

Comparing frequency of testing between individuals accessing sexually transmitted and blood-borne infection testing online and in clinic

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BACKGROUND:

- Internet-based sexually transmitted and blood-borne infection (STBBI) testing services reduce testing barriers by bypassing face-to-face clinical encounters, thereby potentially enabling clients at ongoing sexual risk to test more frequently.
- GetCheckedOnline* (GCO, getcheckedonline.com) is an online testing service that launched in Vancouver, Canada in 2014.
- GCO is integrated with local public health STBBI clinics, such that clients may choose to use GCO either as a replacement for or an adjunct to in-person clinic services.

OBJECTIVES:

Using a “virtual cohort” of individuals accessing STBBI testing online (GCO) or in the STBBI clinic, we sought to:

- Describe the overlap between GCO and clinic in STBBI testing patterns;
- Estimate the rate of repeat testing by intervention group (online versus in-person testers); and,
- Estimate the association between intervention group and rate of repeat testing, accounting for covariates known to influence test frequency.

METHODS:

Data sources:

- GCO database records and STBBI clinic records were deterministically linked to establish a cohort of all GCO and STBBI clinic clients.
- The cohort was then probabilistically linked to the provincial laboratory database to identify STBBI tests (HIV, syphilis, chlamydia, gonorrhea, or hepatitis C) that occurred outside of GCO and STBBI clinics.

Eligibility:

- Testing at least once for STBBI using GCO or one of 3 STBBI clinics in Vancouver between September 9, 2014 (GCO launch) and February 8, 2017 (+29 months)
- Residence in the Greater Vancouver region

Comparison groups:

- The GCO intervention group included those who tested using GCO at least once, regardless of whether they also tested in one of the STBBI clinics.
- The clinic comparator group included those who tested in one of the STBBI clinics but *not* using GCO.

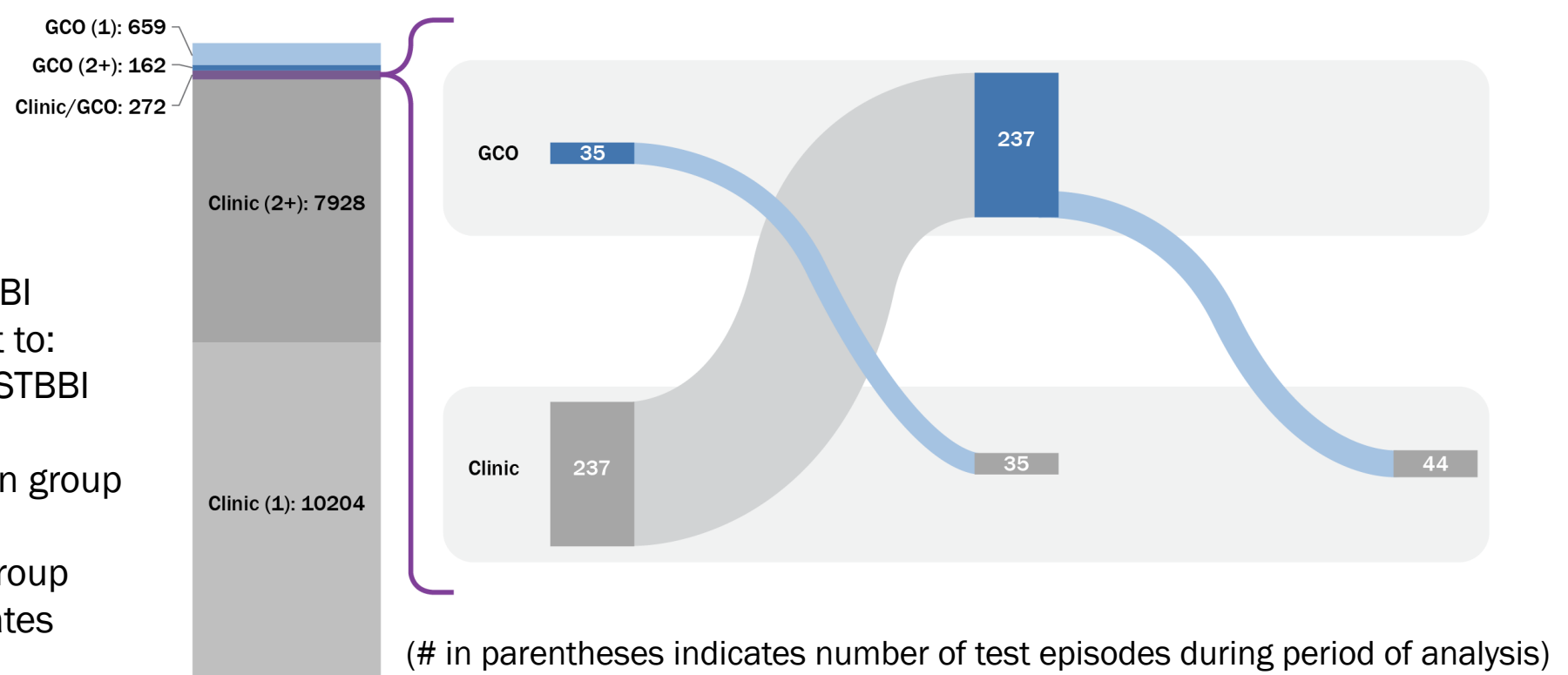
Analysis:

- Repeat tests were defined as tests for any STBBI occurring >30 days after a first test episode at GCO or STBBI clinic.
- Poisson regression was used to model the association between intervention group and rate of repeat testing, with adjustment for covariates.

RESULTS:

- In total, 1,093 unique GCO clients and 18,404 unique STBBI clinic clients were included in the cohort.
- 272 clients (25% of GCO clients; 1% of clinic clients) tested using both modalities.
 - Of these clients, 237 first tested in an STBBI clinic, then subsequently tested using GCO (44 later returned to an STBBI clinic for testing). 35 clients first tested using GCO and later tested in clinic. (Figure)

Figure. Overlap between GCO and clinic testing patterns



- GCO clients repeat tested 1.87 times per person-year during the post-intervention period.
- By comparison, clinic clients repeat tested 1.53 times per person-year during the same period.
- The crude rate ratio (RR) comparing GCO clients to clinic clients was 1.22 (95% CI 1.14, 1.31).

Table. Multivariable associations between intervention group and post-intervention rate of repeat testing

Variable	Adjusted RR (95% CI)
GCO (ref: clinic)	1.30 (1.19, 1.41)
Age (ref: <30 years)	
30-39 years	1.05 (1.00, 1.09)
40+ years	1.09 (1.05, 1.14)
Gender/partner gender (ref: women)	
MSM	2.09 (1.99, 2.20)
MSW	0.82 (0.77, 0.88)
HIV positive partner	1.68 (1.59, 1.77)
Pre-intervention rate of testing	1.28 (1.26, 1.31)

CI=confidence interval; MSM=men who have sex with men; MSW=men who have sex with women

CONCLUSIONS:

- Individuals using GCO at least once had a rate of repeat testing 22% greater than those who relied only upon STBBI clinic-based testing.
- The online interface of GCO appears to facilitate more frequent testing and may therefore contribute to earlier STBBI diagnosis.
- In this cohort, some clients used both online testing and STBBI clinic-based testing; greater longitudinal follow-up is needed to better understand how clients use online and in-person testing in conjunction.

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