# Health care provider perspectives on internet-based testing for sexually transmitted infections in British Columbia

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## Background

The internet offers unprecedented reach for individuals at higher risk of sexually transmitted infections (STI), and a variety of online approaches to deliver sexual health care have been developed globally.[1] The Online Sexual Health Services program at the BC Centre for Disease Control (BCCDC) was funded by the Provincial Health Services Authority in 2009, to develop a suite of interventions aiming to reduce barriers to accessing sexual health services in populations with a higher prevalence of infection.  To date, the program has customized *InSpot* for BC (use of e-cards to notify partners of a newly diagnosed STI) and has a provincial sexual health website *SmartSexResource* (an upgraded interactive sexual health education website providing access to online sexual health nurses).  These programs are not intended to replace, but rather to complement and be integrated within existing sexual health services in BC.

Internet-based testing for sexually transmitted infections is a novel method for offering testing, which allows individuals to access testing online without requiring presentation to a clinic. Several jurisdictions globally have developed internet-based testing programs using a variety of methods, with promising results.  BCCDC will be launching a pilot of internet-based HIV and STI testing in 2013 (*GetChecked*), at two clinic sites operated by BCCDC and with targeted promotion to gay, bisexual and other men who have sex with men.  This program aims to overcome current barriers to testing in order to increase uptake and frequency of testing in populations with a high prevalence of infection, and to increase clinical service capacity by allowing asymptomatic clients to test online.  In other jurisdictions internet-based testing programs have been demonstrated to be highly acceptable, accessed by individuals at higher risk of infection, and have equivalent rates of follow-up and treatment compared to clinic-based testing.

Internet-based testing for STI thus represents a shift in the usual practice of sexual health care and a transition from a provider-mediated to a patient-centred approach to testing.  The model for the internet testing pilot (see Appendix 1) was developed through intensive consultation with clinicians at BCCDC and the program's Community Consultation Working Group, and informed by end-user interviews and focus groups conducted with youth, gay men, and BCCDC clinic clients (as populations likely amenable to internet-based testing, having a high burden of disease, or the target population of the pilot).

The pilot program will be implemented in an existing system of sexual health care in Vancouver, where internet-based testing clients may also be accessing sexual health services at other clinics.  If the pilot is successful, our intention is to scale up internet-testing to other parts of the province where the program could be integrated within other non-BCCDC clinical settings providing sexual health care.  For both of these reasons we need to understand how internet-based testing for STI is viewed by other clinicians working outside of BCCDC in the field of sexual health care.

## Purpose

To understand the opinions of clinicians providing sexual health care in non-BCCDC settings regarding the *GetChecked* internet-based testing pilot program, with particular consideration to how best the program may be integrated within their clinical setting or practice in the future.

## Methods

We identified clinics and practices providing sexual and reproductive health care, with an emphasis on providers working with youth and gay men, and across a variety of practice types. We then contacted the appropriate medical or nursing lead to request the opportunity to conduct a focus group with staff, which were scheduled from February to June 2012. During the focus groups, which typically lasted for one hour, we used a powerpoint presentation to guide the discussion which explained the concept of and rationale for internet-based testing and described each step of the prototype. The presentation included questions to prompt discussion about the potential risks and benefits of internet-testing, utility to providers and their clients, and impact on and integration with clinical practice (during pilot and scale up phases).

Focus groups were led by a single individual (MG) who also conducted the analysis, and with the exception of one focus group an observer (TH, CC) was present in each session to act as note-taker, supplemented by audio recording for some groups. Thematic analysis was performed first through an initial review of focus group notes to generate a list of potential codes. Codes were then organized by theme and final coding was conducted using NVivo. Preliminary findings were reviewed with focus group observers for validation.

## Results

We conducted six focus groups (five in Vancouver, and one in Victoria) with a total of 50 participants (range 2-13 per group). By profession, participants were nurses (21), physicians (12), pharmacists (4), educator (1), counselor (1), administrative (3), or unknown (7). Participants worked at 12 clinic sites: youth and student health clinics (5), community health centres (4), STI clinics (1), abortion services clinics (1), and family practice clinics (1).

The focus group findings are organized by four broad themes that emerged from the analysis, which reflect participants' perspectives related to the system of sexual health care, anticipated experience of individuals using internet-based testing, provision of clinical care and integration of internet-based testing with their own practice.

## 1. The "brave new world" of health care

**Locus of control:** Internet-based testing was identified in several groups as a reflection of the direction in which society is or has headed, and that the use of online or other technologies to increase access to health services is what people want. This shift in direction is not without challenges, as expressed by participants. Specifically, many participants acknowledged that this shift represented a transfer in the locus of control, from providers to patients. While some participants articulated clearly that this was a positive change, most appeared to regard it as inevitable. Participants pointed out how this was already shifting in relation to testing; for example, getting results online at specific clinics or through the my**ehealth** service provided by public laboratories in BC, services which are well-received despite initially causing concerns about potential negative impacts. A small minority identified concerns with this transition; for example, pointing out that physicians who believe STI test results must be given in person will be resistant. One participant expressed that this shift in locus of control was primarily driven by a desire to cut costs and that less interaction with providers will lead to inadequate clinical care or harm to patients. As another participant put it

when discussing the model, the service could be "letting the genie out of the bottle" and should be developed carefully.

**Barriers to testing:**  Many participants identified that internet-based testing would overcome existing barriers to testing services, including providers discouraging or refusing testing when requested, access to clinics during hours of operation, lack of local testing services in rural areas, being treated poorly by providers, and privacy concerns that lead to individuals not testing.  Other barriers would continue to exist such as lack of specimen collection sites in rural areas, or specific privacy concerns related to storage of health data.

**Perpetuating health inequities:**  Many participants identified ways in which internet testing would perpetuate or be perceived to perpetuate existing inequities among populations where greater testing access is most indicated, such as gay, bisexual and other men who have sex with men (due to lack of rectal swabs), and street youth and people with low socioeconomic status (due to lack of access to computers or printers).  One physician mentioned that most youth do not use email and prefer to be contacted through texting or social media.  Several participants thought that the service would only be accessed by highly functioning individuals who have the resources to do so (e.g., to get to the laboratory collection site, technologically "savvy").  Finally, the service was considered less accessible to individuals who do not speak English, who would otherwise need another person to translate and may not access the service as a result.

**Costs:**  Several providers anticipated that as a result of asymptomatic clients testing online the service would free up provider time, which would increase capacity to see more patients, or cut costs.  Participants in most groups asked questions related to the cost of the service and funding source (in relation to anticipated increased test volume, or unnecessary testing).  Some questioned whether internet-testing was the best use of scarce system resources; for example, given impact on laboratory test volumes, or whether resources would be better spent addressing other existing system barriers to accessing testing such as expanding clinic hours.

**Engagement in sexual health care:**  Several providers identified ways in which the service could lead to increased engagement in sexual health care; for example, by incorporating reminders for pap testing or pelvic exams.  One participant described internet testing as "getting people in the door", where individuals may fear coming to a clinic for testing, or are not motivated to get tested (e.g., young men).  Several participants thought the service would lead to greater normalization of testing and lead overall to greater test uptake.

**Motivation to use:**  The most commonly identified perceived motivation to use internet-based testing that emerged through the focus group discussions was related to the greater anonymity and privacy afforded by the service.  Many focus groups also identified that people who are anxious about their sexual health may be more likely to use the service, particularly individuals with unfounded anxiety (worried well) who may test repeatedly.  Several participants commented that they expected the service would be used by individuals who are sexually active and want to get tested.  While some participants considered that only specific groups would use the service, others thought that the service would be broadly accessed.  Youth (including street youth, university and international students), gay men, sex workers and their patrons were specific groups identified as potentially benefiting from the service.

## 2. "Doing the least harm" to clients

Participants identified several ways in which there may be harm to individuals from using the internet-based testing service. Throughout the focus group discussions, these potential harms or risks of the service were generally framed in a recognition that there was a trade-off between these risks and the benefits of the service, with suggestions for how the risks could be minimized or mitigated. Furthermore, participants also acknowledged that many of these risks were currently present with existing testing services.

**Anxiety related to notification message:** In all focus groups, participants discussed the potential for the result notification process to cause anxiety or harm. Specifically, this applied to the scenarios where an email or voicemail message would ask clients to call the clinic to discuss their results (in the case of an invalid, indeterminate or positive result). The majority felt that any such message would be interpreted by a client as a positive test result, and would increase anxiety (particularly problematic if a notification message was received after hours or on weekend, or for individuals without local supports). Most felt that the message needed to have generic wording inclusive of options not related to a positive result, although a minority considered it better to be as explicit as possible (e.g., if invalid, specify that there is a problem with the specimen). In general, participants recognized that this is not a unique issue to internet-based testing.

**Anxious testers:** Providers discussed clients they see who are anxious testers ("worried well"), who present multiple times for testing and anticipated that these clients would use the service resulting in unnecessary, repeated tests and missed opportunities for clinicians to engage in appropriate care for their underlying anxiety. One participant suggested that these clients would be less engaged by internet testing because it would lack the satisfaction they get from an interaction with a clinician.

### Putting positive results online?

Participants in our first focus group worked in a clinic where their clients (predominantly youth) are able to access all test results online including STIs. This has been a positive experience, well-received by clients who may be motivated to come in more quickly for follow-up. As they encouraged us to consider putting positive results online with *GetChecked*, we asked all participants in subsequent focus groups about this option.

Most participants appeared receptive to the idea. The primary concern was the potential for harm related to anxiety or fear at seeing a positive result online, particularly for individuals who do not have social supports. This could lead to individuals not accessing treatment, or in extreme cases self-harm or suicide. This was considered most likely for positive HIV results, with less concern about Chlamydia, gonorrhea, or syphilis. As described in the body of the report, participants acknowledged that notification alone could have a similar impact. Potential benefits included reaching youth who may not listen to voicemails or return calls from numbers they don't recognize, or in the scenario where an individual could find out they have a positive result on a Friday and take steps to prevent passing the infection to others right away.

Participants suggested that clients could be given the option to choose whether to get positive results online or not, and a separate consent step providing education about dealing with a positive result could be required before being able to retrieve their result.

**Misperception/Misunderstanding:**  Participants related their experiences of clients who have misperceptions or misunderstanding of information related to getting tested (particularly youth), which would need to be addressed through the educational aspect of the service as is done in their clinical practice.  For example, several participants expressed concerns that clients who receive negative test results from online testing would come away with the impression that they have a "clean bill of health from the highest public health service in BC" and not understand the limitations of the tests (e.g., other STIs not tested for, need for throat/rectal swabs, window periods).

## 3. "There are a million scenarios to consider" Reducing clinical harm

A common theme that emerged from focus group discussions was related to the harms that may result related to the comparison to current best clinical practice and perception that internet-based testing would result in the provision of inadequate or sub-standard clinical care.

**Inadequate pre- and post-test counseling:** All focus groups identified that the service needed to ensure that clients understood the information provided during pre- and post-test counseling (including transmission of STIs, symptoms, window periods, preparing for notification, preparation for a positive result, reporting, implications of a negative HIV test). Many participants felt that in-person pre-test counseling would be more effective, as clients may not read or understand the information provided.  Others pointed out that users of the service will be motivated to read content and as clinicians often don't go through the entire informed consent process the "gold standard" is not always applied in person.  Recommended strategies to address this issue included having mandatory content, disclaimers clearly specifying the limitations of not interacting with a provider, and clear consent processes (e.g., include a "pop-up box" that a client clicks on to indicate that they understand and provide consent).  However, several participants considered the model to have too much information or ask too many questions, which may overwhelm some clients.

**Missed opportunities for education and prevention:**  In most focus groups, participants discussed how the lack of interaction with a clinician may result in missed opportunities for education and prevention, such as discussing ways to have safer sex, or recommending pap testing.  Overall, participants were appreciative of how the current design provides educational information related to questions on the assessment (e.g., information about post-exposure prophylaxis, emergency contraception, and vaccinations).

**Limited tests available:**  Several focus groups identified that the lack of throat and rectal swabs would be a significant limitation for some clients, who may not be aware of the need for additional tests; education about this would be required.  Participants suggested asking specific questions about oral and anal sex in order to make specific recommendations for additional specimens.  In addition, participants in several focus groups suggested that testing for Hepatitis C be included in the service, while recognizing that this would add some complexity (e.g., education for clients not aware of risks for sexual transmission of HCV, added complexity in follow-up).

**Recommending inappropriate tests:**
When reviewing the assessment questions, some participants were concerned that clients may not answer questions or provide inaccurate information, which may result in receiving recommendations for inappropriate tests or incorrect information. There was general consensus that the answer option "prefer not to answer" in the current model was important to retain, as this was perceived to be a way of minimizing this risk; other suggestions included giving client the option to complete the assessment or not, or a disclaimer that answering questions inaccurately would result in poor care. Several participants felt that clients would be likely to answer questions honestly, as they may be concerned about their health, comfortable with providing personal information online and perceive the site to be anonymous, motivated by own perception of risk, or less likely to feel judged than during a clinical encounter with a health care provider. One participant also pointed out that clients currently may not tell the truth in clinical encounters.

**Inadequate follow-up of positive results:** Participants in several focus groups were concerned that follow-up of positive results by BCCDC clinicians would be affected by clients who did not provide their real name or provided a fake telephone number, and that this should be closely monitored. Furthermore, different clients using the same pseudonym may make it difficult to provide results. Most groups recognized that similar challenges with notification exist with the current system of testing, and that this can cause distress for providers who are aware of a positive result but unable to immediately contact the client. Several participants felt it was important to retain the option for clients to not provide a real name or verification of identity as part of the internet-testing process, as otherwise individuals needing testing would not use the service.

## Making *GetChecked* more useful

Participants had many suggestions for improving the utility and impact of internet-based testing. All focus groups identified that the need for access to a printer to print the laboratory requisition was a major limitation, affecting ease of use or in some cases excluding people who would otherwise use the service. Suggestions to address this included electronic ordering of tests, sending requisition by email or to cell phone, or being able to print of requisitions at the specimen collection sites.

Other suggestions included:
- Using language which suitable for a low literacy level.
- Youth may find the site intimidating or may tune out unless using less formal and more casual or conversational language.
- Differing perspectives on the appropriate use of images of people, depending on who participants saw using the service (e.g., "sexy" images for young, highly sexually active people; diverse representation speaking to multiple audiences). Youth in particularly were thought to be more engaged by use of images.
- Translate into multiple languages.
- Tailor the educational information and referral to services to the characteristics of the client using the service (e.g., if age < 25 only present list of youth clinics for testing, different information for first-time and repeat testers, refer to services that are specific to their local area).
- Make site interactive, engaging, fun (e.g., pop-up educational messages, or an interactive avatar that can walk the client through the site and personalize the experience
- Make the website mobile-friendly
- Allow for clients to get a copy of their test results
- Include links or information for other resources (e.g., 24-hour telephone helplines)

## 4. Integration with clinical care or own practice

**Connection to family physician:**  Access to positive results by an individual's family physician was the most common recommendation when participants reflected on how internet-based testing could integrate with clinical care.  In addition to the general benefit of being informed of all aspects of their clinical care, access to results would be of benefit for the anticipated scenario of seeing internet-testing clients with anxiety from a notification message after-hours/on weekends.  To do so, internet testing clients should have the option to name their family physician for receipt of results; one reason for doing so may be clients who would test online for ease of access yet prefer to follow-up with their family physician for treatment.

**Information systems:**  One participant working in a clinic with an existing online appointment scheduling and result system thought that ideally the service should integrate directly with these existing information systems.

**Referrals to the service:**  On reflection of their own practice, several providers felt that they would refer their clients to the service, typically under certain scenarios (e.g., low-risk clients, for testing when starting a new relationship or between visits for pap tests) although providers from one clinic serving predominantly lower risk youth indicated they would promote the service to all of their clients.  Other participants mentioned that referral to the service would be helpful for telephone "cold" calls from individuals with questions about symptoms or requesting testing (with referral either immediately and allowing the service to triage and direct symptomatic patients to an appropriate local testing site, or following an initial telephone conversation and determining that immediate treatment was not needed).   The service could also be incorporated into youth education sessions (as a way of normalizing testing and promoting an accessible testing option, or for engaging male youth in particular).

**Public health follow-up:**  Finally, several participants questioned how the service would be integrated with public health reporting and follow-up (for example, would follow-up be done centrally or regionally, would options for non-nominal reporting exist), and to consider the implications of the service for tracking surveillance trends.

## Conclusions

Overall, the majority of participants expressed favorable opinions of and support for the proposed internet-based testing service.  Throughout the focus group discussions, potential harms or risks of the service were generally framed in a recognition that there was a trade-off between these risks and the benefits of the service, with suggestions for how the risks could be minimized or mitigated (Table).  Furthermore, participants also pointed out how many of these risks were currently present within existing testing services; for example, inadequate pre-test counseling being done in clinic settings, or individuals not identifying sexual risks to clinicians and potentially receiving inadequate clinical care as a result.  In general, participants responded favorably when we explained what mitigation strategies we were currently taking during the pilot, or would be considering during scale-up of internet-based testing in BC.

Internet-based testing does reflect a shift in the locus of control from clinicians to clients, which was explicitly recognized in all focus groups and either viewed positively or neutrally by almost all participants.  The recognition of this shift was also apparent through the discussion of potential mitigation strategies, where options that gave further control to clients were proposed

(for example, clients having the option to skip the assessment step, have a clear consent process with acknowledgement of limitations of the service).

Participants expressed a variety of views regarding who would use the service, from clients from specific populations (primarily youth) or with particular characteristics (e.g., anxious testers), to envisioning that the service would be broadly used across the population. Accordingly, some participants viewed the service as occupying a specific program niche, while others anticipated it being seamlessly integrated across the spectrum of sexual health care.  A few participants identified specific scenarios in which they would use internet-based testing in their practice, often in relation to triaging people requesting clinic appointments or suggesting that low-risk clinic clients test online in the future.

These findings from focus groups with non-BCCDC health care providers are very similar to the perceived benefits and harms identified by BCCDC clinicians which who we consulted throughout the design of the internet-based testing pilot.  While end-user focus groups and interviews with youth, gay men and clinic clients did not generally identify potential for clinical harms, similar themes related to changes in to the system of sexual health care and potential individual benefits and harms did also emerge in these groups.[2,3]  Perspectives regarding the design and features of the website were generally similar across all focus groups we have conducted – including the consistent concern with requiring users to print laboratory requisition forms.  However, there are some key differences, such as some providers suggesting the website should have appealing images and use colloquial language to reach youth, while these were not attributes that appealed to youth. Of interest, while end-users were generally opposed to provision of positive test results online due to the anticipation of harm as a result, providers appeared to be more receptive to the idea; this is not currently planned for the internet-based testing program but will be an area of enquiry in future.

Through this work we have identified unique concerns primarily related to the provision of inadequate clinical care that are important to recognize and mitigate as much as possible. The findings from these focus groups lends additional weight to similar perspectives from BCCDC clinicians and will be helpful in informing both the implementation of the internet-based testing pilot in Vancouver as well as the potential scale-up of the service to other parts of British Columbia.  We acknowledge that the findings presented here may not be representative of all providers providing sexual health services in BC, particularly in more rural or remote regions of the province and scale-up of internet-based testing to these regions will require additional consultation.  Our team currently has several research grants in which we will be continuing to explore these and other system impacts of the development, implementation and scale-up of the BCCDC Online Sexual Health Services program.

## Endnotes

1.  For an overview of internet-based sexual health services, see:  McFarlane M, Bull SS. Use of the Internet in STD/HIV Prevention. In: Behavioural Interventions for Prevention and Control of Communicable Diseases, 2007.
2.  Hottes TS, Farrell J, Bondyra M, Haag D, Shoveller J, Gilbert M.  Internet-based HIV and sexually transmitted infection testing in British Columbia, Canada: opinions and expectations of prospective clients.  Journal of Medical Internet Research, 2012;14(2):e41.
3.  Shoveller J, Knight R, Davis W, Gilbert M, Ogilvie G.  Online Sexual Health Services: Examining Youth's Perspectives.  Canadian Journal of Public Health, 2012; 103(1).

## Table: Potential harms of internet-based testing and mitigation strategies

| Potential Harm | Mitigation Strategy | |
|---|---|---|
| | **Recommended by participants** | **Implemented/Planned** |
| Anxiety related to notification process | • Provide after hours access to supports (e.g., telephone line)<br>• Establish parameters for sending notification (e.g., not Friday afternoon)<br>• Generic wording of notification email/voicemail | • Link to *SmartSexResource* and after hours support services<br>• Follow current clinic notification practices<br>• Generic wording for notification emails<br>• Email only to be used for positive results if unable to contact by phone |
| Anxious testers ("worried well") | • Have ability to track/identify among service users<br>• Ability to intervene (e.g., make direct referrals for appropriate care) | • Will be monitored during pilot<br>• Review with Clinical working group to determine protocol for this scenario |
| Misperception, Misunderstanding | • Ensure appropriate educational content on website related to test limitations<br>• Include specific symptom information including images | • Information accessible throughout site related to test limitations and window periods.<br>• Link to SmartSexResource for discussion of symptoms |
| Inadequate Pre- and post-test counseling | • Provide equivalent information on website, with some mandatory information<br>• Include disclaimer regarding limitations and have clear consent process | • Provincial pre- and post-test discussion guidelines incorporated into site, with mandatory and optional content<br>• Consent page including acknowledgement of limitations as final step before printing requisition |
| Missed opportunities for education, prevention | • Include information and referrals for pap testing, HPV vaccine | • Testing recommendations will be tailored to assessment responses with information about vaccines, oral and rectal swabs, emergency contraception, post-exposure prophylaxis |
| Limited tests available | • Include HCV testing & educate about risk factors for sexual acquisition<br>• Have clear referrals to locations where clients can get additional tests<br>• Include questions related to different sexual acts (oral, anal) and make specific recommendations for tests<br>• Explain why certain tests are not offered (eg., not as good as clinical specimens) | • HCV testing will be included<br>• Information provided about additional tests needed based on assessment responses<br>• Planning for incorporation of self-collected specimens in scale-up phase<br>• Referral to BCCDC STI clinics on site and link to clinic finder on SmartSexResource. |
| Recommending inappropriate tests | • Give option to clients to select whether they want to go through assessment or skip straight to getting the test recommendations<br>• Encourage clients to provide accurate information (e.g., through disclaimer, encourage to select "prefer not to answer" instead) | • Emphasize importance of providing accurate information during assessment<br>• Clients have option of de-selecting any recommended test |
| Inadequate follow-up of positive results | • Provide information why use of a real name and telephone number is important, and if client uses a fake name to be consistent over time | • Provide information encouraging use of real name or a consistent pseudonym, and to provide a telephone number |

# Appendix 1:   Description of the *GetChecked* pilot program
(Model presented during focus groups and not the most current model).

## 1   Get a requisition



Create a profile, review pre-test information, complete an assessment, and print a requisition for STI tests.

- Create an account or login
- Create profile with mandatory (name, DOB, sex, email) and optional (phone number, postal code) fields
- Complete assessment part 1 (identify if symptoms or contact to STI and refer to clinic for test)
- Complete assessment part 2 (questions on sexual behaviour)
- Recommend tests & provide appropriate information/referrals
- Print laboratory requisition
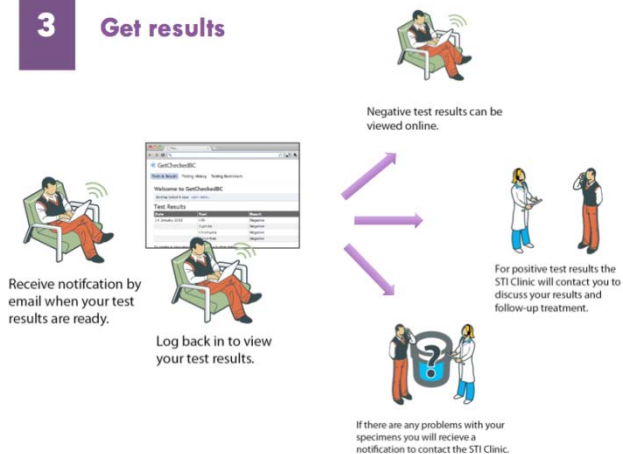- Set testing reminders

## 2   Give specimens



Go to a specimen collection location to have blood and urine samples collected.

- Present to specimen collection site and provide requisition form
- No ID required
- Submit blood and/or urine specimens
- Tests available: Chlamydia, gonorrhea, HIV, syphilis

## 3   Get results



Negative test results can be viewed online.

Receive notifcation by email when your test results are ready.

Log back in to view your test results.

For positive test results the STI Clinic will contact you to discuss your results and follow-up treatment.

If there are any problems with your specimens you will recieve a notification to contact the STI Clinic.

- All results negative: email notification results ready, log in to see all results
- Invalid or indeterminate test: email notification results ready, log in to see message to call clinic to discuss results
- Positive result: Clinic will call (if phone number) or email as soon as result received to arrange treatment and follow-up *(Note: this is the same process currently in use at BCCDC clinics)*

# Appendix 2:     Additional detailed suggestions from participants

## 1.  Promotion

- Consider advertising through the British Columbia Teachers' Federation and other organizations that work with youth
- Use incentives to promote the service (e.g. corporate sponsorship from Starbucks)
- Use bus advertising or banners
- Develop wallet cards describing the service

## 2.  Account creation

- When asking for phone number, give clients the option to indicate whether it's acceptable to leave a voicemail, or clearly indicate that clinician may need to contact them to leave a voicemail
- Include a password retrieval system
- For postal code, clients may not know their postal code so should include option to indicate area where they live.  Providing an explanation of the epidemiologic reason why asking for the information would be helpful.

## 3.  Assessment & recommended tests

- Indicate to clients ahead of completing part 1 (vs after) of the assessment that answers will be used to recommend when people need to go to the clinic (so that it doesn't scare patients)
- Include examples (images) of common symptoms, information about symptoms specific to STIs
- Consider how questions would be interpreted/answered by transgendered people
- Rephrase question about if partner have an STI to "have any of your partners told you that you need to get tested?"
- Ask if clients have used drug paraphernalia/crack pipes/dollar bills (2 groups)
- Ask if clients use social media to meet people
- Additional education pieces: Pap testing for women, HPV vaccine
- Provide different online questionnaires for men and women
- Have score after assessment is finished (e.g., you are high/ low risk)
- Explain why rectal swabs aren't included in this model
- Explain that STI = STD = VD (VD may be best known term in lay population)
- Holding site for requisitions how long? Two weeks to a month, forever

## 4.  Test types

- Consider offering women pregnancy testing at same time (useful for international students as they rarely have a GP and don't know what to do)
- Clear instructions re appropriate urine specimen collection
- Explain which tests are done by urine, which ones by blood (as may be needle-phobic)

## 5.  Specimen collection

- Needs to be integrated with more labs:
  - In areas where no private labs – other community-based labs

        ○ In areas with private labs so that have greater access (e.g., UBC hospital as no private lab in walking distance of UBC campus)
- May be challenges with specimen collection as staff are used to collecting and confirming identifying information when collecting specimens

## 6. Results

- Negative results: people often think that is bad, better to say "no X infection" – non-reactive is also confusing wording
- Consider referral for treatment directly to a pharmacy so no need to interact with a provider
-