Evaluation of a syphilis outbreak intervention among men who have sex with men in Vancouver, Canada

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Conflict of Interest

We have no conflicts of interest to disclose
Number of Infectious Syphilis Cases per 100,000 population in Vancouver by Gender, 2003-2013

- 77% of new diagnoses among males identified as men who have sex with men (MSM)
Public

- News Release #1
- News Release #2
- 600 posters distributed in MSM venues
- Ads in MSM Media

Health Care

- Men's Health Clinic Mail Out
- Syphilis testing recommendations from MHO to Regional GPs
- Syphilis update in health authority newsletter to target acute and community staff

Interventions
Justin Trudeau chats with Xtra ahead of Toronto Centre by-election

By Andrea Hounton
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GET TESTED TODAY.

www.checkimout.ca/syphilis
Methods

• Analysis Periods
  – Intervention period: April 2013-March 2014
  – Reference period: April 2012-March 2013

• Data Sources
  – Public Health Microbiology Reference Laboratory
    • Syphilis testing data acquired from January 2012-April 2014 for males tested in VCH and reside in VCH (when info available)
    • Syphilis tests for unique individuals within 30 days of a previous test are removed
  – STI Surveillance Data
    • All VCH male residents with a new diagnosis of venereal syphilis from January 2012-April 2014
      • Cases with testing location outside of VCH were removed
VCH Overall Results

Syphilis Testing Volume among Males in VCH by Time Period

Percent Change: 23.4% [14%, 40%]

Syphilis New Diagnoses among Males in VCH by Time Period

Percent Change: 30.3% [-29%, 242%]

Testing Yield

Reference Period: 1.0%

Intervention Period: 1.1%
Syphilis Tests, Diagnoses and Testing Yield by Age Category: Reference Period

Test Proportion (%)

Age Category: <19, 20-29, 30-39, 40-49, 50-59, 60-69, <70
Syphilis Tests, Diagnoses and Testing Yield by Age Category: Reference Period

![Graph showing the proportion of test and diagnoses by age category.](attachment:image.png)
Syphilis Tests, Diagnoses and Testing Yield by Age Category: Reference Period

- **Test Proportion (%)**
  - Age Category: <19, 20-29, 30-39, 40-49, 50-59, 60-69, <70
  - Test Proportion peaks in the 20-29 age category and decreases with age.

- **Diagnoses Proportion (%)**
  - Age Category: <19, 20-29, 30-39, 40-49, 50-59, 60-69, <70
  - Diagnoses Proportion peaks in the 40-49 age category.

- **Testing Yield (%)**
  - Age Category: <19, 20-29, 30-39, 40-49, 50-59, 60-69, <70
  - Testing Yield peaks in the 40-49 age category.
Syphilis Tests, Diagnoses and Testing Yield by Age Category and Period

- **Test Proportion (%)**
- **Diagnoses Proportion (%)**
- **Testing Yield (%)**

*Age Category: <19, 20-29, 30-39, 40-49, 50-59, 60-69, <70*

*Reference Period vs. Intervention Period*
## Syphilis Diagnoses by Stage of Disease

<table>
<thead>
<tr>
<th>Stage of Disease</th>
<th>Reference</th>
<th>Intervention</th>
<th>P value</th>
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<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Total</td>
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<tr>
<td>Primary</td>
<td>60</td>
<td>17.1</td>
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<tr>
<td>Secondary</td>
<td>63</td>
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<tr>
<td>Early Latent</td>
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<tr>
<td>Late Latent</td>
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<td>Neurosyphilis</td>
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<tr>
<td>Stage Not Yet Determined</td>
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P value from Fisher's Exact Test (alpha = 0.05)

**Intervention Period:**  
- Secondary Stage  
- Early Latent
Men’s Health Clinic Mail Out Campaign Results

• On April 7, 2013, 4,000 syphilis lab requisitions were mailed to HIV negative patients
• From April – August 2013, 299 (7.5%) syphilis tests were completed under the billing code attributed to the mail out
• No new diagnoses were made among the 299 tests
Men's Health Clinic Syphilis Testing Volumes and Percent Change among Males by Month Before and After Campaign Initiation


Syphilis Testing Volume

Month

Apr  May  Jun  Jul  Aug  Sep  Oct  Nov  Dec  Jan  Feb  Mar

Testing Volume Percent Change (%)
Men’s Health Clinic Diagnoses and Yield Overall

April 2013- August 2013

• New Diagnoses increased by 40%

• Testing yield fell from 1.5% in 2012 to 1.3% in 2013
Men’s Health Clinic Syphilis Testing Proportion by Age Category: April 2013-March 2014

- Proportion
- Age Category
- Positives
Men’s Health Clinic Syphilis Testing Proportion by Age Category: April 2013-March 2014

Proportion

Age Category

<19 20-29 30-39 40-49 50-59 60-69 <70

Proportion

Men's Health Clinic
Positives
Conclusion

• Multiple concurrent strategies necessary to increase testing

• Strategies that better target MSM aged 40-49 years may provide a greater impact on epidemic

• Optimization of testing access and inter-test interval may further improve stage of disease at diagnosis

• Additional testing and treatment are needed as new diagnoses continue at a high rate
Acknowledgments

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Supporting regional public health practice:

- Health Assessment
- Disease Surveillance
- Epidemiological Investigations
- Knowledge Transfer