

The following document offers an overview of the key findings of the HIV point-of-care-testing pilot project, including recommendations for policy, programming and future research related to testing innovation.

HIV point-of-care-testing in Nova Scotia: A Pilot Study

**Final report
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Final Report

HIV Point of Care Testing (POCT) in Halifax, Nova Scotia: A Pilot Study

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Abstract

Background: Despite decades of HIV prevention efforts, new infections continue in Canada. Access to and ease of HIV testing remains an important element for both HIV prevention and treatment. As it currently stands, HIV testing in Nova Scotia involves accessing a health care provider, non-nominal testing through the STD clinic at the Queen Elizabeth II Health Sciences Centre, or one of two anonymous HIV testing sites. HIV point-of-care-testing (HIV POCT) was first introduced in Canada in 2000. Although HIV POCT is not currently available in Nova Scotia, it has become regarded as a means of increasing HIV testing rates within populations that may not otherwise come forward for conventional HIV testing.

Methods: This 8-month pilot project sought to determine the acceptability and uptake of rapid HIV point-of-care testing (POCT) among hard-to-access populations in Halifax, who may be insecurely housed, street-involved, currently using injection drugs, or involved in methadone maintenance therapy. Four different outreach settings that are currently established in Halifax were used as testing centers.

Results: 305 individuals accessing services at these various sites were offered this test, and 67 individuals accepted. Participants who declined POCT testing cited reasons such as not having enough time, or having bloodwork performed through a physician. Some simply declined without explicitly stating a reason. All tests were found non-reactive, and were confirmed through conventional laboratory testing. The nurse who administered the test indicated that a number of individuals requested POCT testing for HCV.

Conclusion: The low uptake rate found in this study reflects, in part, the need to continue to address the basic determinants of health and related social needs of our hard-to-access populations, as well as the demand for HCV/HIV multiplex testing in outreach settings.

Introduction

In Nova Scotia, the all-ages diagnosis rate of HIV for 2013 was 1.7 per 100,000 people (NSHW, 2013), which was lower than the national rate of 5.9 per 100,000 people (PHAC 2014, p. 12). It is important to note, however, that the Public Health Agency of Canada (2012), estimates that up to 25% of HIV positive people in Canada are unaware of their infection. These individuals are sometimes called the “hidden epidemic”, and are of particular importance due to the delay they experience in access to support, treatment and prevention services that could help manage the infection, prolong their lives and reduce the onward transmission of HIV (Canadian Public Health Association, 2005).

Improving access to HIV testing is an essential aspect of both the prevention and treatment of HIV. Currently in Nova Scotia, there exists three methods of accessing HIV testing:

1. Nominal testing, which can be obtained through a health care provider. The individual’s name is provided to the practitioner performing the test, and included with the sample (ACNS, ND; NSHW, 2014)
2. Non-nominal testing, where a code is used to connect an individual’s sample with their identity (ACNS, ND; NSHW, 2014); and
3. Anonymous HIV testing, where the individual’s name is not used on the sample, or on any forms (ACNS, ND; NSHW, 2014).

However, these modes of access to HIV testing can prove difficult for some populations, including street involved individuals and persons who use injection drugs (Archibald, Jayaraman, Major, Patrick, Houston, & Sutherland, 2001). These populations are over represented among Canadians who have been diagnosed with HIV (PHAC, 2014). This is due, in part, to the inherent risks posed by injection drug use or condomless sex which are compounded by environments that promote exposure to HIV (Rhodes, 2009). Further, many face barriers to service access, including lack of service availability and social stigma or marginalization (Downing et al., 2001; Ontario AIDS Network, 2004; Peralta, Griffin-Deeds, Hipszer, & Gahlib, 2007). Due to these barriers, it can be difficult to reach these populations via conventional testing and prevention initiatives (Archibald et al., 2001; Bolu et al., 2004). The need to invest in outreach programs to reach population that do not trust or use mainstream health services is essential in preventing the spread of HIV infections (Bolu et al., 2004; Lewis, Gahagan & Stein, 2013; Ontario AIDS Network, 2004), as well as other STBBIs such as Hepatitis C (HCV) (Mehta et al., 2008).

One strategy that has been used to improve HIV testing uptake, particularly among hard-to-access populations, is rapid point-of-care testing (POCT). Unlike conventional HIV tests which must be processed at a laboratory, POCT can be administered and processed on-site, with results provided during within 15-30 minutes. In order to assess the impact of rapid POC testing, several studies have been conducted in Canada over the last few years. A study carried out in Vancouver, British Columbia, drew from a sample of 770 participants to determine whether patients would choose rapid HIV testing over the conventional method. The study revealed a high degree of acceptability, with 89% of patients choosing

the rapid POCT technology, and more than 90% of patients and health care providers indicating satisfaction with the rapid test experience (Rekart et al., 2000). More recently, the Hassle Free Clinic (HFC) in Toronto collaborated with McMaster University to study the impact of rapid versus standard HIV testing options in their anonymous testing site. Patients accessing the clinic were offered either a rapid POCT, or a standard HIV test carried out by the Provincial Laboratory of Public Health. All positive rapid or standard tests underwent confirmatory testing, and appropriate counseling was provided. The results showed that 91% preferred anonymous rapid HIV testing compared to conventional testing (Guenter, Greer, Trow, Browne, Robinson, & Roberts, 2003).

The most recent study on HIV POCT occurred in a prison setting, where the Halton Region Health Department in Ontario offered anonymous rapid HIV POCT to their inmates (Halton Region Health Department et al, 2014). The results of this study revealed that of the 156 inmates who obtained testing, 98% reported that they were satisfied with this service. 52% indicated that their decision to get tested was largely due to the immediacy of the results, while 41% said it was due to the anonymity associated with the test. Within the 6-month pilot project, 156 clients were tested, and only one reactive HIV test was found. Despite the HIV positivity rate being lower than expected in this high-risk population, this pilot study was considered a success in determining the feasibility of offering anonymous, rapid HIV POCT in a prison setting in Ontario.

These studies demonstrate both the usefulness and effectiveness of providing HIV POCT through varying outreach methods. HIV POCT combined with HIV counseling, education and referral services can help establish a pathway to early diagnosis of HIV infection and effective prevention of disease progression. (Whiters, Santibanez, Dennison, & Clark, 2010). A case study conducted in Atlanta demonstrated that partnering with churches, local businesses and community groups can also prove helpful in gaining participation of populations who would otherwise not access testing services. This was attributed to their strategic locations in communities with high rates of substances abuse and HIV infection (Whiters et al. 2010).

An alternative to these types of venues is through the use of outreach buses. Outreach buses have been shown to be successful in attracting previously untested individuals and/or at-risk individuals. Fernández-Balbuena et al. (2014) conducted a cross-sectional study assessing rapid HIV testing using a high visible mobile street-based van as a means to screen a previously untested population. This mobile unit offered free, rapid HIV testing on the streets of Madrid, and was accompanied by an anonymous survey that allowed information on socio-demographics, sexual behavior and history of HIV test performance to be collected (Fernández-Balbuena et al. 2014). Authors concluded that using a street-based outreach program and rapid HIV testing attracted both at-risk as well as hard-to-access individuals by offering multiple and more attractive, accessible testing locations in comparison to conventional healthcare settings (Fernández-Balbuena et al. 2014). In Halifax, both the Mobile Outreach Street Health (MOSH) bus and the Bailey bus provide health services to homeless or street-involved populations in inner city Halifax and surrounding communities. These two outreach buses were our main sources of accessing these populations and remained important sites for conducting our HIV POCT pilot study.

The Halifax, Nova Scotia HIV POCT Pilot Project

In conjunction with our community-based partners, our study consisted of an 8-month HIV point-of-care-test (HIV POCT) pilot project that sought to determine: (1) acceptability and testing uptake using rapid using POCT, and (2) prevalence of HIV among vulnerable, hard-to-access populations in Halifax who may be street-involved, currently using injection drugs, and/or in methadone maintenance therapy. Four different community-based programs partnered on this study and served as venues to offer INSTI™ HIV-1/HIV-2 Antibody testing. These venues were the Direction 180 fixed site, the Direction 180 outreach bus (a low threshold mobile methadone program), Mainline (fixed site needle exchange) and Mobile Outreach Street Health (MOSH). Using these venues, a health care provider (HCP) affiliated with the North End Community Health Center (NECHC), Direction 180, Bailey Bus, Mainline, and MOSH offered and administered the HIV POCT. All HIV POCT was accompanied with a venous blood draw that was sent to Capital District Health Authority (CDHA) laboratory for confirmatory testing, ensuring quality assurance of the POCT kits and procedures. The project was reviewed and approved by the Research Ethics Board at CDHA.

Findings

During the course of our pilot project, 305 rapid point-of-care HIV tests were offered to service users across the four venues, and 67 (22%) individuals accepted. All tests were found to be nonreactive and all confirmatory testing was negative. The majority of test offers (79%) were made on mobile outreach clinics, indicating the practicality of this type of environment to incorporate this type of testing.

The nurse who administered the POCT tests made a number of observations during the course of this study. She indicated that individuals who received POCT indicated that they experienced a sense of relief from being able to receive (initial) test results during their visit. This would suggest that waiting for the results of standard laboratory testing was something that these individuals did not like. Participants also seemed pleased that POCT did not require a conventional blood draw; for these individuals, the prospect of a venous blood draw was disagreeable, and/or the scars resulting from long-term injection drug use made venous blood draw difficult and unpleasant. For these individuals, the prospect of providing a sample through venous blood draw could have been a barrier to testing; previous research with hard-to-access populations has demonstrated that a lack of comfort with blood draw procedure can prevent some individuals from seeking HIV testing. (Downing et al., 2001; Peralta et al., 2007). The nurse also indicated that numerous participants also requested POCT testing for Hepatitis C (HCV). However, a POCT platform for HCV was not available and thus we were only able to process their HCV results through the conventional laboratory testing method.

The low uptake rate reported in this pilot study could potentially be explained in several ways, however data were not collected to indicate which may be the case. Populations such as injection drug users are considered “hard to access” because the social and environmental conditions in which they live create barriers that limit their ability or

motivation to come forward for HIV testing. This may be through factors that limit their willingness to seek testing such as concerns regarding stigma, or the perception that HIV testing is not necessary (Downing et al., 2001; Peralta et al., 2007). Other competing concerns such as avoiding withdrawal symptoms and accessing addictions services might outweigh the perceived importance of HIV testing (Downing et al., 2001). A lack of awareness of HIV exposure risks, or the perception that HIV is not a relevant concern can also prevent individuals from seeking, or consenting to HIV testing (Downing et al., 2001; Peralta et al., 2007). While the nurse did describe some of these reasons as being given by those who refused POCT, data were not formally collected to permit exploration of reasons for refusal. Therefore, individuals who refused POCT testing may have done so in response to one or more factors not assessed during data collection.

The overall prevalence of HIV in Nova Scotia is lower than the national average (PHAC, 2014). While individuals who inject drugs represent 12.4% of new HIV cases within the province (NSHW, 2013, p.8), it would seem that the individuals who were offered POCT testing did not perceive themselves as being at risk of exposure, or did not desire POCT testing for HIV. Alternatively, the prevalence of HCV is higher than HIV in Nova Scotia. The fact that numerous individuals requested POCT for HCV suggests heightened awareness of this disease among the populations in question, and that knowing one's HCV status is a health priority.

Data were not collected to indicate how often HCV testing was requested by participants, nor were qualitative perceptions of the uses or benefits of POCT formally solicited or recorded. Therefore, the observations made by the nurse administering the tests indicate a need for further research; first, on the potential need for multiplex HIV and HCV POCT in Nova Scotia, and second, on the perceptions of hard-to-access individuals regarding their testing preferences, and perceptions of the value of POCT methods.

Implications

The findings from this HIV POCT pilot study suggest outreach services can be an effective method of accessing hard-to-access populations, and the current outreach infrastructure that exists in Halifax has been efficient in providing access to testing as well as social and health care. Further, the convenience and ease with which HIV POCT can be conducted makes it an ideal test for use within both fixed and community outreach services. However, based on the observations of the HCP who administered the tests, hard-to-access populations are more concerned about HCV. Examining current provincial blood borne pathogen policy standards and the recent review of Nova Scotia's Strategy on HIV/AIDS strategy (Nova Scotia Advisory Commission on HIV/AIDS & Collective Wisdom Solutions, 2014) in relation to testing innovation may allow for a further dialogue on how best to reframe Nova Scotia's approach to STBBI testing in light of new technologies such as multiplex testing.

Limitations

The findings of this HIV POCT pilot study cannot be generalized to the general population given that we used convenience sampling within communities served by MOSH and D180.

Conclusions

Addressing HIV and STBBI testing access and uptake remains an important component of HIV prevention in Nova Scotia. Although access to and uptake of HIV POCT is an important public health intervention, particularly among populations who are less likely to access primary care facilities, our pilot study as well as previous research data indicate a need to explore the utility of multiplex testing for other STBBIs. As the findings of our pilot study indicate, the majority of participants accessing outreach services expressed concern about the potential for HCV infection, and several requested access to HCV POCT. POCT multiplex testing has the potential for early diagnosis of STBBI like HIV and HCV among vulnerable, street-involved populations and with this, the potential for expedited access to care and treatment. At present, bioLytical Laboratories and Medmira have POC multiplex tests (either in development, or recently approved for market entry in some international jurisdictions) that can detect both HIV and HCV, or HIV and syphilis (bioLytical Laboratories, 2015; Medmira, ND). The flexibility offered by multiplex testing could allow for HIV and STBBI prevention initiatives to tailor their testing practices in addition to outreach strategies. For example, a multiplex HIV/HCV test may be more appealing to individuals who use injection drugs, while a multiplex HIV/Syphilis test may be more appealing to men who have sex with men. These innovations should be considered as Nova Scotia revises its approach to HIV and STBBI testing over the coming years.

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