Investigating selection bias: Cross-sample comparison of gay and bisexual men concurrently recruited from an STI clinic, sex-seeking apps, and a pride event in British Columbia, Canada


Vancouver, Canada

July 12, 2017
STI & HIV World Congress
1. **Random sampling?**: No defined sampling frame
2. **RDS?**: Costly/time-intensive, unclear generalizability
3. **Convenience samples**
GetCheckedOnline is a new and easy way to test for sexually transmitted infections (STI) in British Columbia, Canada. In a few steps, you can print a lab form, then go to a participating LifeLabs site to give your samples and get your results online or over the phone.

Learn more

What about other STIs?
GetCheckedOnline does not test for all STIs. If you want to get tested for other kinds of STIs, you will need to visit a clinic or see your doctor.

Learn more

What’s New?
Throat and rectal swabs are now available!

Good news! GetCheckedOnline now offers throat and rectal swabs for chlamydia and gonorrhea testing. Please be aware that if swabs are recommended for you but you do not bring your swabs back to LifeLabs, you will not be able to see your results online.
Motivation

Online HIV and STI testing...
Love it? Hate it? Never heard of it?
The BC Centre for Disease Control wants your feedback.

Want to get tested for sexually transmitted infections?

Take the survey!

Now you can get checked online. From laptop to lab, STI testing is in your hands.

GetCheckedOnline.com
Survey of GBMSM

• **Objectives:**
  – **Survey:** To measure awareness and acceptability of *GetCheckedOnline* among GBMSM
  – **Analysis:** To characterize differences across multiple venue convenience samples, and overlap between samples

• **Methods:**
  – July – December 2016
  – Eligibility:
    • Identification as gay, bisexual or MSM (including cis & trans men)
    • Age > 15
    • Able to complete a survey in English
    • Resides in BC
Multi-venue sampling
Multi-venue sampling

Pride

Apps
Multi-venue sampling

Pride

Apps

STI Clinics
Methods for estimating sample overlap

10. Where do you usually go to get testing for HIV or STIs? (check all that apply)
- Family physician
- Walk-in medical clinic
- Public health STI clinic
- Youth clinic
- Health Initiative for Men (HIM) clinic
- At a hospital or emergency room
- Through GetCheckedOnline
- Other: ____________________________
- No usual place
- I’ve never been tested for HIV/STIs

21. Which of the following websites or apps do you currently use? (check all that apply)
- BarebackRT
- Craigslist
- Facebook
- Grindr
- Growlr
- Hornet
- Instagram
- Jackd
- Manhunt
- Scruff
- Snapchat
- Squirt
- Twitter
- Youtube

23. Have you visited any of the following in the last 3 months? (check all that apply)
- Gay bar, pub, or nightclub
- Bathhouse
- LGBT organization (HIM, Qmunity, etc.)
- Gay social, recreational or sporting group
- Vancouver pride festival or event
- Other community events for LGBT individuals
Results: N=1272

- Pride: N=307
- Apps: N=662
- STI Clinics: N=303
Aware of GCO

- Pride: 30%
- Apps: 32%
- STI clinic: 37%

Intend to use GCO

- Pride: 42%
- Apps: 52%
- STI clinic: 47%

* p<0.05

*
Socio-demographics

- Bisexual
  - Pride: 7%
  - Apps: 9%
  - STI clinic: 24%

- <30 years
  - Pride: 29%
  - Apps: 16%
  - STI clinic: 47%

- East Asian
  - Pride: 13%
  - Apps: 5%
  - STI clinic: 14%

- Latino
  - Pride: 6%
  - Apps: 3%
  - STI clinic: 13%

*p < 0.05*
Sex partners & testing

>10 sex partners (past year)

- Pride: 21%
- Apps: 35%
- STI clinic: 28%

STI/HIV test (past year)

- Pride: 73%
- Apps: 75%
- STI clinic: 82%

* p<0.05
Daily social media user

- Pride: 62%
- Apps: 69%
- STI clinic: 71%

Pokémon Go user

- Pride: 25%
- Apps: 17%
- STI clinic: 29%

* p<0.05
Sample overlap, N=1272
Sample overlap, N=1272
Sample overlap, N=1272

78%
Sample overlap, N=1272

Pride only: 11%
STI clinic only: 4%
Apps only: 7%
Conclusions

• **Cross-sample comparisons:**
  - STI clinic: younger, greater ethno-racial diversity, highest rate of testing
  - Apps*: older, more bisexual men, greatest number of sex partners
  - Pride: somewhere in the middle

* Scruff, Squirt, Hornet

• **Overlap:**
  - Only 19% of respondents were ‘eligible’ to be sampled from all 3 venues
  - 11-18% of respondents would be absent from the sample if we had used only one sampling method
Recommendations

- **Design stage:** Increase application of diverse sampling methods (both old and new)

- **Analysis stage:** post hoc assessments of selection bias; and/or adjustment techniques

- **Feasibility**
Reach and acceptability of an online HIV/STI testing service among gay, bisexual, and other men who have sex with men living in British Columbia, Canada

**BACKGROUND:**
- Gay, bisexual, and other men who have sex with men (GBMSM) in British Columbia (BC) have high incidence of HIV/STI, and many report barriers to accessing testing.
- GetCheckedOnline (GCO, getcheckedonline.com) was launched in 2014 to reduce these barriers.
- GCO involves 3 main steps:
  1. Create account, complete an assessment, and print a laboratory requisition (online)
  2. Provide blood, urine, and swab specimens at a laboratory (in-person)
  3. Receive test results (online or by phone)
- During 2015, promotional efforts were focused on inviting GBMSM to access the service.

**OBJECTIVE:**
- To assess reach and acceptability of GCO within the BC GBMSM community, 2 years after its launch

**SURVEY METHODS:**
- **Eligibility:** self-identification as GBMSM; age >16; English-speaking; resides in BC
- **Recruitment** (July - September 2016), see Figure 1:
  1. Vancouver Pride events, bars, streets (in-person surveys)
  2. Sexual health clinics targeting GBMSM (clinic surveys)
  3. Social media, gay hook-up apps and websites (online surveys)
- Analysis was descriptive, focused on the following outcomes:
  - Awareness of GCO
  - Use of GCO
  - Intention to use GCO in future
  - Perceived benefits/drawbacks of GCO

**RESULTS:**
- N=1272 GBMSM participated
- Median age was 38 (range: 18-86)
- 78% identified as gay, 16% as bisexual
- 73% reported a white ethnic identity
- 52% were single
- 55% resided in Vancouver, BC (urban centre)

<table>
<thead>
<tr>
<th>Outcome</th>
<th>%</th>
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<tbody>
<tr>
<td><strong>Benefits:</strong></td>
<td></td>
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<tr>
<td>Testing without waiting for an</td>
<td>50</td>
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<tr>
<td>appointment at the clinic</td>
<td></td>
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<tr>
<td>Getting results online</td>
<td>46</td>
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<tr>
<td>Saving time</td>
<td>38</td>
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<tr>
<td><strong>Drawbacks:</strong></td>
<td></td>
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<td>Not speaking with a doctor or nurse</td>
<td>39</td>
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<tr>
<td>Not understanding how service works</td>
<td>26</td>
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<tr>
<td>Worried about privacy of one's online information</td>
<td>20</td>
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</tbody>
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**CONCLUSIONS:**
- Reach: Two years after GCO’s launch, 1/3 of GBMSM are aware of the service (of whom 1/10 have used it).
- Acceptability: Half of those aware intend to use GCO.
- Diffusion: An additional 51% of those aware of GCO have talked about the service, while 22% know someone who has used it, indicating substantial observability—a theoretical factor thought to induce ongoing diffusion of new technologies (Berwick, JAMA 2003).
- Overall, these findings highlight the importance of ongoing promotion to raise awareness of this testing alternative for GBMSM.