Date: 11/14/13
Event: CHS - CATIE Webinar - HIV testing in Canada

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>> Hello, everyone. Thank you for joining us so early for the webinar that will be taking place in 20 minutes. We just want to let you know that we will be starting in about 20 minutes. Thanks.

>> Hey, everyone. Just to let you know, we're going to get started in about two minutes.

>> Hi, everyone. We're going to get started. Welcome to HIV Testing in Canada, technologies and approaches. Before we move into the presentation, I'd like to quickly review a few quick tips regarding the webinar technology. My name is Barb Panter. I'm the Ontario Regional Health Education Coordinator at CATIE and I'll just go through this webinar technology with you beforehand and hand it over to Tsitsi Watt, who will do the presentation.

So if you can't hear the audio, obviously, you can't hear me. So hopefully you can just follow the instructions on the screen. If you are using a speaker phone, mute the microphone on your phone to improve the sound quality. And if you have any questions or problems, the Webex customer support phone number is down there at the bottom of your screen.

Just a quick view of some of the aspects around real-time transcription. In order to get a real-time transcription of the webinar, you'll need to go to your menu, select view, and then panels, and then manage panel. From the list on the left, select media viewer. Click the add button to add it to your current panels and then click okay. And to resize the media viewer, move your curser to the top of the title bar until it changes shape, like the image on your screen, and drag it up or down.

So before we begin the presentation, I'd just like to re-mind everyone that this webinar will be recorded and made available on CATIE's website soon after the webinar has concluded. So if you can just have a moment of patience while we begin the recording, and then Tsitsi Watt will begin. Thanks.

Hi, everyone. My name is Tsitsi Watt and I'm the Manager of Program Delivery here at CATIE. And I'll be presenting on HIV testing in Canada, technologies and approaches.

This webinar was developed in response to increasing questions related to HIV diagnostic testing and window periods. Testing is consistently seen as the initial steps when discussing HIV prevention, treatment, care, and support. As the public gets more and more aware of testing technologies, there is need for you have to date and consistent technologies and how they can be accessed.

So please note that this webinar will only focus on HIV diagnostic testing and not on monitoring tests. We are going to look at different HIV testing technologies. I'll explain the meaning of the term window period and why there are different window periods. And finally, we'll look at the meaning of different HIV testing options.

One of the first questions that come to mind when we talk about HIV testing is why do people get tested for HIV and what are the benefits of getting tested? People get an HIV test for different reasons, which include the benefit of knowing one's own status or their partner's status. At the beginning of a new relationship and also when a relationship comes to an end. Some people may want to know the status before engaging in a new relationship. Sometime it's after a possible or a known exposure to HIV. And for some, it's for family planning purposes. Also, HIV testing is part of the requirement for the immigration process here in Canada.

Some of the benefits of HIV testing are that people get an opportunity to relieve stress of not knowing their status and establishes a baseline for their overall healthcare. Individuals that test negative have an opportunity to receive information about protective measures and behaviors necessary to prevent possible future HIV infection and individuals that test positive can have an opportunity to receive information, counseling, care, treatment, and support in the management of HIV infection, as well as to receive information about how to avoid possible re-exposure and how to prevent onward transmission of HIV. It also gives feel an opportunity to access around disclosure and stigma, which are really important issues.

According to the Public Health Agency of Canada's HIV Screening Testing guide from 2012, clinical indications for HIV testing include individuals requesting an HIV test, individuals with symptoms and signs of HIV infection, individuals with illness associated with the weakened immune system, or a diagnosis of TB. Unprotected anal or vaginal intercourse or the use of shared drug treatment with a partner whose HIV

status is known to be positive. Pregnant or planning a pregnancy and their partners as appropriate. Victims of sexual assault.

Please note that some provinces have their own testing guidelines and these override the national guidelines. However, I will mostly refer to the information from the national testing guidelines from PHAC, public health agency of Canada, as it is information that is more general and, where relevant, I will use examples from different Provinces.

So now we're going to take a look at different types of HIV tests for diagnosing HIV infection. First there are antibody tests, and the two types commonly used are the ELISA also known as the EIA, and the Western Blot. Then there are tests that directly detect HIV, like the NAAT and the p24 antigen test. We'll take a closer look at these tests and how they work in a moment. I want to point out that you will hear the words sensitivity and specificity when it comes to HIV testing, I'll explain what these mean as well shortly.

Let's look at antibody tests first. So these tests detect HIV-specific antibodies, which the body starts producing two to 12 weeks after becoming infected with HIV. The immune system produces antibodies to identify the virus and try and destroy the HIV. This test has high sensitivity and is used as a screening test.

A couple of words you'll probably hear a lot are related to HIV testing technologies, are sensitivity and specificity. Sensitivity. So the sensitivity of a clinical test refers to the ability of the test to correctly identify those patients with the disease. This means that a test with 100% sensitivity correctly identifies all patients with the disease. A test with 80% sensitivity detects 80% of patients with the disease. But 20% with the disease go undetected, so therefore, a high sensitivity is clearly important where the test is used to identify the presence of infection.

Now let's talk about specificity. The specificity of a clinical test refers to the ability of the test to correctly identify those people without the disease. Therefore, it follows that a test with 100% specificity correctly identifies all patients without the disease. A test with 80 percent specificity correctly reports 80% of patients without the disease as testing negative. So again, the more specific the test, the better. I bring this up, because sometimes, some individuals doubt the accuracy of the HIV test. Each though errors do occur, the tests we use in Canada are reliable and accurate.

Okay. Back to the antibody tests. Now I'm going to talk a little bit about the Western Blot. The Western Blot is the most commonly used test to confirm HIV infection. It is currently the gold standard for

confirming HIV infection, but that may change in the next few years and we might have something else, but for now, the Western Blot is what is commonly used. Reactive or positive screening antibody tests are sent on to the Western Blot to confirm the presence of infection. The combination of ELISA and Western Blot is estimated to have an overall sensitivity of 99.9% and a specificity of 99.9%. So that's pretty good.

I thought it would be a good idea to include a little bit of information on sensitivity and specificity, because sometimes we get inquiries here at CATIE from people who get tested repeatedly and are still skeptical of the results. This is to show that these diagnostic tests are pretty accurate and should be trusted for the most part.

Now on to tests that directly detect the virus itself. One of the tests that is used to directly detect the presence of HIV is the NAAT. And this stands for nucleic amplification acid testing. It's to detect viral genetic material, known as RNA, in the blood. This type of test can detect HIV infection quite early, so if viral RNA or the viral genetic material is detected in the blood, but antibody tests are not positive or reactive, then the individual may be in acute HIV infection. I'll explain this a bit more in the section about the window period to make it a bit more clearer.

Antibody testing in infants born to HIV-positive mothers is inaccurate when determining whether the infant has HIV or not. This happens because the infant would have inherited their antibodies from their mother. It may take about 18 months for the infant to clear the maternal antibodies, so in that time period, the antibody test may not be the best technology to utilize. So a test like the NAAT can be used to look for HIV RNA in the infant's blood to confirm if the infection is present or not.

Some labs provide what is known as pooled blood tests. This is most commonly used with donated blood. This technique allows a lot of blood samples to be tested for HIV without testing each individual sample. If HIV genetic material is found in that pool, then each sample is individually tested. Again, acute or early HIV infection can be detected by using this technology. British Columbia is investigating the use of this testing technology for general testing. I'll refer to the specific model later on in the presentation.

Another test that detects the presence of HIV in the blood is called the p24 antigen test. After an HIV infection, the body produces a protein called the p24 protein that is associated with HIV. The p24 protein peaks at around three to four weeks in the body after exposure to HIV and will disappear as antibodies develop. So there is an HIV blood test that looks

for the p24 protein, but it has to be done while this particular protein while it's still detectable in the blood. I'll talk a little bit more about the p24 in the next section.

Now let's look at the meaning of the window period and why there's so many different ones. In HIV testing, the window period is the time interval between the point when a person is infected and the point when the lab tests can detect HIV infection. So for an antibody test, for example, this is the amount of time it takes the body to make antibodies to HIV after exposure to the virus to when the tests can actually detect the infection. Let's take a closer look at this.

In order for an HIV antibody test to detect an HIV infection, two conditions must be met. First, HIV antibodies must be present in order for the antibody test to accurately detect them in the individual's blood. The amount of time it takes for the immune system on create HIV antibodies after HIV infection varies from person to person.

Second, the HIV antibody test must be sensitive enough to detect the antibodies. Newer testing technologies can detect HIV antibodies when there are lower concentrations in the blood and so are able to detect an infection much sooner. If someone is in the window period, there is achance that even though they may have been infected with HIV, the test won't be able to pick up the infection and will, therefore, give a negative result. So it is very important to know when to get tested in order to get the most accurate results.

I'm going to use this diagram on your screens right now to explain window periods for different tests. And I'll walk you through this information step by step. After about two weeks post exposure to HIV, the p24 protein can be detected in the blood. This is represented by the pink line that you are looking at right now. As I mentioned before, the p24 protein peaks at about three to four weeks and then disappears from the body. This is present for only a short period of time. At about three weeks after HIV exposure, the body starts producing antibodies to HIV represented here by the orange line. The term sero conversion is usually used to refer to this change and can be accompanied by sero conversion illness or symptoms like fever, muscle aches, joint aches, swollen glands, sore throat, and body rash. This can last between one to two weeks. Antibodies, however, do not disappear like the p24 protein and so can be detected long after the individual has been infected with HIV.

You have probably heard about 3rd and 4th Generation tests. I'll spend a little bit of time here explaining what these are. EIA or ELISA, HIV antibody screening tests are often classified as first generation to fourth

generation. Each generation is characterized by a shorter window period and improved sensitivity and specificity. First and second generation tests are no longer in use in Canada. Third generation screening technologies can identify HIV infection in 95% of people at about 34 days after exposure. These look for HIV-specific antibodies. So most people are familiar with the three-month window period. That information is still relevant and accurate, because about 99% of people will present with HIV antibodies three months post exposure. Having said that, we also know that it is possible to detect HIV infection earlier than the three month mark.

So currently, the window period for third generation tests is about four weeks to three months post exposure. The rapid test commonly referred to as the POC test is an example of a third generation antibody test. One advantage of the third generation test is that they can also detect both HIV1 and HIV2. Most infections in Canada are HIV type one. So third generation testing is widely available in labs across the country.

Then we have what we call the fourth generation test. The fourth generation test detects the presence of both the p24 protein and HIV antibodies. This test can reduce the window period to approximately 15 to 20 days in most people. This test is also administered through a vein blood draw. One advantage of the fourth generation test is that it allows for an earlier HIV diagnosis, compared to the third generation test. So let's say an individual has an antibody test done, such as a rapid test after exposure to HIV and the test result is nonreactive or negative. A blood draw can be done on the same day or very soon after, particularly if the real risk for HIV infection or if the individual presents with sero conversion illness. This will be done to determine whether the individual is in acute HIV infection, as if the p24 protein can be detected earlier than HIV antibodies.

You'll see at the bottom left-hand side that there is about a five to seven day difference between the 3rd and 4th Gen race test is indicated on the slide. So both these tests are accurate and reliable if people get tested outside of the respective window periods.

I mentioned the NAAT earlier, and that it is currently not available to the general public. However, it is interesting to note that a pilot study in Vancouver BC recently found that implementation of NAAT and special marketing campaigns improved the identification of men with acute HIV infection. The NAAT has the shortest window period of about seven to 15 days. Although we usually talk about an average of 10 to 12 days but that's still pretty short compared to the other types of tests.

For more information on the BC pilot study in NAAT, please see the list of resources on our website that will accompany this webinar. I hope this visual aid helps to explain some of the reasons why there are different window periods.

So in summary, each testing technology has its own unique window period and all things being equal, each test will give accurate results if the individual is tested outside of the appropriate window period.

What does all of this mean and why all the different window periods? Well, it is important to note that window periods are estimates. These estimates are typically based on averages from small studies of sero converting individuals, and this is typically among repeat blood donors. Therefore, it is no surprise that there is considerable individual variation with some individuals having shorter or longer than average window periods. That is part of the reason why it's difficult to pinpoint an exact number for each window period and, therefore, approximate numbers are used such as three to four weeks instead of saying, for example, exactly 21 days after exposure, we recommend you get tested -- That's the reason why some people come back for a re-test in order to get a more accurate interpretation of their test results.

It's also important to note that each HIV testing technology has a unique window period which can broadly be defined as the amount it takes for any particular test to be able to detect a new HIV infection. So knowing and understanding the window period is useful for providing appropriate information during pre and post-test counseling, during the interpretation of HIV test results, and sometimes in testing and re-testing after exposure to HIV.

Okay. So that's it for now on window periods. Let's change gears and take a quick look at standard and rapid tests. So how are the two different tests administered? For the standard test, a small sample of blood is drawn from the arm and then sent to a medical lab for analysis. The test results are usually ready in about seven days to two weeks, so the individual getting the test must be prepared to wait for that length of time to receive their results from their healthcare provider.

The standard test is the most widely available across the country. And then there is the rapid test. In Canada the approved rapid HIV test is administered through a small lancet, which is poked into a fingertip. The test results are available within minutes, so the individual getting an HIV test needs to be prepared to receive their results within a very short period of time. I just want to note that there are other types of rapid tests out there, but they're currently not approved for use in Canada.

Now let's take a quick look at Point of Care testing. The Point of Care setting refers to HIV testing that is offered at the point of care. The test is performed outside a lab. Examples of POC settings where rapid tests are usually done include at houses, mobile test units, and health fairs. Earlier I referred to rapid testing being commonly referred to as POC testing. Well, these two are actually very different. Basically, Point of Care testing refers to the setting and the process of engaging in pre-test discussion during the actual test and giving test results all in one interaction while a rapid test simply refers to the type of test that gives almost immediate results. So POC refers to the setting in which the testing happens and the rapid test is the technology that is used.

Any rapid HIV test kit licensed by Health Canada for POC HIV testing will have similar sensitivity, specificity, and other performance characteristics to HIV diagnostic tests licensed for lab use. So as with all HIV testing, the use of a rapid test requires specific, informed consent from the person being tested. Also, pre and post-test counseling needs to be modified to suit point of care settings.

So far we've looked at different types of HIV tests. We have looked at window periods and why they're different. Now let's take a quick look at the testing process itself.

This is a simplified HIV testing flowchart, also known as a testing algorithm. It gives you an idea of the testing process from beginning to end, ending with either an HIV-positive or HIV negative result. The actual terminology used to describe the test results are reactive and non-reactive, but in our day-to-day work in community settings, we usually use the words positive and negative, so I've decided to use those words in this slide and throughout this presentation.

So if you look at the flowchart, the dark arrows follow a typical path to positive diagnosis for HIV infection and the orange arrows show the path to a negative result. For most people, the HIV testing process is as simple as shown in this model, but sometimes there are exceptions. For example, test results might be indeterminate or there might be discrepancy between the screening results and confirmatory results. If that happens, some samples are re-tested for a conclusive result.

This is a simplified algorithm. It doesn't show the name of the specific test and doesn't show you what happens if there are indeterminate results or if there's a discrepancies in the screening and confirmatory results. Actual testing algorithms can be very, very complicated as they take into consideration all sorts of different outcomes at each stage of the testing process.

They are mostly used in clinical settings, but I thought it would be a good idea to show you what a simplified version looks like for those that are interested in testing algorithms. So if you'd like a copy of the testing algorithm that's used in your region, president e-mail us at CATIE and we'll help you locate it. If you'd like more information about what testing is available and what types of tests are available in your Province, please call us or shoot us an e-mail and we'll help you find that information.

Now let's take a look at a list of testing options. This slide shows words or terminology that is usually associated with HIV testing. First, there is nominal or name-based testing whereby a client's name appears on the left form and the test result. So the names are known and there's no anonymity there. The test result will also be made available to the client's healthcare provider and the information will be entered in the client's medical record.

In non-nominal or non-identifying testing, a code is used instead of the client's name. The person ordering the test may know the identity of the client and a positive test result is entered into the client's health record. Non-nominal testing is available in all Provinces and territories in Canada. And anonymous testing as implied by the term, a code is used instead of the client's name. Positive test results still need to be reported to public health, even though the clients' name may not necessarily be used. To access anonymous testing, individuals need to go to a specialized clinic, as it is not available in all healthcare settings.

Opt-in testing is often referred to as client initiated testing. In this situation, a client asks their healthcare provider for an HIV test. This assumes that the client is aware of HIV testing and then actively asks for the test. Opt-out testing, on the other hand, is provider initiated. In this case, an HIV test may be part of the series of tests that the healthcare provider may want to do for the client, and the client has the option to refuse to have the HIV test done.

On this slide is a table showing the different HIV testing options that are available in different Provinces and territories. If you'd like more information about what testing services are available in your Province or territory, please call our 1-800 number or send us an e-mail and we'll help you find that information.

So HIV infection is reportable under a public health legislation in all Provinces and territories. Healthcare providers are required to report cases of HIV to the public health system. This is done in order to assist with contact tracing and counseling of the patient and maintain accurate HIV epidemiologic information. Notification and contact tracing are done

differently in different jurisdictions, so reporting requirements for all types of positive and negative test results differ from one Province and territory to another.

Okay. So before we go on to the next section, I'd like to do a real quick recap of the testing technologies that we've already covered. So we have a screening test and it is third generation, and an example of that is the ELISA. This screening test looks for HIV antibodies. The estimated window period for that is about four weeks and it is widely available across the country. Then we have fourth generation tests, and the p24 antigen is an example of that. This test looks for HIV antibodies and the p24 protein. The estimated window period for the fourth generation test is approximately three weeks and it is also widely available across the country.

Then we also have confirmatory tests, and the Western Blot is the gold standard that's used in Canada. It looks for HIV antibodies directed specifically at HIV proteins. The estimated window period for that is about four to six weeks and it's also widely available across Canada.

And lastly, we also have another type of confirmatory test, which is the NAAT. So the NAAT looks for viral genetic material confirming the presence of HIV infection. The estimated window period for the NAAT is about 10 to 12 days, and it's only available in some places. It's not available for general testing at this moment.

In a nutshell, this is what I want to cover in today's presentation. Before I wrap up, I just wanted to highlight that HIV testing happens in different contexts. We need to be aware that testing doesn't and should not happen in a vacuum. People access testing for different reasons, so we just can't talk about the technologies without taking into consideration the context in which testing happens or the barriers to testing and access to testing services. For example, when is the best time to get tested? Should HIV testing be routine or targeted testing would work best in your region or for specific population groups? How about individuals who would be at higher risk for HIV infection or those who need repeated testing? We need to think about all this, and what kind of testing messages or information would work best for different population groups that we work with. It's great that we advocate for HIV testing, but access to testing services is not always straightforward for some. It may be more of a challenge, for example, for people living in remote areas where access to general healthcare services is very limited.

We also have a lot of examples of what we call missed opportunities across the country. The most common example are cases

with high rates of sexually transmitted infections like chlamydia, gonorrhea, and syphilis, and yet HIV testing is not offered to those affected individuals. Some programs, however, like the Manitoba HIV program are addressing this issue by compiling a great list of recommendations for HIV testing that captures people that would otherwise be overlooked for HIV testing.

Missed opportunities, unfortunately, can also result in late diagnosis whereby individuals may require hospitalization due to health complications at this late stage.

Another issue that I wanted to bring up, is informed consent and confidentiality. These are very important issues to considerfor some people. Some people don't access HIV testing services because of lack of confidentiality, particularly in smaller communities. Stigma and discrimination can also play a huge role in why people don't access testing services. People may not want others to know that they've accessed sexual health or HIV-related services, so that definitely needs to be addressed.

Last, but definitely not least, is the issue of home testing. There's a lot of debate going on right now about this idea. I'm not advocating for or against home testing, but I think it's good for us to at least start talking about it. We know that the FDA in the United States has approved an oral home test kit for HIV. So maybe this is something that may be coming to Canada at some point. We need to think about what this would mean in our context. We need to think about what sort of messaging we would put out there if we were to roll this out.

So I just thought that these topics would be of special interest for people to be aware of, and we just need to start talking about these and we need to think about these in the context in which we work in.

So I thought to include a few examples of testing guidelines and recommendations from different Provinces. On your slides right now, on your screens right now, we have a copy of the current public health agency of Canada HIV screening and testing guide. I actually borrowed quite heavily from this document, seeing as it is national, and I find it quite comprehensive, but as I mentioned earlier, local guidelines override these national guidelines, but if you're interested in reading this document, I'd highly recommend that you do. It's very, very comprehensive.

And here are the Manitoba HIV program testing recommendations that I referred to earlier. It's a really great document.

And I have a sample of the Ontario testing guidelines on your screens right now. And the HIV testing information for clients from

Saskatchewan. So there's a lot of information out there on HIV testing technologies and different approaches, so if you're interested in more information, in your object reading, please give us a call and we will try to help you find the information. So this is all I had prepared for this particular webinar. If you have any questions and comments, this would be the time to ask or use the chat function. Thank you.

>> So we're going to open it up for questions now. Please feel free to type in your questions or comments on the chat window on the left side of your screen. And you can also dial pound six to unmute your line and ask the question in person. We're not seeing any questions, so if you've got one, type faster. We did have one comment from a participant making sure or making clear that there is no way of linking anonymous test in Ontario in any way to the identity of the client. So just to be clear about that, that if the test is done correctly, there is no way for anonymous test to link the identity of the client to the test result. We also have a question, where in Canada is NAAT testing available? So right now, NAAT testing is only available in BC, and that was under special circumstances. So it's only been available in Vancouver and it was specifically for a project looking at testing, men who have sex with men. So if you'd like more information about that, please send us an e-mail and we'll give you that information.

>> And another question, can you go over the window part again? What exactly is the window period? Tsitsi is just looking for the appropriate side to give us some visuals for that.

>> So just to reiterate what I said earlier, the window period is actually the time period between when a person is infected and the point when we can detect HIV infection. So each HIV technology has its own window period. So we've usually just been using the term window period as a blanket statement, but actually each testing technology has its own window period. So for example, like I mentioned before, if someone wants to get a rapid test done, the window period for a rapid test which is a third generation test, is about three to four weeks. So it depends where the person is getting tested and it also depends on the type of technology that's used. I hope that clarifies it a bit.

>> So Tsitsi, would it be fair to say that the window period is the amount of time that you have to wait before you can get a specific test done?

>> That's it exactly, yeah.

>> We are seeing a few more questions. One is are we seeing any movement provincially to have front line workers trained to provide the testing in community settings where public health nurses may not be able

to offer it, for example, in bathhouses?

>> That's a very interesting question, and that's one that comes up whenever we do this testing workshop across the country. And the answer to that is I don't know. So each Province has its own different guidelines and all public health units do things differently, so Point of Care or the rapid test is not available everywhere. So different Provinces are working on providing people that need testing with different opposites, and fortunately not all provinces and regions have access to Point of Care testing. I think that some Provinces like Ontario, Manitoba, and BC and Saskatchewan do have Point of Care tests, but some regions, even within those Provinces, still don't have access to that, and it's still being piloted, so we don't know when Point of Care testing will be rolled out equally or increasingly across the country. That will depend upon the different ministries in all the different Provinces. I hope that answers your question.

>> We do have a comment from a poster or participant in Ontario saying there are some sexual health clinics where the staff is doing HIV testing and they're not required to be registered nurses. So that's some information for Ontario, anyway.

We have another question. Is there more information available on the oral home test available in the U.S.? And is there a timeline for when it may be available in Canada?

>> Okay. So at the moment, the only information we have about the oral home test is through the website. So the oral home test is called Oraquick. So if you Google that, it will take you to the website.

We've actually tried ordering this test just to see how it works, and it was quite complicated for us to manage to get that test delivered here to our CATIE offices, but it is available in the states and we don't know when it will be available in Canada or if it will be available in Canada. So this is still something that's being debated upon. When we get that, we'll put it up on our website and let everyone know. We have

>> We have one more testing around NAAT technology and would that be positive to infants born of HIV-positive mothers?

>> I'll just refer to one of the slides from earlier on. Let's see. Sorry. My mouse is stuck here. Okay. So the NAAT test, because it actually looks for viral genetic material, can definitely be used to confirm infection in infants, because infants are born with maternal antibodies. So if an infant is born to a mother that is HIV positive, the infant will have HIV antibodies as well, so the NAAT can be used definitely to determine if there is infection or not in an infant.

>> And we have another question around testing campaigns in rural settings. Have any Provinces launched a successful HIV testing campaign in rural settings?

>> That's a very interesting question. Off the top of my head, I'm thinking that Saskatchewan has been successful in doing this, particularly with Point of Care testing. I think right now they have about 20 Point of Care testing sites started across the Province, so I've used Saskatchewan as a point of reference for this particular question. But I can look up more information if you'd like. You can e-mail me at tsitsiwatt@CATIE.ca and I can find more specific information on that for you. And if we have any participants from rural --

>> And if we have any participants from rural areas who can answer this question better than we can, send us a message on the chat line and we'll make sure to read your answer out loud. We're not seeing any other questions on our chat board. If there are any final questions, we're happy to take them.

We do have a comment from a painted in Ontario saying that Ontario is doing some HIV testing outreach with aboriginal and first nations participants in rural regions. So to the participant who asked that question, perhaps doing a bit of a Google search, you may be able to find some more information about that and what that looks like.

Okay. If we don't see any more questions, I think we will wrap that up for the day. As we said earlier, this webinar will be posted on the CATIE website very shortly, so if there's anything you missed, you're welcome to go back and re-listen and re-watch the slides. Thank you all for joining us and participating with your questions and comments, and we'll see you at the next building blocks webinar on December the 2nd from 1:00 to 2:00 eastern standard time, and it will be me, Barb Panter presenting on the basics of hepatitis C. We'll see you then.

(end of event.)