SHORT PAPER

Title: Linking ad views to test results: Assessing the impact of a social marketing campaign on program outcomes for users of an internet-based testing service for sexually transmitted and blood-borne infections

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AUTHOR CONTRIBUTIONS

MG, TS, DH, MB conceived the overall evaluation design, and worked with MK and JE on design, implementation and data collection related to the JMS campaign. TS led the data analysis, with all authors provided input into the data analysis and interpretation. MG and TS led the drafting and revision of the manuscript, with input from all authors. All authors have reviewed the final version and provided approval for publication.

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ABSTRACT

Background: While social marketing campaigns can be effective at increasing testing for sexually-transmitted and blood-borne infections (STBBI) they are rarely rigorously evaluated and often rely on process measures (e.g., online ad click-throughs). With online campaigns for internet-based health services, there is the potential to connect campaign process measures to program outcomes, permitting assessment of campaign venue-specific yield based on actual health outcomes (e.g., click-throughs per test).

Objective: We evaluated the impact of a SM campaign by promotional venue on use and diagnostic test results of the internet-based STBBI testing service Getcheckedonline.com (GCO).

Methods: Through GCO clients create an account using an access code, complete a risk assessment, print a lab form, submit specimens at a lab and get results online or by phone. From April-August 2015 a campaign promoted GCO to gay, bisexual and other men who have sex with men (GBMSM) in Vancouver, Canada. The campaign promoted GCO’s convenience in three types of promotional venues: location advertisements in print or video displayed in gay venues or events, ads on an online queer news website, and ads on geosocial websites and apps. Individuals were tracked from campaign exposures to account creation and testing using venue-specific GCO access codes. Online ads were linked to alternate versions of the campaign website which used links with embedded specific access codes to the GCO website to connect ad exposure to account creation. We examined the number of individuals creating GCO accounts, number tested, and cost per account created and test for each venue type.

Results: Over 6 months, 177 people created a GCO account as a result of the campaign and 39 (22%) completed testing; the overall cost was $118 CDN per account created and $533 CDN per test. Ads on geosocial websites and apps accounted for 71% of all accounts; ads on the news website had the lowest
testing rate and highest cost per test. We observed variation between different geosocial websites and apps with some ads having high click-through rates yet low GCO account creation rates, and vice versa.

**Conclusions:** Developing mechanisms to track individuals from online exposure to social marketing campaigns to outcomes of internet-based health services permits a greater evaluation of the yield and cost effectiveness of different promotional efforts. Online ads with high click-through rates may not have high conversion to service use, the ultimate outcome of SM campaigns.

**KEYWORDS:**
Men who have sex with men; Diagnostic tests; Internet; Social marketing; ; Advertisements; Health promotion
INTRODUCTION

Social marketing (SM) campaigns promoting testing for sexually-transmitted and blood-borne infections (STBBI) can effectively increase uptake of testing [1,2]. However, SM testing campaigns are rarely evaluated rigorously due to pressures of real-world implementation (e.g., evaluation budget, difficulty determining campaign-specific effects in an exposed population) [1,3]. Online elements of SM campaigns are often evaluated through monitoring the number of views (impressions) of online ads, and comparing the proportions of individuals clicking through to visit (click-through rate) and use a website or service (conversion rate) [4,5]. This information is used to identify promotional venues with higher yield, allowing redirection of efforts to optimize campaign reach and inform future campaigns [1].

More robust evaluations of SM campaigns are possible for campaigns promoting online or internet-based health services, where users are tracked through service progression. If designed appropriately, campaign evaluations could follow individuals from their initial campaign ad view through to their program outcomes, permitting an assessment of yield of different venues based on actual health outcomes. In this paper, we describe the results of using such a design to evaluate the impact of a SM campaign on increasing uptake of GetCheckedOnline.com (GCO) [6] an internet-based STBBI testing service in British Columbia (BC), Canada.

METHODS

GetCheckedOnline

GCO is an internet-based testing service for STBBI developed by the BC Centre for Disease Control (BCCDC), with a goal of overcoming existing testing barriers among populations with high rates of infection. We have previously published a full description of the GCO program [7]. In brief, users go through 5 steps to test through GCO: 1) create an account; 2) complete a risk assessment; 3) print a
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laboratory requisition form; 4) provide specimens in-person at a private lab (with testing for HIV, syphilis hepatitis C, chlamydia and gonorrhea); 5) receive results online if negative, or by phone if positive or indeterminate. GCO accounts are created by entering an access code on the homepage unique to a specific promotion strategy or venue. Individuals can also be invited to use GCO by e-mails with a link to the account creation page.

GCO launched in 2014, initially targeting gay, bisexual and other men who have sex with men (GBMSM) in the Vancouver region. Most GBMSM in BC regularly test, with 65% and 62% reporting STI and HIV testing respectively in the past year [8]. However, many GBMSM report delaying testing due to barriers including inability to access clinics or privacy concerns [9]. In formative research, GBMSM found GCO acceptable with high intention to use, particularly among men facing testing barriers, perceiving benefits including greater privacy, convenience, control over testing, and not needing to see a health care provider [9, 10].

Campaign development

The SM campaign aimed to increase the awareness and uptake of GCO among GBMSM. The BCCDC partnered with the Health Initiative for Men (HIM), a community-based gay men’s health organization, which led the development and implementation of the campaign. The campaign focused on promoting the convenience of GCO, aiming to reach GBMSM avoiding or delaying testing due to access-related barriers (e.g., wait-times for appointments), developed in consultation with an advisory committee of GBMSM and sexual health nurses and a small convenience sample of HIM clinic clients. The campaign concept (Figure 1) was “Some things just make sense online”, designed to use humour based on popular social media sites to motivate viewers to visit the JustMakesSense (JMS) campaign website [11] which emphasized the convenience and confidentiality of the service. Campaign materials included a website, videos, online ads, and print media (e.g., posters, postcards).
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Figure 1: Examples of promotional campaign materials used for an internet-based testing service for sexually transmitted and blood-borne infections (GetCheckedOnline.com), including online banner advertisements (top), and in print (bottom).

Tracking program outcomes by promotional venue

The campaign ran from April to August, 2015. We used three venue types for promotion, each having a unique route to account creation permitting us to track testing outcomes (Figure 2). Location ads (print, video) included the JMS website address and an access code unique to each location (i.e., gay bars and clubs, sex on premises venues, community spaces, businesses, and a lesbian, gay, bisexual and transgender (LGBT) film festival). On the JMS website visitors entered an access code and proceeded to the account creation page on GCO; visitors without a code could request an e-mail invitation (Figure 2). We also used two types of online promotional venues: advertising in an online LGBT news website, and advertising on geosocial websites and apps used by GBMSM to find sex partners (Grindr, Jack’d, Manhunt, Squirt, Scruff). To track testing outcomes for each online venue, each post or ad contained a
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link to a unique, alternate copy of the JMS website. From each alternate site, visitors proceeded to the
GCO account creation page by clicking a link containing an embedded access code unique to each online
venue, which could then be associated with each account created.

Data analysis

Our primary outcome was the number of individuals creating GCO accounts by promotional venue type;
secondary outcomes included the number of individuals tested, and costs per account created and
individual tested. We collected available data from website or app vendors on impressions and click-
through rates and extracted GCO program data. For each type of promotional venue, we calculated the
number of GCO accounts created, and proportion completing testing. For online venues, we described the
number of campaign impressions and clicks through to alternate JMS campaign websites. We also
described the number of visitors creating accounts by requesting an invitation on the campaign website
and their testing outcomes.

Ethics

Our analysis was conducted under a program evaluation mandate using data routinely collected by
BCCDC or through contracts with online ad vendors. Use of individual-level GCO program data is
permitted for evaluation under the terms of service agreed to by all GCO users.

**Figure 2:** Description of routes to account creation on GetCheckedOnline.com (GCO) during the JustMakesSense (JMS) campaign

**A. Visitors to JMS main website**

![Diagram A: Visitors to JMS main website](image)

**B. Visitors from online promotional venues to alternate JMS sites**

![Diagram B: Visitors from online promotional venues to alternate JMS sites](image)
RESULTS

Overall, 177 individuals created a GCO account as a result of the campaign and 39 (22%) completed testing; all results were negative (Table 1). The greatest number of accounts was from individuals viewing campaign images on geosocial apps (83, 47%) followed by individuals requesting an invitation from the campaign website (52, 29%), location ads (21, 12%) and online news (20, 11%). Completion of testing showed little variation across venues, with the exception of online news (5%). We spent CDN $20,801 on promotion; the average cost was $118 per account created and $533 per test (Table 2). The most costly approach per account created was geosocial apps ($211), followed by online news ($105) and location ads ($53). Online news had the highest cost per test ($2,104). Over 19 million impressions of the JMS campaign occurred through geosocial apps, with the highest click-through rate on Grindr (0.7%). The greatest numbers of accounts were created from ads on Manhunt and Squirt, resulting in low costs per account created ($83 and $213, respectively).

Table 1: Outcomes by promotional venue

<table>
<thead>
<tr>
<th>Promotional venue</th>
<th>No. exposed to campaign / Number of impressions</th>
<th>No. visited JMS websites (% of click-through)</th>
<th>No. created account (% of visited JMS site)</th>
<th>No. completed testing (% of accounts created)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requested invitation</td>
<td>---</td>
<td>---</td>
<td>52</td>
<td>14 (26%)</td>
</tr>
<tr>
<td>Location ads</td>
<td>---</td>
<td>---</td>
<td>21</td>
<td>5 (24%)</td>
</tr>
<tr>
<td>Online news</td>
<td>195,120</td>
<td>260 (0.1%)</td>
<td>20 (7.7%)</td>
<td>5 (24%)</td>
</tr>
<tr>
<td>Geosocial apps (all)</td>
<td>19,232,363</td>
<td>41,227 (0.2%)</td>
<td>83 (0.20%)</td>
<td>19 (23%)</td>
</tr>
<tr>
<td>Grindr</td>
<td>3,443,423</td>
<td>24,975 (0.7%)</td>
<td>5 (0.02%)</td>
<td>2 (40%)</td>
</tr>
<tr>
<td>Jack’d</td>
<td>366,744</td>
<td>655 (0.2%)</td>
<td>1 (0.15%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Manhunt</td>
<td>299,284</td>
<td>547 (0.2%)</td>
<td>33 (6.03%)</td>
<td>11 (33%)</td>
</tr>
<tr>
<td>Squirt</td>
<td>1,355,044</td>
<td>1,822 (0.1%)</td>
<td>37 (2.03%)</td>
<td>6 (16%)</td>
</tr>
<tr>
<td>Scruff</td>
<td>13,767,868</td>
<td>13,228 (0.1%)</td>
<td>7 (0.05%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Total</td>
<td>19,427,483</td>
<td>41,487 (0.2%)</td>
<td>177 (0.30%)</td>
<td>39 (22%)</td>
</tr>
</tbody>
</table>

Table 2: Costs by promotional venue
**DISCUSSION**

Here we describe a method to use venue-specific access codes to connect exposure to campaign ads to outcomes of using an internet-based testing service. While commonly applied in e-commerce (e.g., linking ad exposures to online purchases) we have demonstrated the value of this evaluation method is for online health services in understanding the yield of campaign ads in different online promotional venues. For example, just under half of all GCO accounts were created as a result of ads on geosocial apps, where we spent the bulk of our promotional budget. While Grindr had the highest click-through rate, and would therefore typically be considered a successful promotional venue, Grindr had the lowest proportion of accounts created and a higher cost per account and per test. On the other hand, Manhunt and Squirt had lower click-through rates, but higher proportions of accounts created and comprised the majority of tests conducted among geosocial apps – a higher yield in terms of program outcomes. We also observed the highest account creation rate among individuals exposed to our online news advertisement, although a much lower proportion proceeded to test. These findings may be related to differences in the characteristics of GBMSM on these different websites and apps, such as differences in response to the JMS campaign (influencing click-through rates), or differences in behavioural risk or testing barriers (influencing account creation and testing rates) [12]. Our findings also demonstrate that promotion in physical in addition to online venues is important and cost-effective, as location ads had the lowest cost.
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per account of all venues. We were unable to account for view through conversion, where GBMSM seeing campaign ads may have later requested a GCO invitation on the campaign website (29% of all accounts created).

We did not observe a large uptake in testing as a result of the JMS campaign. The 39 individuals testing through GCO may be “early adopters” of this intervention with ongoing diffusion of this innovation through GBMSM networks [13]. A shift in message may also be needed, as feedback from GBMSM and providers following the campaign suggested convenience may not be the best selling point given the relative availability of STBBI testing services for GBMSM in the Vancouver area [personal communication by Edwards J, November 2016]. This may explain why only 1 in 5 men creating accounts tested through GCO, a measure associated with motivation to get tested in our prior evaluations [14].

In conclusion, our study demonstrates the value of developing mechanisms for tracking individuals from their online exposure to SM campaign ads about an online health service to their program outcomes. We found that online venues with high click-through rates may not always have high conversion to service use, which is ultimately the desired outcome of SM campaigns. We are continuing to use venue-specific access codes to evaluate promotional efforts as GCO expands to other communities across BC.

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CONFLICTS OF INTEREST:

The authors have no conflicts of interest to disclose.
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ABBREVIATIONS:

BC: British Columbia
BCCDC: British Columbia Centre for Disease Control
GBMSM: gay, bisexual and other men who have sex with men
GCO: GetCheckedOnline.com
JMS: JustMakeSense
LGBT: lesbian, gay, bisexual and transgender
SM: Social marketing
STBBI: Sexually-transmitted and blood-borne infections
REFERENCES


Archived at: http://www.webcitation.org/6w1wBT2g3

