Effectiveness of using Grindr broadcast to increase syphilis testing among men who have sex with men in Darwin, Australia

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Background

- Diagnosis of locally acquired infectious syphilis was rare in Darwin in recent years.
  - 2010: 3 cases
  - 2011: 2 cases
  - 2012: 0 cases
  - 4/5 of these diagnosed at the local sexual health clinic (Clinic 34)

- Between Feb and Jul, 2013, 5 new cases were diagnosed in Darwin (all at Clinic 34, 3 in Jul)
  - All non-Indigenous MSM with multiple local contacts
  - All locally acquired
  - Contact tracing was unable to reach all identified contacts
  - A local outbreak was suspected.
  - The NT CDC decided to launch a public health response to alert local MSM community about the outbreak.

The social media campaign

- As the outbreak was limited to the MSM community only, it was decided that a MSM-specific social media campaign was appropriate.
  - The CDC collaborated with the NT AIDS and Hepatitis Council (NTAHC) to run a social media campaign for this public health response.
  - Objectives of the campaign:
    - To inform and alert the MSM community about the outbreak
    - To increase syphilis testing in MSM clients at Clinic 34

Grindr

- A smartphone app launched in 2009
- Available for iOS, Android and BlackBerry platforms,
- 4 million users in 192 countries globally
- MSM-specific geo-social networking app (using GPS) used to find information and to facilitate sexual partnering
- Known to be the most popular one among such apps in Darwin
The Grindr broadcast for the campaign

- Broadcast period (27 days, 17 Jul-12 Aug)
- 7 consecutive days (17-23 July)
- On Fri-Sun of the 3 subsequent weeks

- The message popped up when the app Grindr was opened.

Covered area: centred on Darwin, reaching as far as Katherine to the south

Click 'More'→ Drama Downunder webpage

Grindr ‘block messages’

- Grindr users sometimes use the ‘block’ function to block people they did not want to link to.
- The Campaign paid for a function on Grindr to enable 1 of the 3 ‘block messages’ to pop up when the function was used, for a total of 10,000 times.

Campaign message in the NTAHC eNewsletter
Evaluation methods

- Impact on awareness enhancement of the outbreak
  - Assess with a surrogate measure: exposure to the campaign messages on Grindr

- Grindr usage statistics
  - Overall views and unique views of the broadcast message
  - Click-through-rate (CTR, calculated by dividing the number of click-throughs by the number of total views)

Results – Grindr usage statistics

- Overall views: 9,812 (including repeated views by the same users), average: 350.4 views/day
- Unique views: 1,897 (equivalent to the number of unique users), average: 67.8 views/day
- 103 click-throughs, click-through-rate: 1.0%

Results – clinic attendance and syphilis testing statistics at Darwin Clinic 34

- A. number of consultations

Statistics of monthly number of consultations for all clients, Clinic 34, Darwin

Statistics of monthly number of consultations for all MSM clients, Clinic 34, Darwin
Statistics of monthly number of consultations for MSM seeking testing, Clinic 34, Darwin

Monthly Number of Consultations for MSM Seeking Testing

Note: The whiskers above and below monthly averages (green line) represent the upper and lower bounds of the 95% confidence interval.

Results – clinic attendance and syphilis testing statistics at Darwin Clinic 34

B. number of syphilis tests

Statistics of monthly number of syphilis screening tests for all clients, Clinic 34, Darwin

Monthly Number of Syphilis Tests for All Clients

Note: The whiskers above and below monthly averages (green line) represent the upper and lower bounds of the 95% confidence interval.

Statistics of monthly number of syphilis screening tests for all MSM clients, Clinic 34, Darwin

Monthly Number of Syphilis Tests for All MSM

Note: The whiskers above and below monthly averages (green line) represent the upper and lower bounds of the 95% confidence interval.

Statistics of monthly number of syphilis screening tests for MSM seeking testing, Clinic 34, Darwin

Monthly Number of Syphilis Tests for MSM Seeking Testing

Note: The whiskers above and below monthly averages (green line) represent the upper and lower bounds of the 95% confidence interval.

Statistics of consultations and syphilis testing by client groups and time periods, Clinic 34, Darwin

<table>
<thead>
<tr>
<th>Category and client group</th>
<th>July average (95%CI) for 2008-2012</th>
<th>Average (95%CI) for other months, 2013</th>
<th>July, 2013</th>
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</thead>
<tbody>
<tr>
<td>Consultations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>all clients</td>
<td>736.6 (656.7-816.5)</td>
<td>640.9 (583.9-707.9)</td>
<td>736*</td>
</tr>
<tr>
<td>all MSM</td>
<td>92.8 (84.3-101.3)</td>
<td>95.6 (85.8-101.5)</td>
<td>111**</td>
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<tr>
<td>MSM seeking testing</td>
<td>19.2 (12.8-25.6)</td>
<td>22.4 (18.9-25.9)</td>
<td>39**</td>
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<tr>
<td>Syphilis tests</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>all clients</td>
<td>173.8 (158.5-189.0)</td>
<td>215.7 (203.5-228.0)</td>
<td>291**</td>
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<tr>
<td>all MSM</td>
<td>19.2 (14.5-23.9)</td>
<td>27.2 (24.8-29.5)</td>
<td>52**</td>
</tr>
<tr>
<td>MSM seeking testing</td>
<td>13 (8.0-18.0)</td>
<td>16.9 (14.5-19.3)</td>
<td>31**</td>
</tr>
</tbody>
</table>

* indicates significant increase over the July average for 2008-2012.
** indicates significant increase over the average for other months of 2013.
Discussion-1

- Significant increase in clinic consultations and syphilis screening tests in MSM clients at Clinic 34 shortly after the campaign commenced in mid-July 2013.

- This increase was most likely due to the effect of the social media campaign, because it
  - coincided with the campaign period,
  - did not occur universally to all clients of the clinic,
  - did not represent a recurring seasonal increase, and
  - was unique among the months of 2013.

Discussion-2

- It was likely that a high proportion of MSM in Darwin were exposed to the campaign message.
  - 1,897 unique views (i.e. unique users)
  - Compared with the estimated number of homosexual and bisexual men in NT: 647 (estimated in 2001).*

- It was likely that many users were exposed to the campaign message multiple times
  - 9,812 overall views vs 1,897 unique views → mean: 5 views per user, during the campaign period

* Prestage G. et al. 2008

Discussion-3

- Geo-social networking smartphone apps
  - Examples: Grindr, Scruff, Adam4Adam
  - Have been used as a recruitment tool for surveys and intervention programs to efficiently and effectively target the MSM population in recent years

- This is the first time in Darwin that such apps were used in an outbreak situation to spread important disease control messages.

Limitations

- No clinic client survey for process evaluation
- No evaluation of the impact by other media used
- Possible data loss on syphilis testing
  - Some might get tested at their GPs.
  - This should not change the results.

Conclusions

- The social media campaign was effective in
  - enhancing awareness about the outbreak, and
  - increasing syphilis testing in MSM clients at Clinic 34.
- Grindr broadcasting appeared effective in reaching out to the MSM community→ can be used to spread public health messages, such as in outbreak situations.
  - relatively low cost, but effective and efficient
  - possibly only of short-term effectiveness?
- The approach of working with an NGO with suitable expertise to launch an urgent public health response in an outbreak situation among MSM has proven efficient and effective.

Acknowledgement

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