC tests.

### Table 4: Positivity, specificity, and positive predictive values (PPV) of the POC HIV tests by test site category, Apr 2011-Sept 2012

<table>
<thead>
<tr>
<th>Test Category</th>
<th># Preliminary Positive / Total Number Tests</th>
<th>% Positivity</th>
<th>Specificity</th>
<th>PPV*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital</td>
<td>22 / 1084</td>
<td>2.0</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Mental Health &amp; Addictions</td>
<td>6 / 300</td>
<td>2.0</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Public Health / STI Clinic</td>
<td>36 / 4054</td>
<td>0.9</td>
<td>99.9%</td>
<td>88.9%</td>
</tr>
</tbody>
</table>
4.13 Detection of Persons with New HIV Diagnosis

Not all preliminary positive POC tests resulted in a new HIV diagnosis. 9/168 (5.4%) were false positive, and 5/168 (3.0%) were lost to follow-up (did not undergo confirmatory laboratory HIV testing). Of the 154 true positive, 28 (18.2%) had tested previously positive for HIV. That left **126 persons newly diagnosed with HIV through POC testing** in the first 18 months of the program a diagnosis rate of 0.7% compared to 0.1% for standard HIV testing (Table 5). Overall 30.2% of new HIV diagnoses in BC during this period were detected via POC testing.

Table 5: Number of new HIV diagnoses by POC as compared to standard lab testing by Health Authority (HA) / Region, Apr 2011-Sept 2012

<table>
<thead>
<tr>
<th>HA</th>
<th>Point of Care Testing</th>
<th>Standard Laboratory Testing</th>
<th>% New Diagnosis by POC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>New Diagnosis</td>
<td># Tests Done</td>
<td>Diagnosis Rate</td>
</tr>
<tr>
<td>VCHA</td>
<td>118</td>
<td>15,982</td>
<td>0.7%</td>
</tr>
<tr>
<td>NHA</td>
<td>6</td>
<td>358</td>
<td>1.7%</td>
</tr>
<tr>
<td>FHA</td>
<td>2</td>
<td>324</td>
<td>0.6%</td>
</tr>
<tr>
<td>VIHA</td>
<td>0</td>
<td>226</td>
<td>0.0%</td>
</tr>
<tr>
<td>IHA</td>
<td>0</td>
<td>139</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>126</strong></td>
<td><strong>17,029</strong></td>
<td><strong>0.7%</strong></td>
</tr>
</tbody>
</table>

Notes:
- New Diagnosis by POC: true positive only and only those with no previous positive HIV test
4.14 Use of POC Test Kits

There were 17,029 diagnostic (includes non-reactive, preliminary positive and indeterminate) POC HIV tests performed in BC in the first 18 months of the program (Table 6). The first six months of the program saw very large numbers of tests done as a result of planned mass campaigns in Vancouver Coastal Health (VCH). Since then POC numbers remained steady (Figure 1). The greatest number and percentage of POC HIV tests were in VCH and NHA, regions receiving funding through STOP HIV/AIDS.

Table 6: POC tests as a percentage of total HIV tests by Health Authority (HA), Apr 2011 - Sept 2012

<table>
<thead>
<tr>
<th>HA</th>
<th># POC Tests</th>
<th># Standard HIV Tests</th>
<th>All HIV Tests</th>
<th>% POC of All HIV Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td>VCH</td>
<td>15982</td>
<td>137,471</td>
<td>153,453</td>
<td>10.4</td>
</tr>
<tr>
<td>NHA</td>
<td>358</td>
<td>17,682</td>
<td>18,040</td>
<td>2.0</td>
</tr>
<tr>
<td>FHA</td>
<td>324</td>
<td>81,592</td>
<td>81,916</td>
<td>0.4</td>
</tr>
<tr>
<td>VIHA</td>
<td>226</td>
<td>31,675</td>
<td>31,901</td>
<td>0.7</td>
</tr>
<tr>
<td>IHA</td>
<td>139</td>
<td>34,288</td>
<td>34,427</td>
<td>0.4</td>
</tr>
<tr>
<td>Total</td>
<td>17029</td>
<td>302,708</td>
<td>319,737</td>
<td>5.3</td>
</tr>
</tbody>
</table>

The number of tests performed by sites for diagnostic purposes varied considerably, with approximately 10% performing greater than 1000 tests in the first 18 months of the program. In addition to the 17,029 (88%) test kits used for diagnostic purposes, 1,334 (7%) were used for quality control (QC), 352 (2%) for training, 179 (1%) were wasted and 432 (2%) expired. The current POC HIV Test Guidelines for Healthcare Settings (May 2012) recommend quality control monitoring (using three test kits) at least once a month. Since the new QC guidelines came into effect (August 2011), 12/22 (55%) sites performed QC at least once a month (excluding VCH where a centralized quality control model was deployed).

1 This value does not include the large volume of expired POC test kits used for BCCDC POC program trainings, returned by program sites when no longer viable in the field.
4.15 Provincial POC HIV Testing Website

The website for the Provincial POC HIV Testing Program www.bccdc.ca/POC went live on June 18th, 2012. It provided: background information about the program as well as modifiable and downloadable forms for sites; links to pertinent POC HIV testing resources and related programs; and, information about upcoming POC HIV testing training sessions. Between June 18th, 2012 and September 30th, 2012, there were 291 distinct visits to the website and 706 visits to the various associated pages.

4.16 Responsiveness of the Centralized Model

KEY INFORMANT NARRATIVES:

Part of extending the reach of a program was to create a central contact point to coordinate distribution of test kits and to support testing sites with training and ongoing concerns and needs. The centralized approach was viewed as efficient and effective for scaling up POC HIV testing on a provincial scale. The provision of the POC HIV test kits and quality control materials free-of-charge to the testing sites was viewed as a significant facilitator of the success of the program and as cost effective for sites. Participants highlighted responsiveness as one of the major successes of the program and appreciated characteristics such as timely feedback for problems/requests/questions and investigating problems that arose with the testing kits or quality control and/or other supplies.

• “Well the consultation is fantastic, you know being able to just phone someone up and say “this is the problem that we’re having”... But it’s great to be able to pick up the phone, talk to someone who knows what’s going on with that already, um, you know that’s in touch with other teams in the province that are using them.”

• “It’s always nice to have one person that you’re going to for support in terms of a service that you’re providing, rather than having to make 10 different phone calls for 10 different questions.”

4.17 “An Extra Tool in the Toolkit”

POC was viewed by many as just one of many tools facilitating client-centered care and supporting their practice. Previous literature has highlighted that POC is advantageous for working with clients who are not comfortable with blood draws and this was confirmed by some of our key stakeholders comments. Another advantage expressed by participants was that POC extended the reach of testing beyond just those providers who had skills in phlebotomy. In fact, some participants reported that registered nurses in their regions did not have phlebotomy skills or did not feel comfortable performing phlebotomy. In these cases, POC allowed more providers to offer HIV testing to their clients and communities.

• “So there’s a lot of spin-offs besides just getting a positive, but also being able to test someone when they’re ready, right just like that and being able to have the whole team able to test – because right now I’m the only one on the team that’s able to do phlebotomy, but everybody’s doing the point of care. And many people won’t go for a blood draw. But they will get the point of care, so that’s been really significant.”
4.2 POC AS A TOOL FOR ENGAGEMENT

4.21 Engagement of Clients into Testing, Treatment, and Care

CLIENT SATISFACTION SURVEYS (N=223):

To explore client perspectives on POC HIV testing, we drew on a case example of the Bute Street Clinic and a sample of clients (n=223) who completed anonymous client satisfaction surveys. These clients were primarily male (121, 54%), with approximately half being youth under the age of 30 years (43.5%) and 30% were first-time visitors to the clinic. As a reason for coming to the clinic to access services, 149/223 (66.8%) of respondents agreed or strongly agreed that it was because “I can get a point of care (rapid) HIV test” and 23/223 (10.3%) said getting a POC HIV test was the main reason for coming in that day. Over 40% (95/223) included a POC test as a preferred testing technique. Consisted with the literature 4-10, common responses to “why do you prefer this type of HIV test?” as point of care (rapid) HIV test:

- Immediate answer (i.e., Fast, quick results, Immediate answer, Know right away, fast & accurate, I don’t have to wait) = 45 comments
- Ease the anxiety (i.e., No time to worry, you know straight away – waiting is very stressful, Quick, you don’t have to stress out over waiting, Ease the anxiety, peace of mind, easier, don’t need to suffer waiting for results) = 12 comments
- Dislike needles (i.e., faster and not invasive, needle phobia, hate intravenous and blood, lose consciousness) = 5 comments
- Less follow-up (i.e., less follow up required, no need to waste time on returning, I am not able to return for results later) = 4 comments

KEY INFORMANT NARRATIVES:

A key theme from the key informant interviews demonstrated that POC HIV testing often was a reason for bringing clients in the door for STI/HIV testing and that, alongside the rapidness of the test result, the novelty of the POC testing technology would also be an incentive to initiate contact. This provided opportunities for healthcare providers to have discussions with their clients about their sexual behaviours as well as other types of STI tests that could be performed. For example, participants stated:

- “So probably we do get some clients coming in, because we do offer the instant test. And of course we can build a relationship and maybe go a little bit deeper with some of their sexual health needs. So, so it’s a bit of a, um, it’s a bit of a way to get people to come in.”
- “…it gives us a chance to talk about HIV because there’s something new. It gives people more choice and as I said it gives us the chance to bring HIV out again, cause I think people get tired of health messages that don’t change.”
- “Well one thing is that it brings people in to talk about their high risk behaviours. So knowing that they have point of care testing there and they’ve heard from their buddies and they start worrying… we were doing a fair bit of HIV testing through phlebotomy before and what we found was by the time you’re finished the pre-test counseling people are sure they have HIV. And some of them will just go out and drink and then… you don’t even find them because they just remember it as a negative experience… The point of care just deals with it on the spot.”
4.22 Engagement of Healthcare Providers through Training

POC TRAINING SESSIONS:

As part of the Provincial POC HIV Testing Program, healthcare providers working at sites that were in the process of planning or implementing POC testing would participate in a training session of approximately three hours that included the following components:

- overview of Provincial POC HIV Testing Program and recommended indications for POC use in healthcare settings
- demonstrations and practice in using POC testing kits and Quality Assurance materials
- discussion and practice with program documentation and resources
- assessment of skills for test performance

Other training requirements included a prerequisite knowledge of pre and post HIV test discussion and practical assessment of participants’ skills – either as part of training sessions or in the field with mentorship. The vast majority of POC trainees during the pilot phase of the POC program were registered nurses (including several nurse practitioners) working in either regional public health or First Nations communities. Table 7 shows the distribution and participant characteristics by site of delivery of training.

Table 7: POC HIV tester training session summarized by Region / Site

<table>
<thead>
<tr>
<th>Training Region</th>
<th>Number of Sessions</th>
<th>Number of Participants</th>
<th>Number of Nurses</th>
<th>Number of Evaluations</th>
</tr>
</thead>
<tbody>
<tr>
<td>FNHA</td>
<td>3</td>
<td>25</td>
<td>22</td>
<td>19</td>
</tr>
<tr>
<td>NHA</td>
<td>2</td>
<td>40</td>
<td>40</td>
<td>20</td>
</tr>
<tr>
<td>FHA</td>
<td>2</td>
<td>27</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>BCCDC*</td>
<td>2</td>
<td>22</td>
<td>20</td>
<td>13</td>
</tr>
<tr>
<td>VIHA</td>
<td>2</td>
<td>17</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>IHA</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>131</td>
<td>113</td>
<td>81</td>
</tr>
</tbody>
</table>

*These training were conducted at the Vancouver-based BCCDC location. However the numbers do not reflect trainings done by the VCH STOP Team that holds distinct quarterly regional trainings

Feedback from participants in the training sessions was overwhelmingly positive with “yes” responses to the following select questions regarding the training sessions:
Provincial Point of Care HIV Testing Program Evaluation Report
Clinical Prevention Services

- This training met my learning objectives (29/29, 100%)
- Was the test procedure clearly demonstrated? (78/78, 100%)
- Did you feel comfortable performing the test on your own? (74/75, 98.6%)
- Do you feel prepared to start offering POC testing to some of your clients? (47/53, 88.7%)
- Overall the trainer were effective in delivering POC testing training (29/29, 100%)

Overall, the responses of training participants on the anonymous evaluation forms showed satisfaction ranging from 90-99%.

KEY INFORMANT NARRATIVES:

Key informants stressed the need for widely accessible trainings for healthcare providers in order to maximize regional coverage and minimize issues that arise when the nurses trained in POC change roles or leave their positions. Participants provided positive feedback on the training sessions themselves and found them to be a successful element of the provincial program. They especially appreciated when trainings were made locally available (i.e., BCCDC satellite trainings) and that “refreshers trainings” could be provided for those who may not have used the skills consistently. In order to increase POC HIV testing in the province, some recommended that trainings be offered and tailored to non-nurses groups such as other clinical and non-clinical care providers.

- “I think for us it give us one more thing in our toolkit, which we really like. Um when we’re out there just trying to connect with people in the street we want to be able to do something with them, for them, and that is something we can offer. Um it’s relatively easy, people really really like the training. It gave us a lot of confidence, we were drawing blood already for um, hepatitis serology around immunization, so this gave us that training to really do a better job in terms of screening and pre-test counseling.”

- “Hmm successes of the program? I would say probably flexibility and accommodating the schedules of community in terms of trainings that have been offered. So um I know there hasn’t — when we’re working with communities sometimes we’re working on a very, in terms of very short notice for travel, um changes to schedules and that sort of thing. So I think the program’s been very accommodating in that way which the community always appreciates.”

- “Um, and being able to have it as part of, like the training is really good and being able to send people to your training… it’s nice to have multiple options for staff because you want to get them trained as soon as they start in the organization so it’s really great to be able to send them to the provincial program, um for us. Yeah, and just uh, freeing up those resources on our bottom line is really helpful.”

4.3 First Nations and Rural/Remote Communities

KEY INFORMANT NARRATIVES:

The key informant interviews highlighted that rural and remote communities face unique considerations for implementing POC HIV testing as well as standard HIV testing. The sub-themes that emerged included stigma, resource limitations, and structural challenges to confirmatory lab testing such as geography and inhibitory healthcare provision policies.
Stigma is a key community-level barrier to testing: in non-urban settings where communities are more insular and where members are closely tied and know each other, stigma may be more apparent and have more consequences for members. As a result, the need for confidentiality accompanied participants’ narratives about stigma as they shared stories of fear and misinformation existing in smaller communities and the toll this could have on a person living with HIV.

• “A lot of people have a history of being put into hospital or hear stories of people being sent away to Indian Hospital or to TB Hospital and not coming back so I think there’s a cultural fear around diagnosis. But again, once you start using it and practicing, I mean the word on the street just spreads way faster than anything else. So when they see people who have got a diagnosis and are continuing to live healthy lives and to be in the community, that’s one of the first things we talk about in the pre-test counseling is that it’s no longer a death sentence...”

• “Um, some of the health centres have a higher trust level than others, and some, people just won’t go there they don’t want to have testing done there because they’re afraid that someone who’s a relative or someone from the community who works in the health unit will leak the information out. And that there’s a lot of stigma in the smaller communities around HIV so they’re quite frightened.”

Geographic challenges: Issues such as geographical distance from health services posed challenges for more rural/remote communities as transportation for confirmatory POC HIV testing and standard testing made it difficult for some sites to join the provincial POC HIV Testing Program. Not having access to confirmatory HIV testing as well as to HIV follow-up care and treatment was a rate-limiting step for some communities in the province. For example, one provider stated that “telehealth is not working” as a tool for HIV-related healthcare delivery as it is often set up outside the health centers (such as in schools) and does not provide a secure connection for confidential care.

Policy challenges: Some participants mentioned challenges associated with nurses not being able to order confirmatory serology. In many smaller communities, nurses are the only regular healthcare provider accessible to community members. As a result, POC HIV testing could not be implemented in communities where nurses were not STI certified (which allows nurses to order tests independently) or did not have a physician on nurse practitioners readily accessible to order testing. Another policy that was seen as a barrier by some was the need to state medical reasons for travel outside of a First Nations community for health visits (non-insured health benefits plan).

Resources limitations: Providers highlighted that smaller communities often struggle to find qualified healthcare providers such as nurses and physicians and that, even when found, these would often turn-over quickly in their roles. Prioritization of human and economic resources could pose challenges when communities had other pressing healthcare issues. For example, one participant stated when discussing other pressing concerns in her community such as high numbers of recent suicides: “Many many things that would put point of care testing really to the bottom of the list, it’s really not an urgent need.”

4.4 Key Tensions

KEY INFORMANT NARRATIVES:
Participants in the key informant interviews were asked to share their perspectives of the key challenges associated with the Provincial POC HIV Testing Program. These were categorized into the following sub-themes:

Accessibility versus Confidentiality: Some participant raised concerns about offering POC HIV testing and making it accessible in communities where confidentiality was perceived as a concern as in venues that may pose risk in terms of exposing a persons’ HIV status (such as tents set up in health fairs).

Provider versus Client Preference: Although many participants expressed that clients preferred POC testing, some healthcare providers still prefer standard testing both due to its ability to test for multiple infections with a blood sample (i.e., syphilis, hepatitis C) and because laboratory testing was viewed as a superior test for providing accurate results (e.g., due to shorter window period and higher specificity).

Primary Care versus Public Health Models: Due to the factors such as fee-for-service models and time commitments required for the POC HIV testing training as well as the prerequisite HIV pre and post discussion training, some providers felt that the use of POC HIV testing is limited in primary care models of healthcare service delivery.

4.5 Key Informant Recommendations

KEY INFORMANT NARRATIVES:

Participants in the interviews had several recommendations for the program that could be grouped into the following sub-themes:

Wider promotion of POC and program: Participants felt that there was still work to do to promote the provincial program and the advantages offered by POC HIV testing in order to increase awareness among clients and healthcare providers. Informing and gaining support from senior management in the various Health Authorities was also seen as paramount to the program’s success.

Creating and maintaining relationships between POC sites: Some participants highlighted the need to bring representatives for POC HIV testing sites together to share experiences and learn from each others’ practice. Ongoing connection through, for example, a program newsletter or regular updates was recommended. One participant stated: “I’m interested in the future too. I want to know what the other communities are doing, what they are thinking, what have been their successes.”

Manufacturer improvements in test quality: Participants often reported difficulties with the POC INSTI test. This included mention of need for a wider temperature range, better lancets, and a shorter window period. Under this category, some providers are concerned about “false positives”, especially when working with low prevalence populations.

Policy changes and integration of POC into operations: As the POC program often could not engage with communities due to structural policy barriers such as lack of access to confirmatory lab testing, participants recommended changing these prohibitive policies. Some also suggested that clearer regional and organizational policies about POC use in healthcare services (e.g., standards for when to offer POC), could address some of the challenges associated with a lack of initiative from healthcare providers regarding offering the test.

Improving accessibility for FN and rural/remote communities: Although the POC program had success with engaging some First Nations and rural/remote communities, often the barriers to testing were considerable. Participants recommended working with these communities more
closely and forming productive partnerships between, for example, First Nations communities’ health services and local public health services. One participant worked in such a service and emphasized how this facilitated testing for both on and off-reserve First Nations people in the area where she worked.

**Expanding scope of POC HIV testers:** Participants recommended using train-the-trainer models to expand testing in the various Health Authorities. Creating more options for testers including non-nurse and non-physician care providers (such as “peers” and Community Health Representatives in First Nations communities) who may have closer ties to the communities being served was also recommended by some interview participants.
5.0 Conclusions and Lessons Learned

The program evaluation identified the following five key themes: extending HIV testing reach; POC as engagement; First Nations and rural/remote communities; common tensions; and program recommendations. Overall, the program was found to be highly responsive to the needs of its sites and the centralized model and program supports such as trainings were appreciated by key stakeholders.

Knowledge gained from the various sources during the course of the program’s first 18 months have provided the following insights and lessons learned that will help to build on the successes of the pilot as the program becomes part of on-going funding and operations. Since the evaluation period, the program has seen even more growth with over 70 active sites, over 200 nurses trained and over 30,000 HIV POC test distributed province-wide.

In the first 18 months of the POC program in BC, 61 test sites were established with at least one site in each Health Authority with 54 remaining at the end of the evaluation period. POC testing appears to be popular among clients and/or staff at specific clinics. For example, this would include STI clinics and clinics with large numbers of MSM such as Bute Street Clinic where 10% of clients said their main reason for visiting was POC testing. Further analysis is needed to determine if these clients are testing more frequently because of POC. Even though only 5% of HIV tests in the province were POC tests, over 30% of new HIV diagnoses were first detected using POC HIV testing in BC during the evaluation period.

The total positivity rate for the POC tests performed as part of the provincial program was 1.0%. The highest positivity occurred in settings targeting populations with a higher prevalence on HIV and very few new diagnoses were detected through mass testing campaigns. The overall specificity of the BC POC HIV Testing Program in the first 18 months (99.9%) is higher than that reported by the manufacturer (99.3%) and very similar to the specificity of the Ontario program (99.8%) which also uses INSTI kits. Although the positive predictive value in BC (94.5%) was lower than that reported by the manufacturer (97.84%) it was higher than that reported by Ontario (77%) which could mean that testing sites in BC were targeting more high risk clients than Ontario. The low number of false positives in BC also supports the targeting of higher risk clients. In comparison the HIV POC program in Ontario from Public Health Ontario (2012) data (2007-2011 using INSTI kits) reported a 1.9 false positive per 1,000 POC test (Table 5). Available POC HIV testing data from the US was also compared to that of BC and Ontario’s (Table 8) showing that the BC program had a lower percentage positivity (1.0%) when compared to the US (1.4%) but slightly higher when compared to Ontario (0.9%).
Table 8: Comparison of percent positivity, specificity and positive predictive value (PPV) for three POC programs (BC, Ontario, USA)

<table>
<thead>
<tr>
<th>POC Program</th>
<th># Sites</th>
<th># Diagnostic POC tests</th>
<th>Median tests / site</th>
<th>False positive / 1000 tests</th>
<th>% Positivity (POC)</th>
<th>Specificity</th>
<th>PPV</th>
<th>% Positivity (standard HIV tests)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC</td>
<td>61</td>
<td>17,029</td>
<td>29</td>
<td>0.5</td>
<td>1.0</td>
<td>99.9%</td>
<td>94.5%</td>
<td>0.1</td>
</tr>
<tr>
<td>Ontario</td>
<td>46</td>
<td>84,085</td>
<td>447</td>
<td>1.9</td>
<td>0.9</td>
<td>99.8%</td>
<td>77.0%</td>
<td>0.2</td>
</tr>
<tr>
<td>USA</td>
<td>230</td>
<td>372,960</td>
<td>~</td>
<td>~</td>
<td>1.4</td>
<td>~</td>
<td>~</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Although there was evidence that the risk of “false positives” is a concern and may make some providers hesitant to offer POC HIV testing in settings where standard laboratory testing is also available, true rates of false positives from the program were low. Out of over 17,000 tests used for diagnostic purposes with 168 preliminary positive results, there were only 9 false positives in the first 18 months of the POC HIV Testing Program which is 0.5 per 1,000 POC tests and considerably lower than manufacturer estimates as well as that of Ontario (1.9 per 1000 tests).

Other successes of the program include but are not limited to: reaching some of the most marginalized populations; engagement in care; providing material and educational support to sites including provincial standards of practice. Based on these findings and the experience of provincial program staff, the following learnings and recommendations were identified:

**Maintaining a POC HIV Program Advisory Committee is important:** At the beginning of the development stages of the Provincial POC HIV Testing Program an Advisory Committee was established consisting of representatives from each regional health authority as well from the Provincial Health Services Authority and First Nations Community Health. This Committee helped to develop the initial plan for implementation and provided a valuable resource for consulting on key standards and documentation. The POC Advisory Committee should continue to be engaged as the program continues to develop and become operationalized as part of BCCDC/PHSA programs.

**Partnerships with other programs and the Regional Health Authorities are facilitators to POC uptake by providers and their healthcare sites:** Partnerships helped to engage vulnerable populations in POC HIV testing. Regular and on-going communication with partners allowed for the program to address gaps in training and identify potential POC sites in a timely manner. For example, programs such as the BCCDC’s Aboriginal HIV education program, Chee Mamuk, were key partners in initiation of sites as this allowed for culturally-sensitive assessment and programming with First Nations Communities in the province.

**Clients like POC and ask for it – the “newness factor”:** POC testing can provide an incentive for clients to test as they may be attracted by the new technology and its benefits. Through this engagement, providers can initiate discussions about and sexual health and additional screening that they may not have been able to have in the absence of POC testing at their sites.

**Many providers still prefer standard testing:** Due to issues of familiarity and efficiency of standard testing, many providers still prefer standard testing. There also remain concerns regarding the accuracy of POC HIV tests when compared to standard laboratory testing as well as the convenience of drawing blood for an HIV tests when also testing for other STIs. POC HIV testing
may need to be integrated into policy with clearer direction from employers to providers regarding when and which contexts they are recommended to use POC testing at their sites.

A central contact and resources adds value: It was clear from provider interviews that the centralized nature of the Provincial POC HIV Testing Program provided benefits when compared to non-centralized models. Providers prefer having a central contact to whom they can report problems and there is a need to better connect POC sites in order to share knowledge and experiences with POC HIV testing.

Training and site support is key to success: Providers appreciate the POC HIV testing trainings provided as well as the ability of the program staff to be mobile and train in different regions in the province. Ongoing support of sites for questions and concerns and a way to keep connected to the program and best practice standards is desirable. On occasion, being able to offer financial support to facilitate acquisition of necessary resources such as freezers for storage of QC materials is a program asset.

Rural/remote and acute care sites have unique considerations for POC start-up: First Nations and acute care sites have structural barriers that should be addressed to facilitate POC HIV testing in the province. These include developing procedures that allow for ordering POC HIV confirmatory testing when sites have limited access to physicians and/or nurse practitioners and deconstructing barriers to accessing healthcare service on and off-reserve. As acute care sites such as hospitals have stringent laboratory accreditation standards, they too require special policies and procedures in order to offer HIV POC testing either through the hospital laboratories (e.g., as stat tests) or on the wards.

Strategies for improving quality control and assurance processes are needed: The Provincial POC HIV Testing Program established recommendations for at minimum monthly site quality control testing as well as other regular quality assurance activities. Unfortunately many sites still do not report regular QC tests and have not established policies for monitoring issues such as HIV POC tester competence. Although the PHSA laboratories as part of the program partnership has established internal POC test lot validation practices for BC, it has not been able to implement a centralized system of Proficiency Testing. In future, strategies to address these QA gaps would be valuable.

Regional standards and infrastructure is needed to connect laboratories and sites: As confirmatory testing for HIV POC tests requires access to laboratory testing as well as methods for tracking results for the POC program, there is a need to gain the cooperation of certain laboratories in the province that may be processing POC confirmatory tests.

Data quality and collection need further development: To date, the Provincial POC HIV Testing Program has collected data via site reports sent in monthly to the BCCDC. It is advisable to develop data collection tools which can be completed electronically to improve data quality and reduce paper copies. Data quality may also be improved through quarterly instead of monthly reporting.
6.0 Works Cited

1. BC Ministry of Health services letter August 17th 2010.
Appendix A: POC Program Evaluation Logic Model

<table>
<thead>
<tr>
<th>Functional Component</th>
<th>Inputs</th>
</tr>
</thead>
</table>
|                      | - BCCDC POC Program Manager and Assistant  
|                      | - PHSA Lab support and Technical Lead  
|                      | - STOP funding (Ministry of Health)  
|                      | - Clinical Prevention Services Education Team  
|                      | - Chee Mamuk Team and Next Steps Program  
|                      | - POC provincial sites and clinical staff (PHNs, CHNs, NPs, MDs)  |

<table>
<thead>
<tr>
<th>Target Groups</th>
</tr>
</thead>
</table>
| - Health Care Professionals (e.g. clinical staff)  
| - First Nations communities  
| - Health Care Settings  
| - Clients with unknown HIV status and indications for POC  
| - Regional Health Authorities  |

<table>
<thead>
<tr>
<th>Outputs</th>
</tr>
</thead>
</table>
| - Centralized contact for POC support and information  
| - Inventory, distribution, and monitoring system for provincial POC testing and supplies  
| - Progressive scale-up of POC testing sites and kit distribution  
| - Submission of Monthly Summary Reports / stats to BCCDC  
| - Site performance of Quality Assurance activities  
| - Provincial Guidelines for Point of Care HIV Testing in Healthcare Settings  
| - Training agendas, presentations, quick reference guides, and templates  
| - POC website and email contact  
| - Establishment of alternative confirmation testing processes by PHSA Labs  
| - Evaluation framework for the provincial POC program  |

<table>
<thead>
<tr>
<th>Short-term Outcomes</th>
</tr>
</thead>
</table>
| - Increased number of sites offering POC testing in BC  
| - Increased volume of POC testing  
| - Regular use of Quality Control samples and quality supplies  |

<table>
<thead>
<tr>
<th>Intermediate Outcomes</th>
</tr>
</thead>
</table>
| - Increased provincial HIV testing rates  
| - Earlier detection of new HIV positive clients  
| - Consistent or increasing rates of STI testing  
| - Increased connection of clients to HIV treatment, support and care services  |

<table>
<thead>
<tr>
<th>Long-term Results (STOP GOALS)</th>
</tr>
</thead>
</table>
| - Ensure timely access to high-quality and safe HIV/AIDS care and treatment  
| - Reduce the number of new HIV infections  
| - Reduce the impact of HIV/AIDS through effective screening and early detection  
| - Improve the patient experience in every step of the HIV/AIDS journey  
| - Improve the efficiency and cost-effectiveness of HIV/AIDS service delivery  |

**Attribution Legend**
- Control  
- Direct Influence  
- Contributing Influence

**Increasing access to HIV testing in BC**
- Training for POC testing with pre and post HIV discussion  
- Development of policies and documentation  
- Engagement and support of POC testing sites
# Appendix B: Monthly Summary Report Form

## Monthly Summary Report – Provincial POC HIV Testing Program

**Testing Site:** ___________________________  **Reporting period:** _________ to _________

### A. INVENTORY TRACKING:

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of POC HIV test kits in inventory at start of period</td>
<td></td>
</tr>
<tr>
<td>Number of POC HIV test kits in inventory at end of period</td>
<td></td>
</tr>
<tr>
<td>Expiry date of Kits: <em>If multiple expiry dates please specify number of kits due to expire at each date</em></td>
<td></td>
</tr>
<tr>
<td>Number of POC HIV test kits removed from inventory during period and transferred to another testing site</td>
<td></td>
</tr>
<tr>
<td>Name of other testing site:</td>
<td></td>
</tr>
</tbody>
</table>

### B. USE OF POC HIV TESTS FOR DIAGNOSTIC TESTING:

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of clients with:</td>
<td></td>
</tr>
<tr>
<td>1. Non-reactive POC HIV test results</td>
<td></td>
</tr>
<tr>
<td>2. Reactive POC HIV test results (total)</td>
<td></td>
</tr>
<tr>
<td>a. Preliminary positive <em>(serology not performed)</em></td>
<td></td>
</tr>
<tr>
<td>b. True positive <em>(serology performed &amp; reactive)</em></td>
<td></td>
</tr>
<tr>
<td>c. False positive <em>(serology performed &amp; non-reactive)</em></td>
<td></td>
</tr>
<tr>
<td>3. Invalid POC HIV test results</td>
<td></td>
</tr>
<tr>
<td>4. Indeterminate POC HIV test results</td>
<td></td>
</tr>
</tbody>
</table>

### C. USE OF POC HIV TESTS FOR OTHER REASONS:

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of test kits used for quality control testing</td>
<td></td>
</tr>
<tr>
<td>Number of test kits used for training and/or proficiency testing</td>
<td></td>
</tr>
</tbody>
</table>

### D. DISPOSAL OF POC HIV TEST KITS:

<table>
<thead>
<tr>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of test kits wasted</td>
<td></td>
</tr>
<tr>
<td><em>Please explain:</em></td>
<td></td>
</tr>
<tr>
<td>Number of test kits expired and discarded</td>
<td></td>
</tr>
</tbody>
</table>

**Report completed by:** ___________________________  
Fax Report to Heather Pedersen (604) 707-5604

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Source – Point of Care HIV Test Guidelines for Health Care Settings, available at:  
[http://www.bccdc.ca/POC](http://www.bccdc.ca/POC)
Appendix C: POC Surveillance

BCCDC has the role for centrally managing quality control and monitoring of the Provincial HIV POC program. The CPS Epidemiology and Surveillance program has the responsibility for collecting and reporting of test volume data. A data collection tool was developed (see Monthly Summary Form in Appendix A) for testing sites to report on the number of POC test kits used. Testing sites can access this summary form via the BCCDC website POC Guidelines for Health care settings. The monthly summary form was revised slightly in August 2011 and again in May 2012 as a result of stakeholder feedback and to improve data quality. Test sites (n= 22) excluding those under the umbrella of Vancouver STOP, fax, email or hand deliver the monthly POC summary form to BCCDC. The POC administrative assistant files them in a specific binder. A Vancouver STOP coordinator emails a monthly Excel spreadsheet with testing volumes and number of preliminary positives broken down by Vancouver test site (n=39). This spreadsheet does not include outcomes of preliminary positive tests (true positive, false positive) that are sent electronically to CPS in aggregate format on a quarterly basis.

Not all sites report on a monthly basis. Some test sites send in a summary sheet covering 2 months and data is missing for at least one month in 34.4% (21/61) test sites. Frequently test sites sent in corrections for data sent in earlier.

In August 2011 the CPS surveillance unit created a provincial POC database in Access with an accompanying data dictionary. Test site data is entered into the provincial database by CPS staff. The provincial POC database is used to provide data for various stakeholder reports:

- Monthly MOHS STOP report
- Quarterly STOP Indicator report
- PHSA STOP Leadership Committee meetings
- Monthly report for POC program manager
- Monthly summary for NHA
- Ad hoc data requests from stakeholders
- Clinic locations for POC website

Prior to the implementation of the provincial POC program some sites in BC were offering POC testing (using self bought test kits.) CPS was informally collecting data on these sites using an Excel spreadsheet.

Source – Point of Care HIV Test Guidelines for Health Care Settings, available at: http://www.bccdc.ca/POC

Updated June 2012
## Appendix D: Training Evaluation Form

<table>
<thead>
<tr>
<th>Trainer Names:</th>
<th>Date:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Item</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Circle Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. This training met my learning objectives.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. The test procedure was clearly demonstrated by the trainer(s).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. All required supplies and equipment for POC testing were adequately demonstrated.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. I was given sufficient time to practice POC testing during the training</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. I feel comfortable performing the test on my own.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. I feel prepared to start offering POC testing to some of my clients.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. I feel that POC testing will be a valuable addition to the services available to my clients.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. The trainer(s) were approachable.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. I felt comfortable asking questions.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. If the trainer(s) did not know the answer, she/he offered to find the information.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. I was asked reasonable questions to gauge my knowledge of POC.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. I was treated with courtesy and respect by the trainer(s) throughout the training</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. Overall, the trainer(s) were effective in delivering POC testing training</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Additional comments if you disagreed or strongly disagreed: 

Aspect of training that you liked the most or found the most valuable: 

Aspect of training that you liked the least or found the least valuable: 

32
Appendix E: Bute Street Clinic Client Satisfaction Survey

Client Questionnaire (Bute Street Clinic)

At the Bute Street STI clinic, we are always striving to improve the quality of care that you receive. We hope you will take a few minutes to complete this survey. Your responses will help us to provide you with the highest quality service available. The information recorded will remain anonymous and confidential.

By completing this questionnaire, you are consenting to participate
Please do NOT write your name anywhere on the questionnaire

1. How did you hear about this clinic? ________________________________

2. Please indicate if someone recommended that you come to this clinic

☐ A public health nurse recommended that I be tested/treated for an STI/HIV
☐ A sexual partner recommended that I be tested/treated for an STI/HIV
☐ My physician recommended that I be tested/treated for an STI/HIV.
☐ I thought I needed testing/treatment for an STI or HIV .
☐ None of the above

3. a) Is this the first time you have been to this clinic?

☐ Yes  ☐ No  ☐ Prefer not to answer

b) If you answered “No” to the above question, how many times in the past year have you been to this clinic before?

☐ This is my second visit  ☐ 6-10 times
☐ 3-5 times  ☐ More than 10 times

4. The following questions ask about why you came to this clinic to access our services. Please ✓ if you Strongly Disagree, Disagree, feel Neutral, Agree or Strongly Agree
### 5. Please circle the **ONE MAIN** reason for coming in today

- **a)** I do not have to show any identification at this clinic.
- **b)** I can test for a STI or HIV using a different name or an alias.
- **c)** This clinic is LGBTQ friendly.
- **d)** I do not want to go to my regular doctor to test for a sexually transmitted infection or HIV.
- **e)** The clinicians at this clinic do not know who I am.
- **f)** My regular care provider or family physician will not know that I needed care for a sexually transmitted infection or HIV.
- **g)** My family and friends will not know that I came to this clinic for testing and/or care.
- **h)** The clinicians at this clinic are experts in sexually transmitted infections/HIV.
- **i)** I can drop in without an appointment at this clinic.
- **j)** The clinicians at this clinic do not judge me.

---

### 6. In the future, I would like this clinic to offer:

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
<th>Prefer not to</th>
</tr>
</thead>
</table>

---
7. What is the place where you prefer to test for HIV?

- Family doctor’s office
- Walk in clinic
- Community health Clinic
- Public Health Clinic
- Outreach services (i.e. bathhouse, storefront, alley)
- Other ________________________________

Why do you prefer this testing location?
___________________________________________________________________________
___________________________________________________________________________

8. What is the type of HIV test that you prefer?

- Standard HIV test (with venous blood draw and return for results later)
- Point of care (“rapid”) HIV test

Why do you prefer this type of HIV test?
___________________________________________________________________________
___________________________________________________________________________

9. Where do you normally test for HIV?________________________________________

10. Why did you choose to test here and not another place?
___________________________________________________________________________
___________________________________________________________________________

11. Please select your gender:

- Female
- Male
- Transgender

12. Please indicate the gender of people who you have sex with.
13. Please select your age group:
   ☐ 18-19   ☐ 20-29   ☐ 30-39   ☐ 40-49   ☐ 50-59   ☐ >55

14. Are you a resident of British Columbia?
   ☐ Yes   ☐ No   ☐ Prefer not to answer

15. Do you have a British Columbia Care Card?
   ☐ Yes   ☐ No   ☐ Prefer not to answer

16. Do you have a regular health care provider or family physician?
   ☐ Yes   ☐ No   ☐ Prefer not to answer

Please leave any other comments you may have regarding this clinic and the services we provide, or regarding this survey below.

Thank you for filling out this survey
Appendix F: Sample Interview Script

1. What are the major successes of the BCCDC POC program
2. What do you think about the centralized model of the program (probe: advantages or disadvantages over non-centralized approach)
3. What factors facilitated these successes (probe: structural, organizational, cultural/community, psychosocial)?
4. What are the barriers to implementing the program at your site and/or in your region (probe: structural, organizational, cultural/community, psychosocial)?
5. What do you perceive as the facilitators and barriers to specific to rural/remote and FN communities?
6. What recommendations would you have for future implementation of the program?
Appendix G: Map of Provincial POC HIV Testing Sites in the First 18 Months

Point of Care HIV testing sites supported by BCCDC

The Provincial Point of Care (POC) HIV Testing Program provides a centralized testing, distribution and quality assurance program to a variety of community and health service delivery organizations across British Columbia. Each marker on the map represents a site where POC HIV testing is currently being offered.

There are 54 provincial POC sites

Last updated: August 23, 2012