

# Potential for internet-based testing to reach gay, bisexual, and other men who have sex with men in Canada facing current barriers to testing for HIV and STIs

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## BACKGROUND:

- Many jurisdictions have or are developing internet-based testing programs where individuals request testing through a website and receive results online/by phone, without requiring a clinic visit.
- There are a wide variety of models including home self-testing, tests for single or multiple infections, publicly funded or user-pay models.
- Internet-based testing may be well suited to gay, bisexual and other men who have sex with men (MSM) as a population with high rates of HIV and sexually transmitted infections (STI), high use of the internet to find sex partners, and demonstrated acceptance of other online services.
- While the impact of pilot internet testing programs for MSM have been assessed, the acceptability of internet testing among MSM has not to our knowledge.
- The BC Centre for Disease Control is developing an internet-based testing program *GetCheckedOnline*, which aims to reach MSM among others.

## OBJECTIVE:

- We used a large national sample of gay and bisexual men in Canada to describe intention to use internet-based testing, and perceived benefits and drawbacks of the service.

## METHODS:

### Sex Now Survey:

- Online survey of gay and bisexual men in Canada by the Community Based Research Centre (Vancouver).
- Face validity of questions ensured through focus groups, interviews and pilot testing.
- Recruitment through dating/sex-seeking websites (76%), community organizations (10%), word-of-mouth (9%).
- August 2011 to February 2012.
- Subset of questions related to internet-based testing added.
- Primary outcome was intention to use internet-based testing: "Suppose you could get tested by printing out an order form from a website that you could take to a lab, then get your results online. How likely is it that you would use this service?" [5-point Likert scale].
- Asked greatest perceived benefit and drawback (options based on prior research and drawn from the literature).
- Ethics approval: Independent Research Ethics Board, Behavioural Research Ethics Board at the University of British Columbia.

### Analysis:

- Intention to use dichotomized (very likely/likely, vs unlikely/very unlikely/never).
- Logistic regression to identify associations among 38 explanatory variables selected *a priori* based on existing literature and hypotheses, grouped into: sociodemographics (14 variables), internet and technology usage (6), STI/HIV risk (8), health care access and testing (10).
- All explanatory variables evaluated in full multivariable model; final model selected using Bayesian Information Criterion (BIC)
- Age (< / >= 30 years) and sexual orientation (gay, bisexual) were included *a priori* in all multivariable models, and we looked for interaction with all explanatory variables and included where significant.

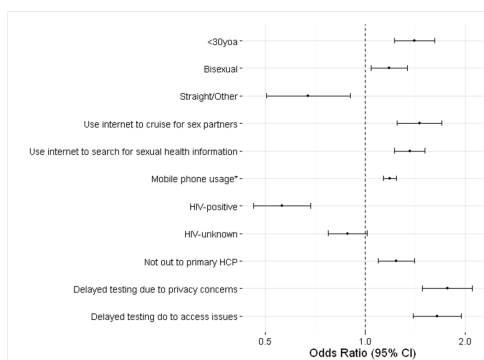
Table 1: Baseline Characteristics of SexNow participants (N=8388)

CHARACTERISTIC	%	CHARACTERISTIC	%
<b>Age</b>		<b>Ethnicity</b>	
< 30 years	22.2	Caucasian	87.2
30-45 years	27.5	Asian	2.5
45-55 years	27.7	Aboriginal	2.0
55+ years	22.7	Latino	1.3
<b>Sexual Orientation</b>		<b>Province</b>	
Gay	64.5	Prairies/Territories	7.8
Bisexual	32.4	BC	21.5
Straight/Other	3.1	Alberta	12.7
<b>Marital Status</b>		Ontario	40.2
Single	50.3	Quebec	12.5
Partnered to man	26.4	Atlantic	5.3
Partnered to woman	21.5	<b>Environment</b>	
<b>Education</b>		Urban	58.4
College/university	57.1	Suburban	26.4
High school/some college	42.9	Rural/remote	14.8
<b>Income</b>		<b>HIV status</b>	
< \$30 K	28.5	Negative	68.6
\$30-79K	49.5	Positive	8.0
>= 80K	21.9	Unknown	23.4

## RESULTS:

- Overall 72% (5678/7938) were likely/very likely to use internet-based testing, with little variation across sub-groups
- In the full model the following explanatory variables remained associated with **higher intention** to use service ( $p < 0.05$ ; variables with \* were selected into final BIC model):
  - **Sociodemographics (3/14 total variables evaluated):** age < 30 years\*, eastern provinces, 'out' at work to few or no people
  - **Internet and technology usage (4/6):** using internet to cruise for sex partners\*, using internet to search for sexual health information\*, greater mobile phone usage\*, early uptake of new technology
  - **STI/HIV risk (2/8):** having unprotected anal intercourse with unknown/discordant HIV status partner, HIV status (lower intention if HIV positive or unknown)\*
  - **Health care access and testing (4/10):** Poor satisfaction with health care services available, delaying/avoiding testing because of privacy concerns\*, delaying/avoiding testing because of access issues\*, delaying/avoiding testing because too far from clinic
- In the final BIC model, nine variables were retained (Figure 2)

Figure 2: Correlates of intention to use internet-based STI and HIV testing selected by BIC (final model)



Note: N=7938 excluding "not applicable" responses to intention to use internet testing; \* mobile phone usage measured on 3-point continuous scale; variables were selected based on lowest BIC; STI=sexually transmitted infection; BIC=Bayesian Information Criterion; HCP=healthcare provider; CI=confidence interval.

Table 2: Greatest perceived benefit and drawback to internet-based STI testing (N=8388)

PERCEIVED BENEFITS	%	PERCEIVED DRAWBACKS	%
Greater privacy	26.8	Wouldn't see doctor/nurse	18.0
Convenient	20.3	Want to talk to someone about results	17.0
Get tested whenever	12.5	Don't want results online	12.9
No nurse or doctor	9.8	Low trust in service	11.6
Save time	7.4	No printer	2.0
No waiting for appointment	5.3	Other (not specified)	1.9
No worry about running into someone you know	2.9	No particular drawback	36.6
Other (not specified)	0.7		
No particular benefit	14.3		

Note: Respondents were asked to choose one greatest benefit and one greatest drawback. Similar results were obtained as part of a sensitivity analysis restricted to participants intending (benefits; n=5678) or not intending (drawbacks; n=2250), or for participants reporting delaying/avoiding HIV or STI testing in the past 12 months (n=4447).

## CONCLUSIONS:

- Overall, intention to use is high (72%) and wide-ranging in this large online sample of gay and bisexual men in Canada, with little variation by sub-groups examined
- In our final model, among the four groups of explanatory variables, greater technology & internet use was most influential (3/6 retained in final model), followed by poorer access to health care including barriers to testing
- Men identifying as HIV positive were less likely to intend to use internet-based testing confirming previous qualitative findings (most likely related to adequate STI testing access through routine care)
- Understanding perceived benefits and drawbacks will inform promotion of *GetCheckedOnline* to MSM in BC

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