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P 5.051

"There are a million scenarios to consider":

Health care provider perspectives on internet-based testing for sexually transmitted infections, HIV, and Hepatitis C in British Columbia

Mark Gilbert,[1,2] Travis Salway Hottes,[1] Cathy Chabot,[2] Devon Haag,[1] Jean Shoveller,[2] Gina Ogilvie,[1,2]

1. Clinical Prevention Services, BC Centre for Disease Control, Vancouver, Canada
2. School of Population and Public Health, University of British Columbia, Vancouver, Canada

For more information contact Dr. Mark Gilbert (mark.gilbert@bccdc.ca)

BACKGROUND:

- Internet-based testing programs for STI are increasingly available globally. Most research to date has been for Chlamydia screening programs, and show promising results.[1,2]
- A new internet-based testing program called *GetCheckedOnline* with testing for Syphilis, Chlamydia, gonorrhea, HIV and HCV will be launching later this year in Vancouver, British Columbia. The program has been designed through careful consultation with potential end-users (youth, men who have sex with men, STI clinic clients).[3,4]
- Online sexual health services such as internet-based testing represent a paradigm shift in the delivery of health care, and are integrated within and will affect existing systems of sexual health care. How health care providers perceive these programs is essential to understand but does not appear to be well-examined in the literature.

OBJECTIVE:

- We sought to understand the opinions of health care providers working in sexual and reproductive health of *GetCheckedOnline (GCO)* and how they perceived it integrating with their future practice

METHODS:

- In 2012, one investigator conducted six focus groups with a total of 49 participants (2-13 per group) in Vancouver (5 groups) and Victoria (1 group), British Columbia.
- Participants were nurses (21), physicians (12) or other clinic staff (16), and worked at a total of 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).
- Observers in each group took notes, supplemented by audio recordings where possible.
- Participants were presented with the *GCO* program model (Figure 1) and questioned about perceived risks, benefits, utility, and impact on/integration with their practice.
- Focus group notes were thematically analyzed using NVivo and findings validated with observers.

RESULTS:

1. The "brave new world" of health care

- Most providers described internet-based testing as an inevitable evolution within the current system of care.
- Perceived benefits included:
  - Shifting locus of control from provider to patients.
  - Addressing testing barriers such as access barriers for existing services (hours of operation, distance), privacy concerns, providers discouraging or refusing testing.
  - Increased engagement in sexual health care (e.g., reminders for pap testing), "getting people in the door".
  - Freeing up provider time and ability to see more complex patients.
- Providers considered *GCO* potentially cost-saving.
- Benefits may be offset by perpetuating existing inequities in populations that *GCO* is trying to reach (e.g., lack of rectal and throat swabs for MSM, requirement to print requisition), or use by highly functioning individuals who already have the resources necessary to access testing (e.g., tech "savvy", higher income).

2. "Doing the least harm" to clients

- Providers discussed the potential for *GCO* to cause personal harm including:
  - Anxiety at receipt of email or voicemail messages potentially indicating positive results, without ability to directly speak to a health care provider immediately.
  - Repeated use by anxious persons ("worried well") and missed opportunities to engage in appropriate care for their underlying anxiety.
  - Misunderstanding the limitations of tests offered (e.g., not understanding window periods or that not tested for all STIs).

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

- Providers were concerned that clinical harm would result related to the provision of inadequate or sub-standard clinical care compared to current "best practices", including:
  - Inadequate pre- and post-test counseling.
  - Missed opportunities for education and prevention (e.g., contraception).
  - Not offering necessary tests (e.g., no rectal/throat swabs).
  - Recommending inappropriate tests if users do not provide accurate information.
  - Not being able to follow-up on positive results (e.g. if fake contact information provided).

4. Integration with clinical care or own practice

- Providers indicated that they were likely to integrate *GCO* with their own practice, under certain scenarios:
  - For family physicians to access *GCO* for positive results for their patients.
  - Integration with existing online appointment and result systems (where available).
  - Referrals to *GCO* of low-risk clients or for triage of people seeking testing appointments.

Figure: Description of the *GetCheckedOnline* pilot program

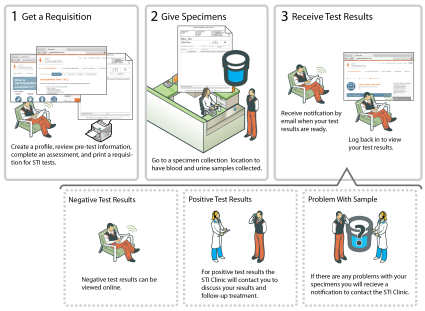

Table: Potential harms of internet-based testing & mitigation strategies

Potential Harm	Mitigation Strategy	
	Recommended by participants	Implemented/Planned
Anxiety related to notification process	· Provide after hours access to supports (e.g., telephone line) · Establish parameters for sending notification (e.g., not Friday afternoon) · Generic wording of notification email/voicemail	· Link to *SmartSexResource* and after hours support services · Follow current clinic notification practices · Generic wording for notification emails · 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 · Ability to intervene (e.g., make direct referrals for appropriate care)	· Will be monitored during pilot · Develop clinic protocol to address this scenario
Misperception, Misunderstanding	· Ensure appropriate educational content on website related to test limitations · Include specific symptom information including images	· Information accessible throughout site related to test limitations and window periods. · Link to *SmartSexResource* for discussion of symptoms
Inadequate Pre- and post-test counseling	· Provide equivalent information on website, with some mandatory information · Include disclaimer regarding limitations and have clear consent process	· Provincial pre- and post-test discussion guidelines incorporated into site, with mandatory and optional content · 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 · Have clear referrals to locations where clients can get additional tests · Include questions related to different sexual acts (oral, anal) and make specific recommendations for tests · Explain why certain tests are not offered (eg., not as good as clinical specimens)	· HCV testing will be included · Information provided about additional tests needed based on assessment responses · Planning for incorporation of self-collected specimens in scale-up phase · 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 · 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 · 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

CONCLUSIONS:

- Overall, providers expressed favorable opinions of internet-based testing in general and support for *GCO*, and findings echoed those from an earlier study of potential users of the service.
- While providers expressed concerns about potential harms, most also acknowledged that these risks were present with existing testing services, and recognized a trade-off between potential risks and benefits of the service.
- Participants also provided many suggestions for mitigation of potential harms, which have been incorporated into the *GCO* program where possible (Table).
- Our study speaks to the importance of understanding the perspectives of health care providers of online sexual health interventions.
- The findings from this study have informed a larger study held by our team to understand the broader health system impact of implementation of *GCO* in Vancouver, where we will also be assessing the perspectives of health care providers once *GCO* is implemented.[5]

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