

CIC 2018 CCI | December 4-6
4 - 6 décembre
OTTAWA

Using Social Media as a Tool for Outbreak Response and to Improve Vaccine Uptake

Dr. Vinita Dubey, Jill MacLachlan, Dr. Mike Benusic
Toronto Public Health

Tues, Dec 4th – 14:30 to 16:00 - Rm 207

We have no affiliation (financial or otherwise) with a pharmaceutical, medical device or communications organization.

Learning Objectives:

1. Describe the importance of including social media messaging routinely as part of outbreak response in vaccine preventable disease outbreaks.
2. Identify the types of social media platforms available for reaching a target population in an outbreak setting.
3. Assemble a team in their local organization to plan, prepare and coordinate a social media response in an urgent situation.

1. Case Study 1 - Community Mumps Outbreak in Toronto Among Urban “Hipsters”
2. Case Study 2 - Hepatitis A Outbreak Among Men who have Sex with Men
3. Summary and Conclusions
4. Discussion and Questions





Using Social Media as a Tool for Outbreak Response: Toronto Mumps Outbreak 2017

Jill MacLachlan

Health Marketing Specialist

Dr. Vinita Dubey

Associate Medical Officer of Health

- Viral infection
- Spread by droplets (sneezing, coughing) or saliva (sharing drinks, foods)
- Classic symptoms are fever, parotitis, fatigue
- Outbreaks usually among young adults
 - Schools, sports teams (including the NHL)



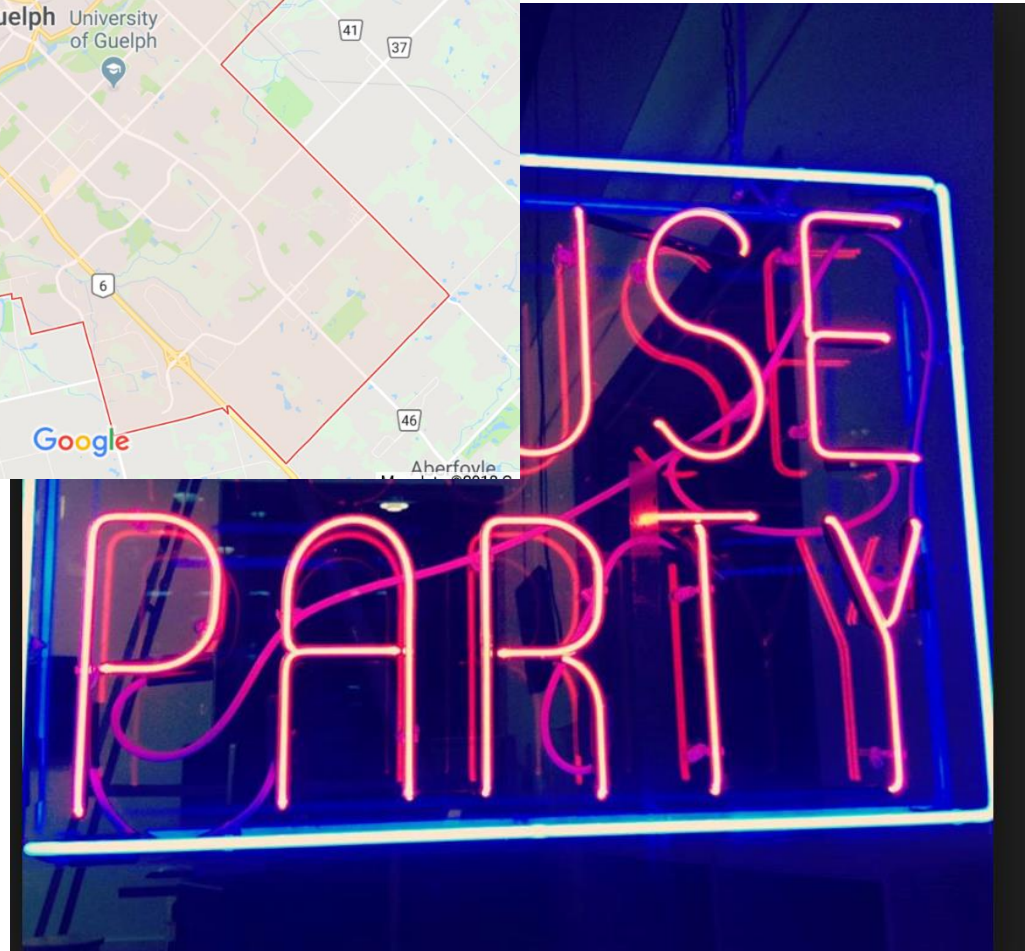
January 2017 - 2 brothers – 18 yrs and 19 yrs; Both unvaccinated



Attend a house party



Detection of an Outbreak



Mumps Outbreak – Toronto 2017

Largest outbreak in over 20 years – 141 cases compared to 5 cases per year

Demographics:

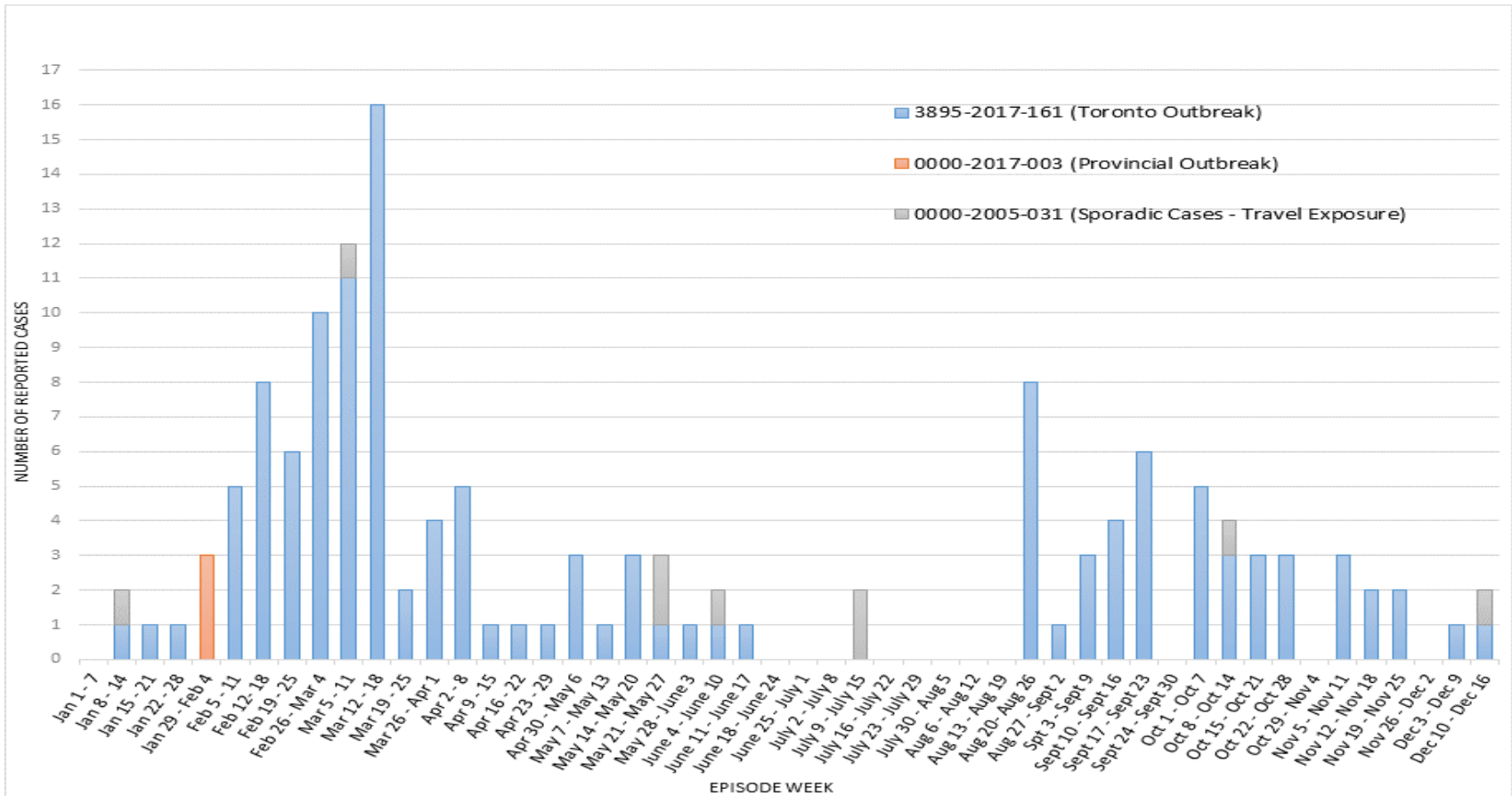
- Age 18-35 years
- Both Males & Females
- 3 out of 4 were unimmunized / partially immunized / unknown
 - 27% were immunized with 2 or more doses
 - 11% unimmunized
 - 33% 1 dose
 - 39% unknown vaccination

Mumps Outbreak – Toronto 2017

Transmission setting

- Locally acquired
- West downtown Toronto bars – acquisition or transmission exposure for many
 - Cases included staff working in bars, patrons, friends who went together
 - Many bars named
 - Behaviour and undervaccination, not the bar
- Not seeing spread in schools, post-secondary institutions, dorms, sports teams

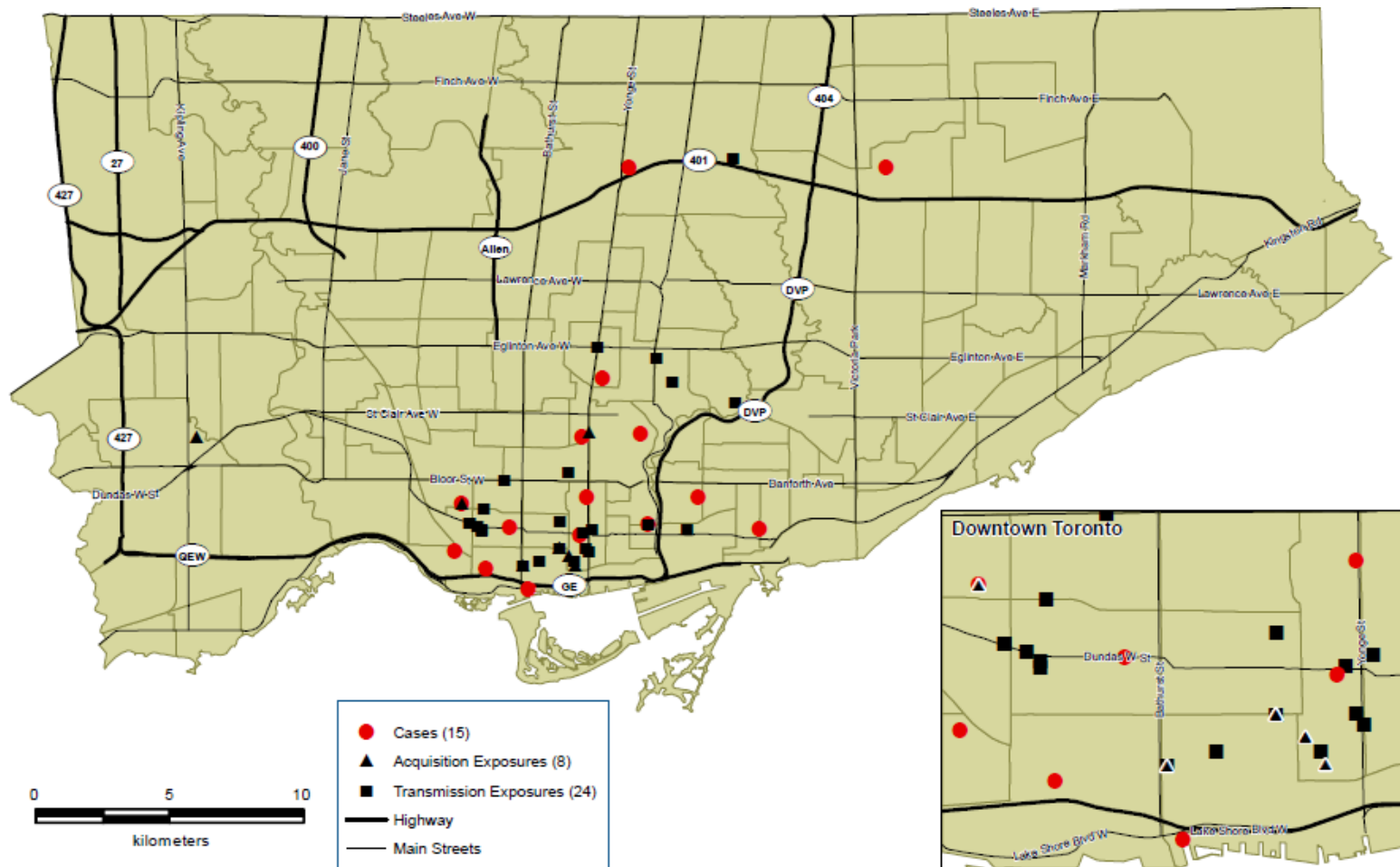
Epidemic Curve of Toronto Mumps Cases, by Episode Week



First peak Feb/March

Second peak starting end of August

Map of cases – March 8, 2017



Toronto mumps outbreak might be linked to bars

The city says 14 people have been confirmed to have mumps, which is highly contagious and can sicken people for 10 days



News · GTA

Why is there a mumps outbreak in Toronto?

Despite being on pace for the worst mumps outbreak in Toronto's recent history, health

MUMPS A-BREWIN'

Toronto health officials are urging caution ahead of St. Patrick's Day festivities, **GT3**



Toronto health officials to target adults in midst of major mumps outbreak



CANADA

Mumps outbreaks underscore need for vaccinations



ANDRÉ PICARD
PUBLIC HEALTH REPORTER
PUBLISHED FEBRUARY 24, 2017
UPDATED MARCH 24, 2017

Several players on the Vancouver Canucks have been benched because they are suspected to have the mumps. The same thing has happened to the Brandon Wheat Kings in Manitoba, and the Medicine Hat Tigers in Alberta. (Some will recall another outbreak in the NHL in 2014 that sidelined Sidney Crosby, among others.)

TRENDING

- 1 In Venezuela, hea...
- 2 Reconciliation with indigenous peoples for any single piece...
- 3 After its shopping s...

Why add social media to outbreak response?

To amplify traditional media approach; reach more of the target audience, not just the general public



Twitter VS Facebook



Twitter

- News focus
- Personal & professional use
- Individuals, PHUs, City of Toronto Divisions, Councillors, Govt, Community Orgs, Media
- Leverage influencers and media buzz



Facebook

- Social focus
- Personal use
- Pay-to-play platform
- Target specific demographics by age, location, interests

- Spread love, not mumps. Don't share drinks, utensils, food or water bottles.
- Your style is up to date, but are your vaccines? Make sure you are protected from mumps.
- Mumps is more than a funny word – it's on the rise in Toronto.



Targeting – ‘hipster’

Age: 18 – 35 year olds

Neighbourhoods: Queen West, Parkdale, Liberty Village, Trinity Bellwoods, Dundas West

Interests: Craft beer, vintage, vinyl records, live music, Toronto Raptors



The screenshot shows a Facebook post from Toronto Public Health. The post header includes the Toronto Public Health logo, the name 'Toronto Public Health', and the timestamp 'March 10 at 10:47am'. The text of the post reads: 'Their mumps could be your mumps, so don't share drinks, utensils, food or water bottles. Learn more:'. Below the text is a photograph of a man with a beard and messy hair, wearing a black t-shirt with the word 'MUMPS' printed in large, white, distressed letters. Underneath the photo, the text says 'Mumps in Toronto' followed by 'Mumps is on the rise in Toronto. Learn more about the signs and symptoms, and how to best protect yourself.' At the bottom left of the post is the URL 'WWW1.TORONTO.CA' and at the bottom right is a 'Learn More' button.

Toronto Public Health
March 10 at 10:47am · 🌐

Their mumps could be your mumps, so don't share drinks, utensils, food or water bottles. Learn more:



Mumps in Toronto
Mumps is on the rise in Toronto. Learn more about the signs and symptoms, and how to best protect yourself.

WWW1.TORONTO.CA [Learn More](#)

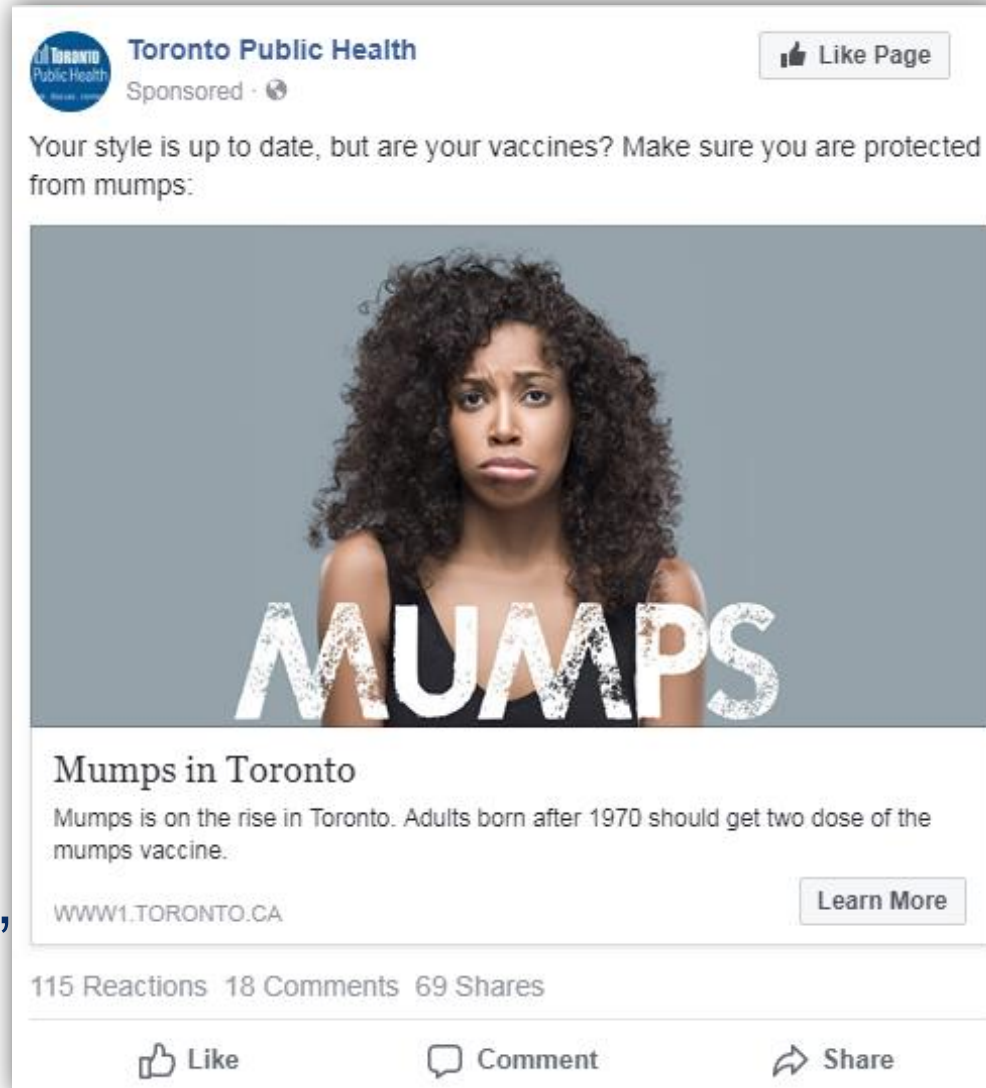
Budget: \$800


Boosted Post


- Shows your post to both followers and targeted non-followers

Ads


- Defined time
- Targets non-followers
- Facebook feeds, Instagram, Messenger, right nav ads



 **Toronto Public Health** Like Page

Sponsored · 

Your style is up to date, but are your vaccines? Make sure you are protected from mumps:






Mumps in Toronto

Mumps is on the rise in Toronto. Adults born after 1970 should get two dose of the mumps vaccine.

WWW1.TORONTO.CA Learn More

115 Reactions 18 Comments 69 Shares

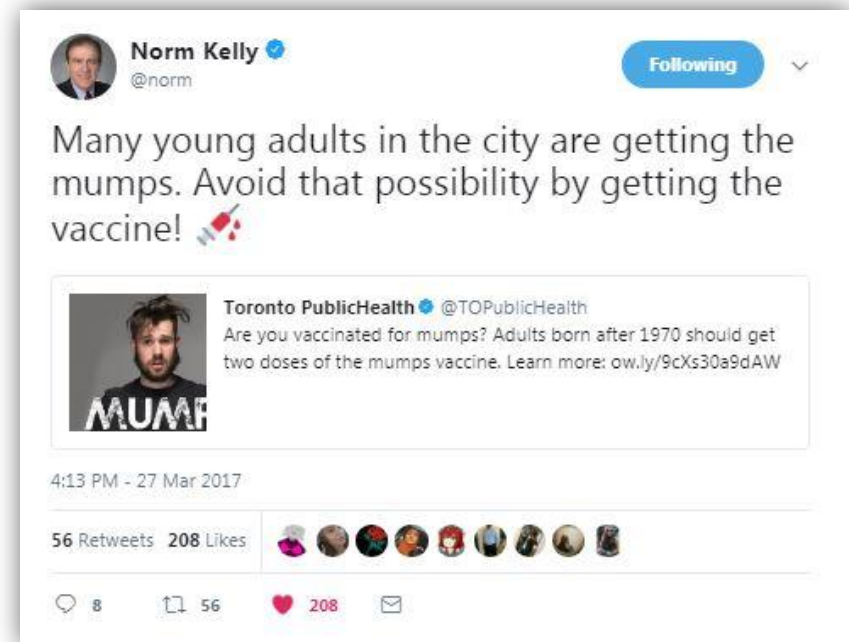
 Like  Comment  Share

Influencer

- Social media account/user with high following among target audience

Considerations

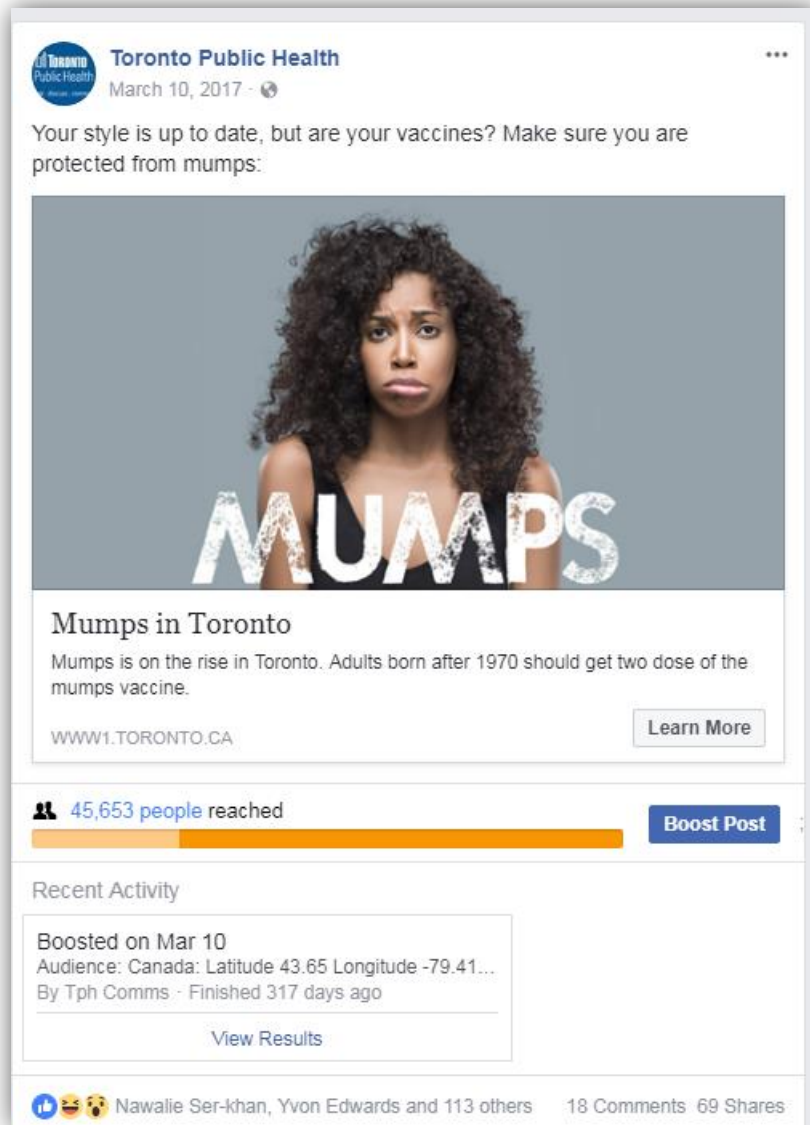
- Following with target audience
- Value of micro influencers



Evaluation – How did we do?


- **Impressions** - number of times the message was seen
- **Reach** - number of users that saw the message
- **Engagement** - action that was taken on a message






Toronto Public Health
March 10, 2017 · 🌐

Your style is up to date, but are your vaccines? Make sure you are protected from mumps:



Mumps in Toronto
Mumps is on the rise in Toronto. Adults born after 1970 should get two dose of the mumps vaccine.


WWW1.TORONTO.CA [Learn More](#)

 45,653 people reached [Boost Post](#)

Recent Activity

Boosted on Mar 10
Audience: Canada: Latitude 43.65 Longitude -79.41...
By Tph Comms · Finished 317 days ago

[View Results](#)

 Nawalie Ser-khan, Yvon Edwards and 113 others · 18 Comments 69 Shares

Facebook

Reach: 266,783

Engagements: 4802

Engagement rate: 1.8%


Twitter

Impressions: 95,332

Engagements: 9391

Engagement rate: 9.85%

Evaluation: Tone (social listening) is the response to the message

 **tfc.** @ChickaTI Follow

Lol I just saw a Toronto Public Health campaign that said "catch feelings this summer, not mumps" 🤔

4:07 PM - 17 Jul 2017

1 Like


 **Aly Lakhani** @lakhani_aly · Jul 12

Strong, Toronto Public Health. Strong. @TOPublicHealth #vaccineswork



 **Steven Luu** Together with this picture, I thought Mumps was the next hot indie band

Like · Reply · 43w 8

 **Shay Sanders** If you're unsure of your immunity, ask your doctor for a titre check. It's a quick blood draw and then you'll know for sure!

Like · Reply · 28w

 **Norm Kelly** @norm · 27 Mar 2017

Many young adults in the city are getting the **mumps**. Avoid that possibility by getting the vaccine! 📌

 **Toronto PublicHealth** @TOPublicHealth

Are you vaccinated for mumps? Adults born after 1970 should get two doses of the mumps vaccine. Learn more: ow.ly/9cXs30a9dAW

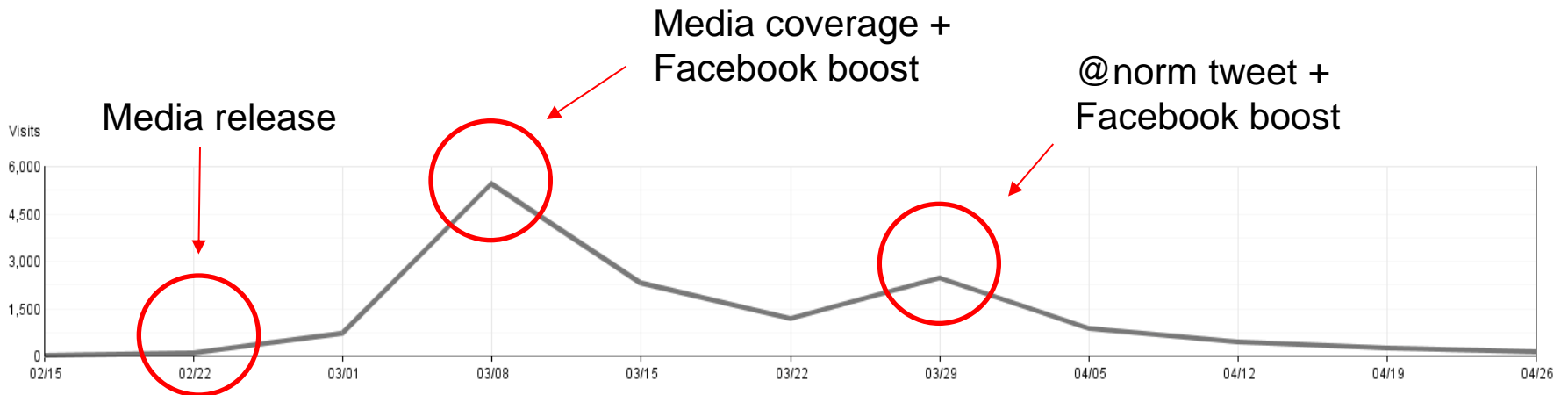
8 · 56 · 208

 **Lydia Schoch** @Toro

Replying to @TOPubl

This was a great tweet
I'm already fully vacci

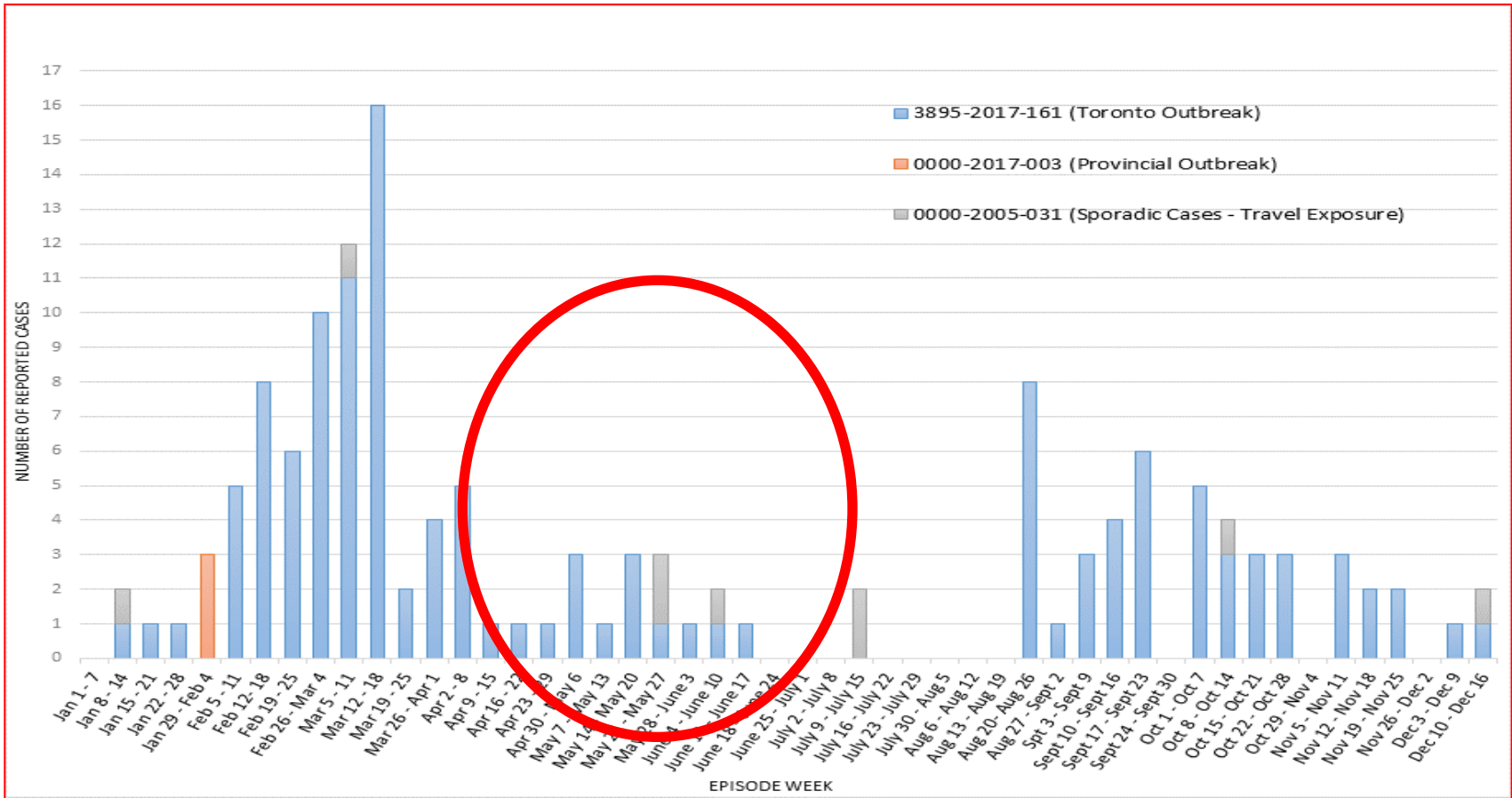
🗨️ 🔄



Campaign period: Feb 25 – April 30, 2017

Web visits: 13,698

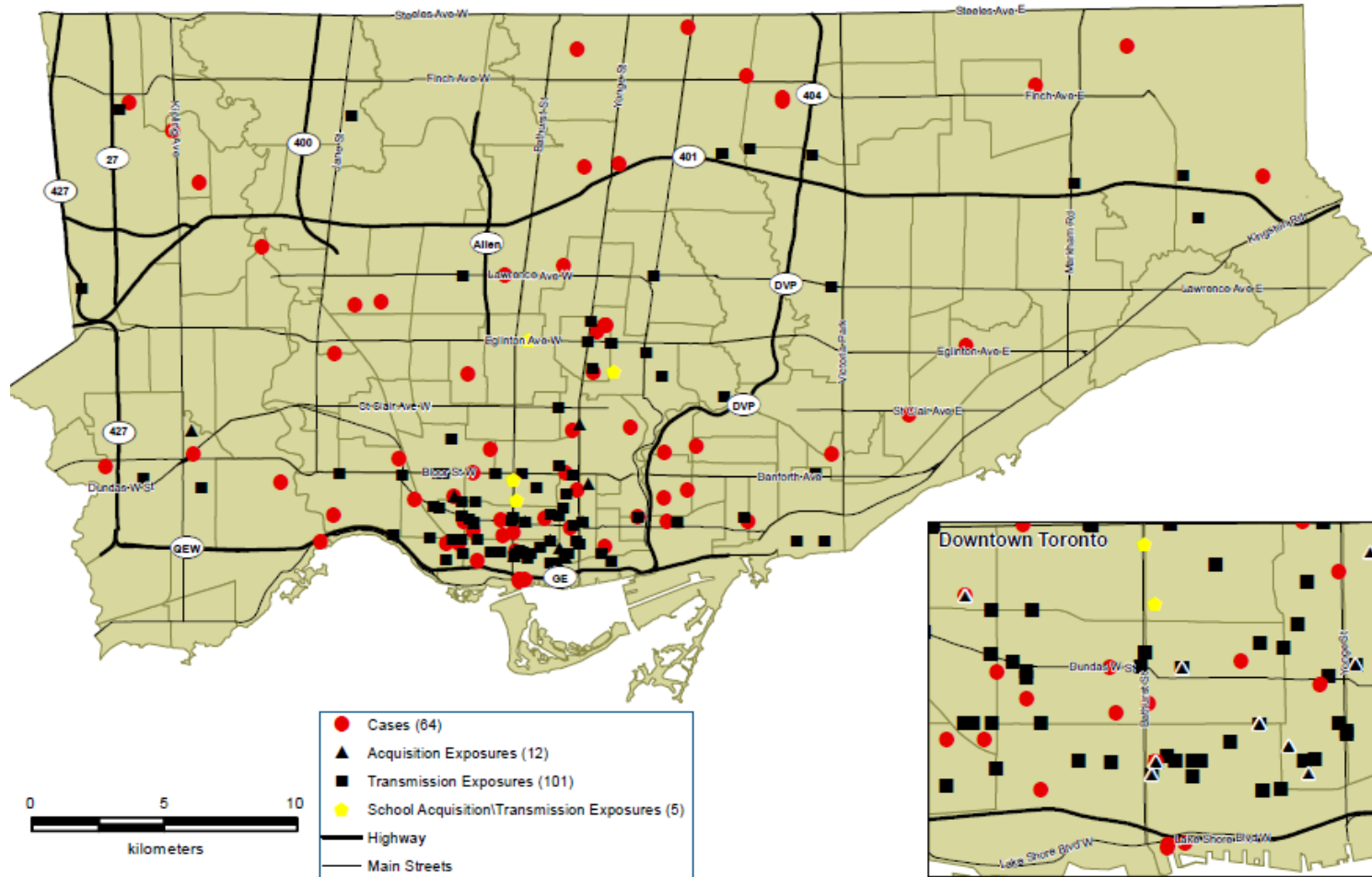
Epidemic Curve of Toronto Mumps Cases, by Episode Week



First peak Feb/March

Second peak starting end of August

Map of cases – April 5 2017



Mumps – Summer 2017

Prepared for: Dr. Vinita Dubey, Associate Medical Officer of Health

Prepared by: Jill MacLachlan, Health Marketing Specialist



**Don't get mumps,
get vaccinated.**

Don't miss work because your vaccines aren't up to date. Mumps is still in Toronto, and it spreads easily in crowded places, and by sharing drinks and food. Most people born after 1970 were not fully vaccinated for mumps as a kid. Getting mumps can mean potentially serious complications like painful swelling of the testicles or ovaries. Don't get caught unprotected, get your MMR vaccine.

416.338.7600 toronto.ca/health |  TORONTO Public Health

In June, poster and letters to staff at bars, gyms, community centres

In August, posters through health promotion networks to university and colleges

Second Wave: July - September

Toronto Public Health
July 6, 2017

Catch feelings this summer, not mumps. Talk to your doctor about the MMR vaccine:

Mumps, 18-35






Toronto PublicHealth @TOPublicHealth · 5 Sep 2017



Don't let **mumps** ruin your frosh week. See your doctor and get vaccinated:
www1.toronto.ca/wps/portal/con...


Mumps, 18-29






1 Comment 14 Shares 7 Likes



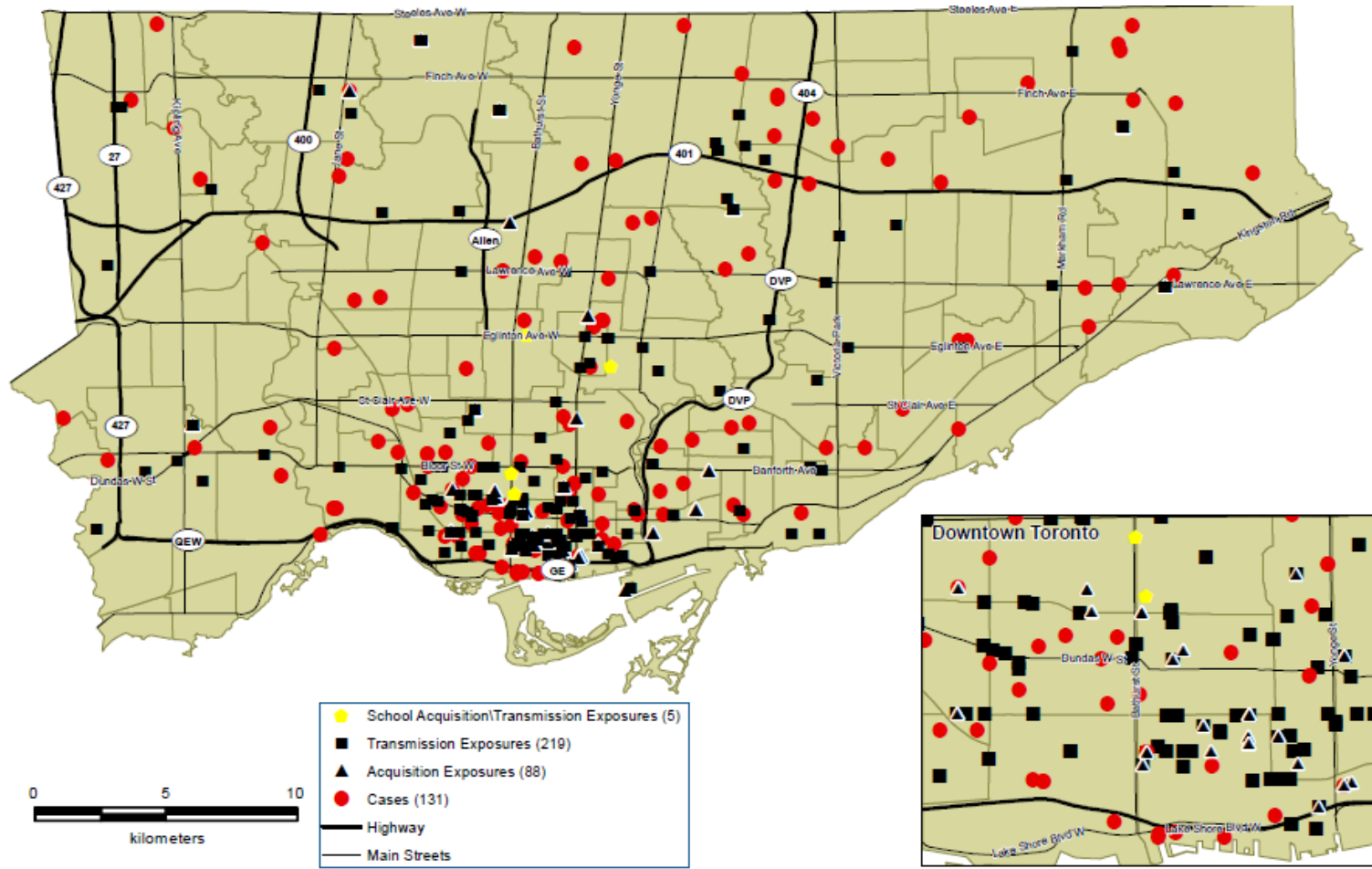
Mumps, 18-35 ● ● ●

Less than a kilometer away Active just now

Get Vaccinated

Cute right? Not for long. In a few days my face will be swollen and I'll be sick in bed - all from catching mumps! I thought I was protected, but I wasn't 🙄. Like me, most people born after 1970 were not fully vaccinated for mumps as a kid. Getting mumps can cause painful swelling of the testicles or ovaries 🙄! So before you swipe, get to your doctor for an MMR booster.

Map of cases – December 2017



 **Toronto PublicHealth** @TOPublicHealth · 5 Dec 2017

Your style is up to date, but are your vaccines? Make sure you are protected from **mumps**. Learn more: ow.ly/4HRv30h0C19


Mumps, 18-35
Less than a kilometer away
Active just now

Get vaccinated



  5  5 



Mumps, 18-35
Less than a kilometer away Active just now

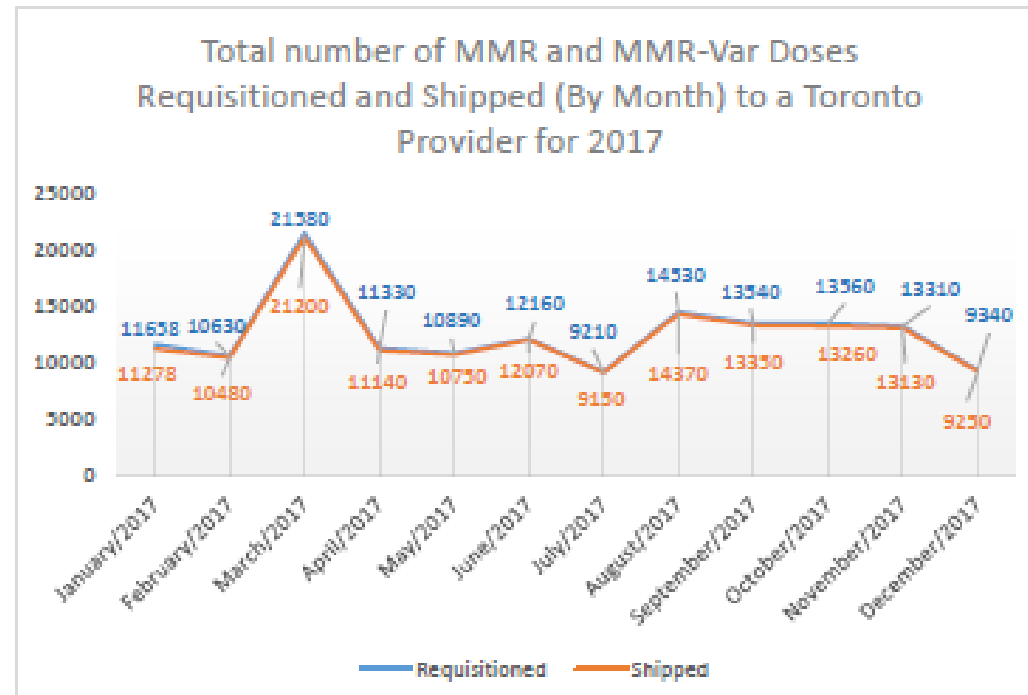
Get vaccinated

Cute right? Not for long. In a few days my face will be swollen and I'll be sick in bed - all from catching mumps! I thought I was fully vaccinated, but I wasn't 😞. Don't assume you are immune. Getting mumps can cause painful swelling of the testicles or ovaries 😞 ! So before you swipe, get to your doctor for an MMR booster.

- Outbreak was declared over in February 2018
- 13 months after it began

Vaccine distribution

- 13,000 doses / month of mumps-containing vaccines shipped to doctors (March to Aug 2017)
- Compared to 11,000 doses / month in same period in 2018



Hepatitis A Outbreak

June 2017 – November 2018

on behalf of Dr. Herveen Sachdeva
and the TPH outbreak management team

Hepatitis A

- Viral infection, targets liver, majority of cases self-limited
- Case fatality rate: 0.5% for all ages, 1.8% for those >50
- Incubation period: 15-50 days
- Transmission: fecal-oral
- Risk-factors:
 - travel to endemic countries
 - injection drug use
 - men who have sex with men (MSM)

(cdc.gov)

Proportion of Hepatitis A cases in Toronto with specific risk factors,
2012-2016

Risk Factor	Proportion
travel	70%
MSM	4%
illicit drug use	<1%

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Emergencies preparedness, response

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Hepatitis A outbreaks mostly affecting men who have sex with men – European Region and the Americas


Disease outbreak news
7 June 2017

Between June 2016 and mid-May 2017, an unusual increase in cases of hepatitis A affecting mainly men who have sex with men (MSM) has been reported by low endemicity countries in the European Region, and in the Americas (Chile and the United States of America).

In the European Region, 15 countries (Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Portugal, Slovenia, Spain, Sweden, and the United Kingdom) reported 1173 cases related to the three distinct multi-country hepatitis A outbreaks as of 16 May 2017.

Related links

[ECDC Rapid Risk Assessment - Hepatitis A outbreaks in the EU/EEA mostly affecting men who have sex with men. Second update, 19 May 2017](#) 

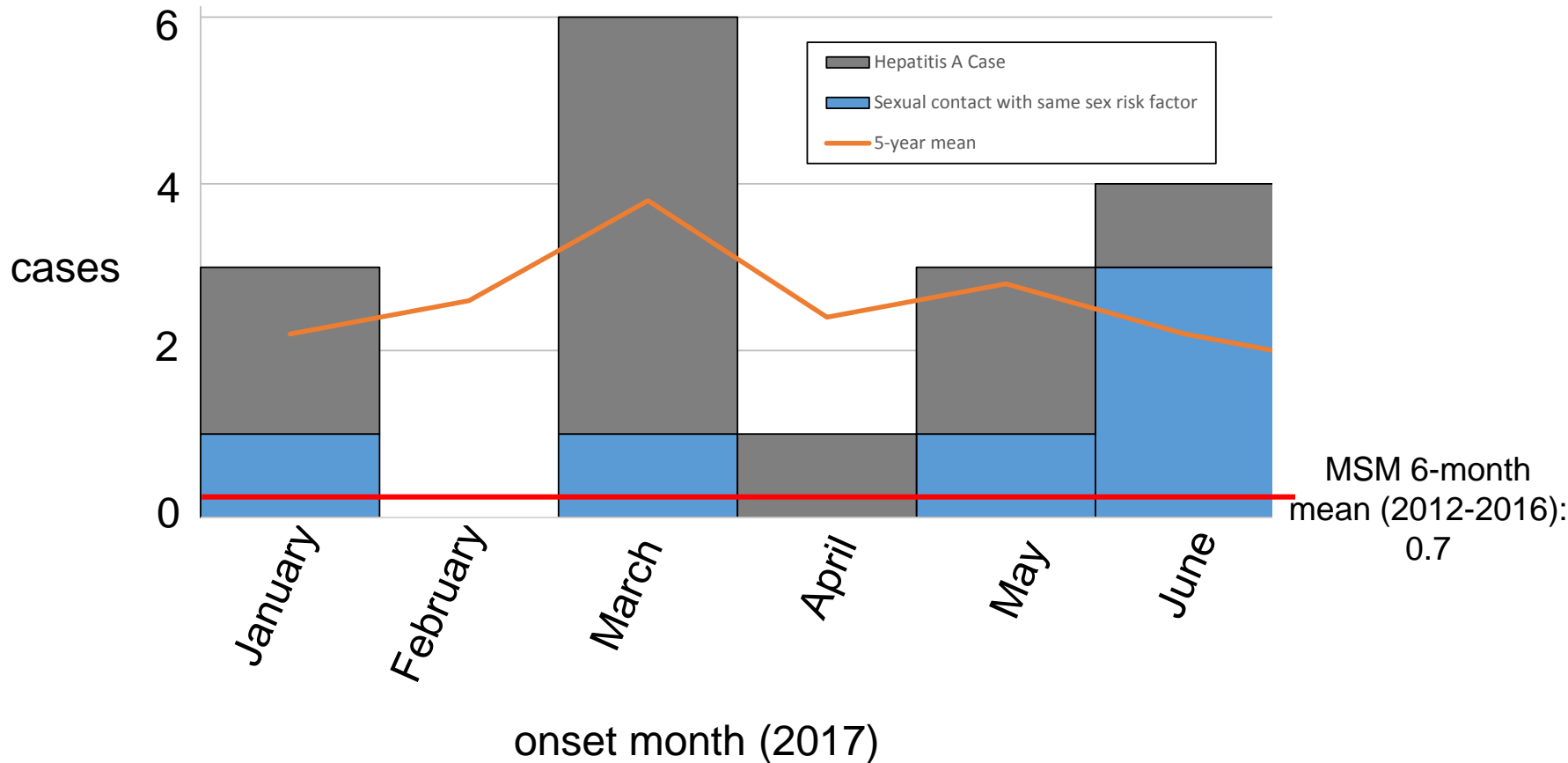
[Hepatitis A y viral sin especificación CIE 10: B15 y B19\) Semana Epidemiológica 1—18 \(01 de enero al 05 de mayo\) Chile, 2017](#) 

Epidemic curve of Toronto Hepatitis A cases compared to previous 5-year mean, January – June 2017 (n=17)



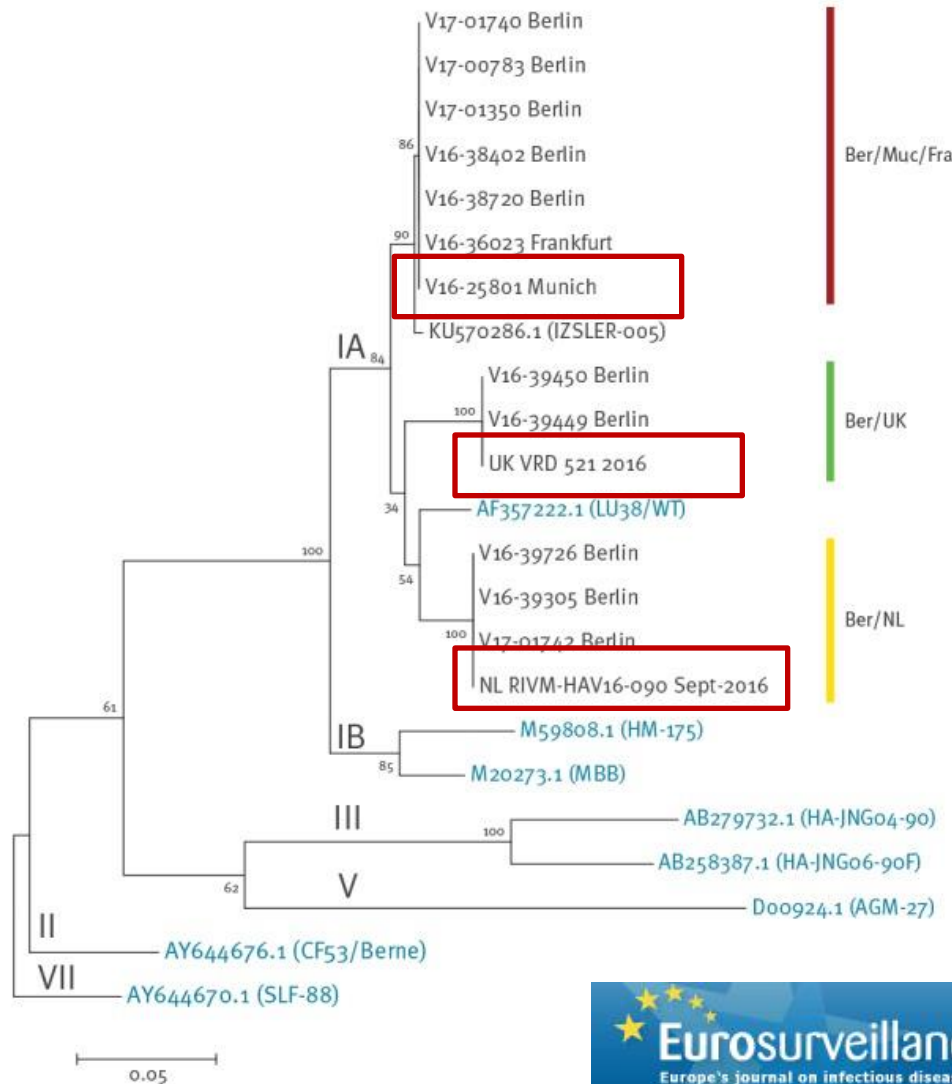
Enhanced Surveillance: MSM

Epidemic curve of Toronto Hepatitis A cases compared to previous 5-year mean, January – June 2017 (n=17)



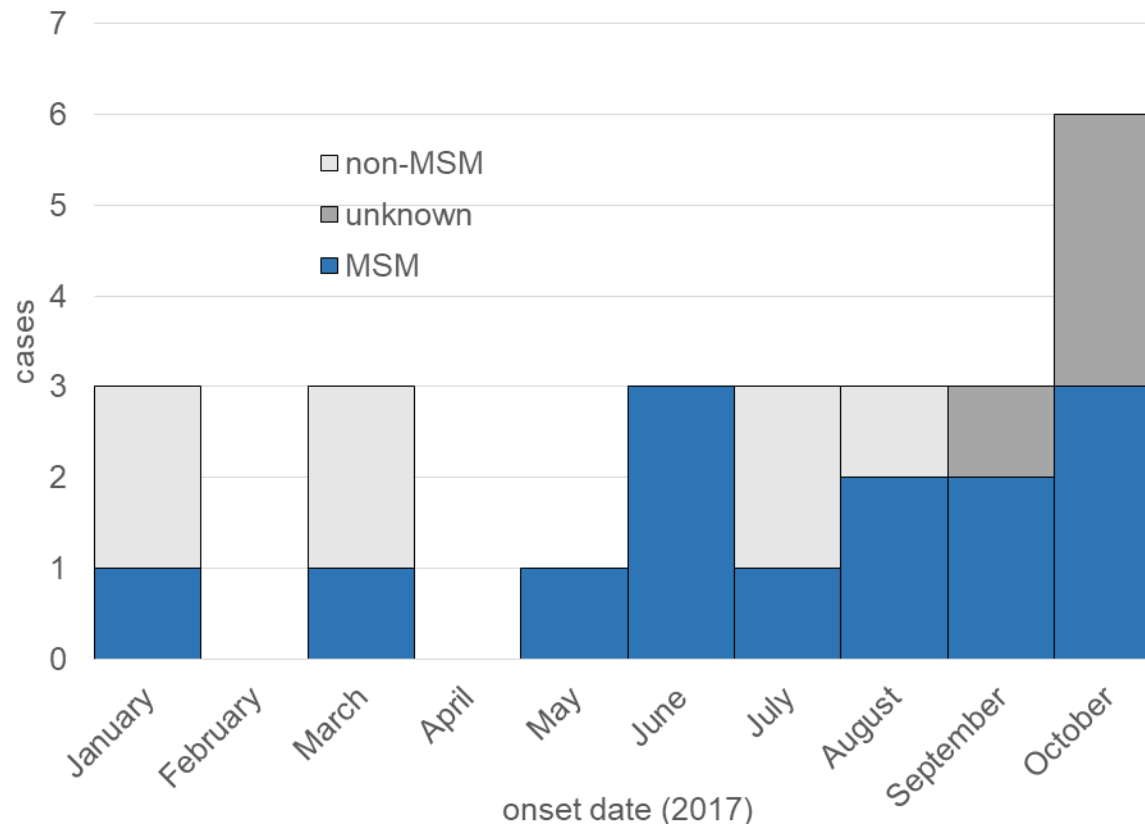
1. declare outbreak
2. case and contact management
 - training to ensure appropriate assessments of sexual transmission risk factors
 - enteric team working with STI management team
3. alerts to physicians, promotion of publicly-funded vaccination
4. hepatitis A genotyping & sequencing

European Clusters - > Ontario



Sustained increase in MSM cases

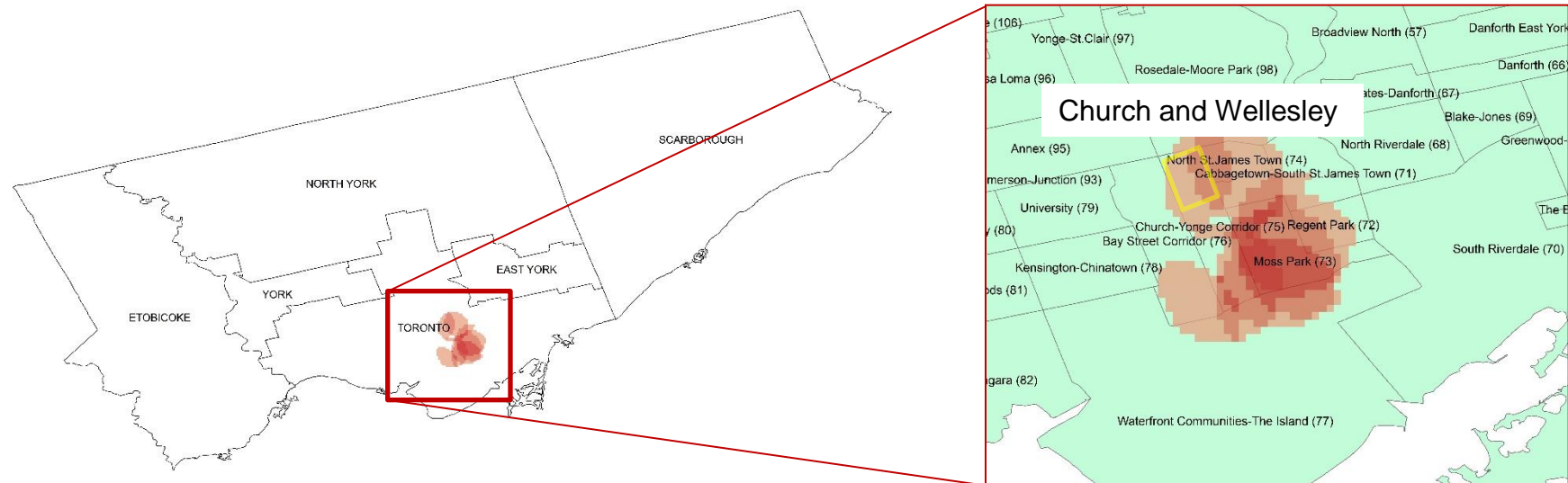
Epidemic curve of Toronto Hepatitis A outbreak cases (non-travel related),
January – October 2017 (n=25)



Case Characteristics (MSM, non-travel)

Characteristics of MSM Hepatitis A outbreak cases (non-travel),
January – October 2017 (n=14)

Characteristics	Mean or Percentage
age	33
previous STI	57%
illicit drug use	50%
HIV co-infection	21%
underhoused/homeless	7%



- **Goals & Objectives:**

- Raise awareness
 - Impressions
 - Engagement
 - Web traffic
- Encourage vaccination
 - Increase vaccination rates

- **Key Message:**

Hepatitis A is on the rise in TO in men who are gay or bisexual. Protect yourself. Get the vaccine for free.



FREE
HEPATITIS

vaccine for groups at higher risk.

Gay, bisexual and some trans men are at increased risk of hepatitis A.

416.338.7600 | toronto.ca/health |  TORONTO Public Health

The advertisement features a photograph of a man's legs and waist wearing dark shorts. A large purple triangle is superimposed over the lower half of the image, containing a smaller photo of a man sitting on a bed. The text is overlaid on the image.



Grindr

- Dating and hook-up focus
- audience specific to self-identified MSM
- personal use
- paid advertising
- ads and pop-up bulletins geo-targeted to Toronto





Facebook:

- Social focus
- General audience
- Personal use
- Target specific audience by gender, location, and interests: LGBTQ issues, PrideTO, The519, Church Wellesley Village, Grindr



Twitter:

- News focus
- Personal & professional use
- leverage community organizations as micro-influencers

Evaluation – How did we do?

- **Impressions** - the number of times the message was seen
- **Reach** - the number of users that saw your message
- **Engagement** - the action that was taken on a message
- **Click through rate** – The number of link clicks compared to the number of impressions



Phase One Results



Grindr:

Impressions: 107,272
Clicks: 1,188
Click through rate: 1.1%



Facebook:

Reach: 34,326
Clicks 1,347
Click through rate: 2.5%

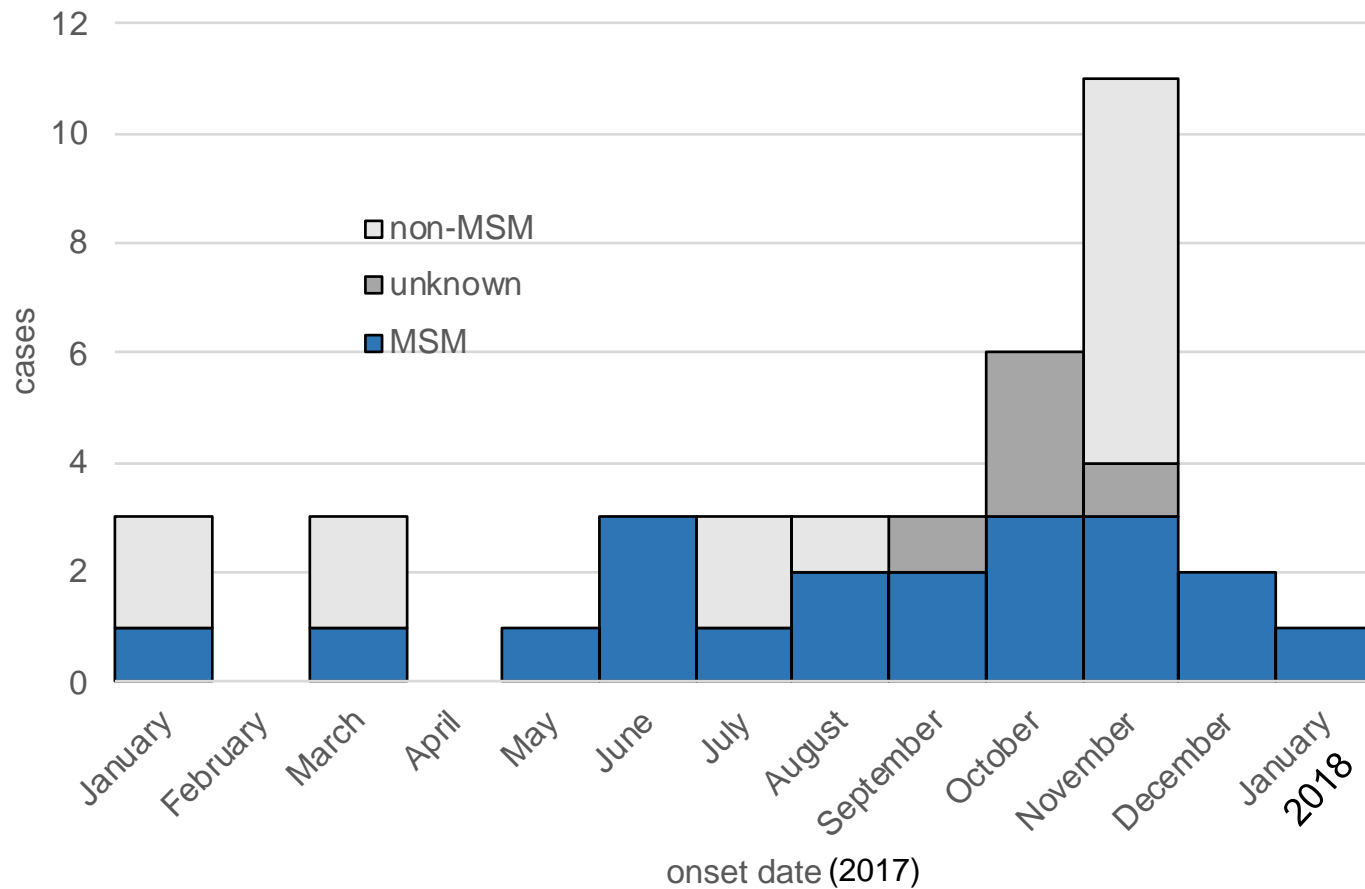


Twitter:

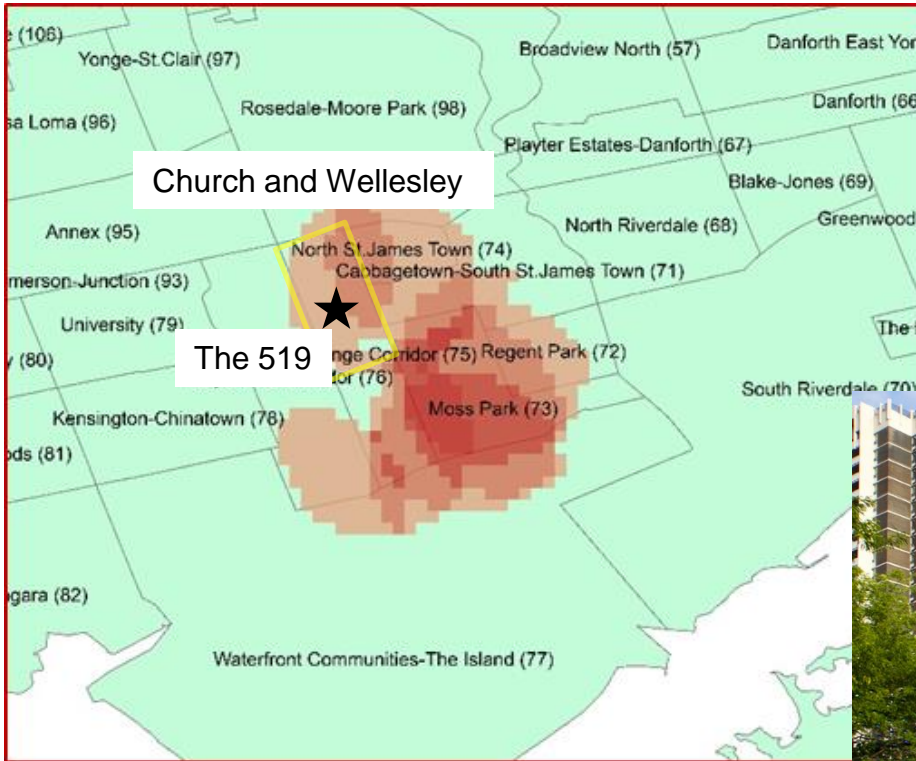
Impressions: 6500
Engagements: 15.6
Engagement rate: 2.4%

Phase 2 of Outbreak

Epidemic curve of Toronto Hepatitis A outbreak cases (non-travel),
January 2017 – January 2018 (n=39)



MSM Hepatitis A vaccine clinics

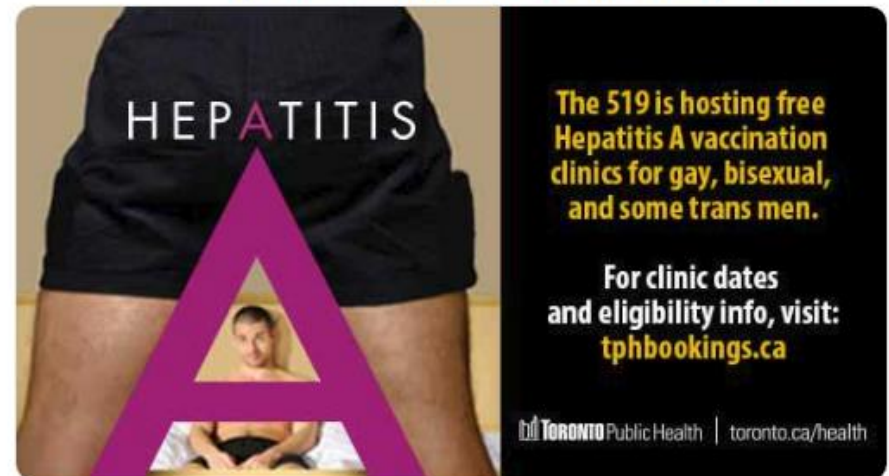


- **Goals and Objectives:**

- Raise awareness
 - Impressions
 - Engagement
- Promote community vaccination clinics
 - Clinic attendance

- **Key Message:**

The 519 is hosting free Hepatitis A vaccination clinics for gay, bisexual and some trans men.



Social Media Results:

Grindr: Impressions: 53,460
Clicks: 1,165
Click through rate: 2.2%

Facebook: Reach: 49,004
Clicks 1,233
Click through rate: 2.5%

Twitter: Impressions: 35,588
Engagements: 249
Engagement rate: 0.7%

Clinic Results:

Date (2018)	HAV Doses
Jan 30	13
Feb 5	23
Feb 13	32
Feb 18	13
Feb 27	16
Mar 7	8
Total	105
Mean per clinic	17.5

Hepatitis A in a Food-Handler

- June 2017: case in a food-handler in Church and Wellesley
- traditional media release:



Hepatitis A confirmed at O'Grady's On Church in Toronto

[Globalnews.ca](#) - Jun. 29, 2017

An employee at O'Grady's on Church in Toronto has a confirmed case of hepatitis A and health officials are advising patrons who consumed ...

Toronto bar-goers at O'Grady's may have been exposed to hepatitis A

[CBC.ca](#) - Jun. 29, 2017

Hepatitis A case confirmed at pub in Toronto's Village

[CTV News](#) - Jun. 29, 2017

Employee at Church Street pub tests positive for Hepatitis A

[CityNews](#) - Jun. 29, 2017

Hepatitis A fears at Toronto bar

[Toronto Sun](#) - Jun. 29, 2017

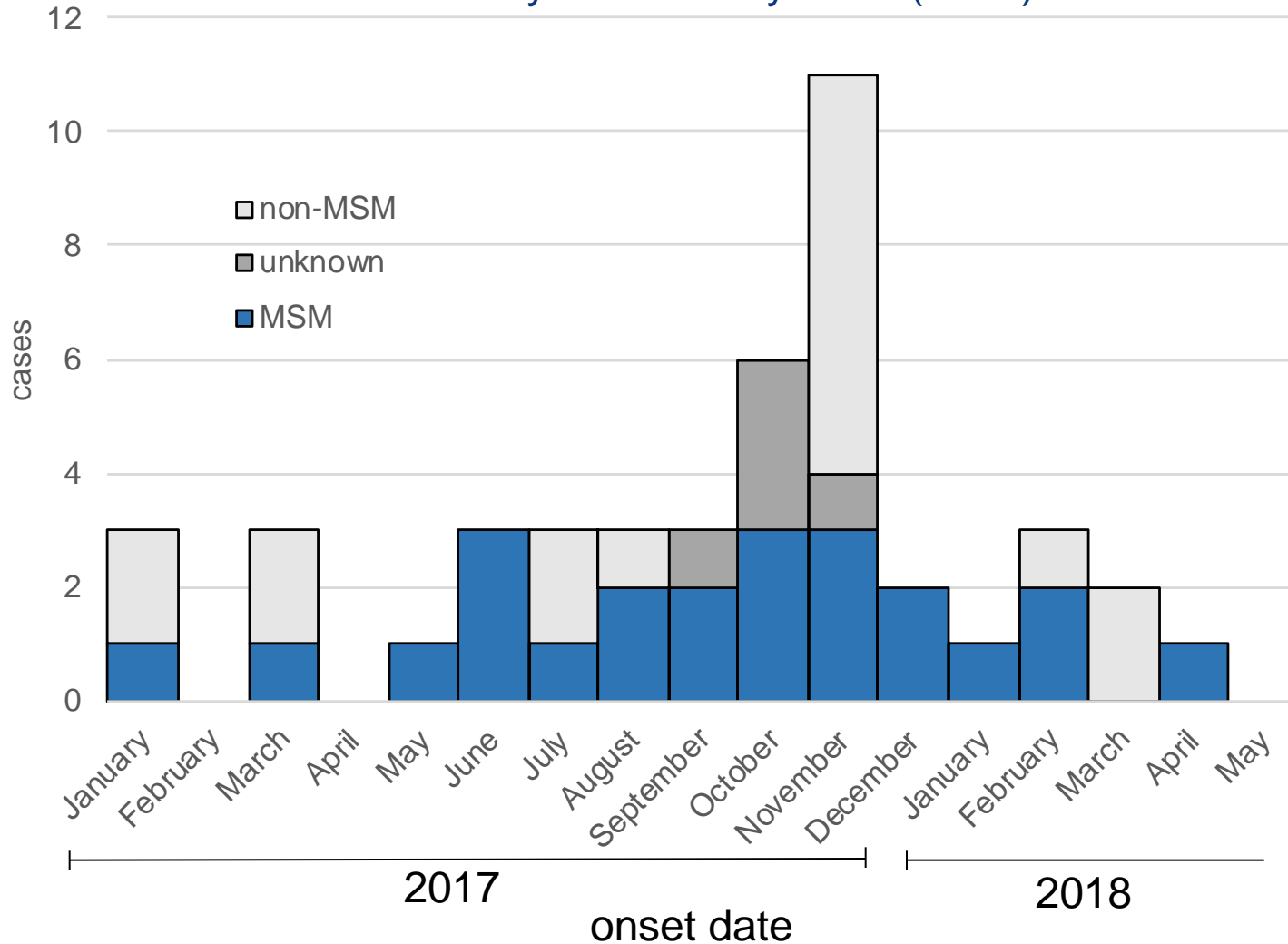
Worker at Church St. restaurant tests positive for Hepatitis A

Local Source - [Toronto Star](#) - Jun. 29, 2017

- two post-exposure prophylaxis vaccine clinics, 712 vaccinations provided

Continuation of Outbreak

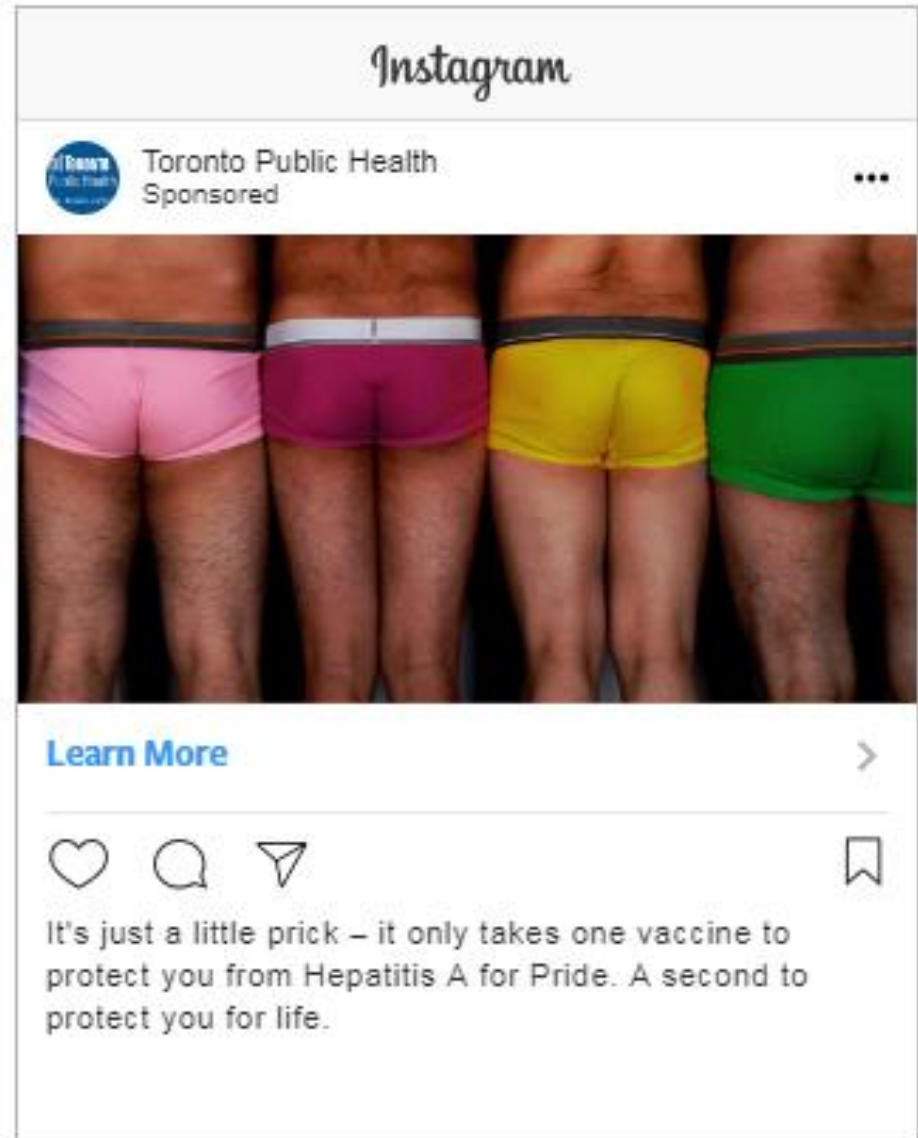
Epidemic curve of Toronto Hepatitis A outbreak cases (non-travel),
January 2017 – May 2018 (n=45)





- **Goals and Objectives:**
 - Raise awareness
 - Impressions
 - Engagement
 - Web traffic
 - Encourage vaccination ahead of Pride
 - Vaccination rates
- **Key Message:**

It only takes one vaccine to protect you from Hepatitis A for Pride, a second to protect you for life.



Phase Three Results



Grindr:

Impressions: 1,025,667

Clicks: 9479

Click through rate: 0.92%



Facebook:

Reach: 57,277

Clicks 805

Click through rate: 1.4%



Twitter:

Impressions: 10,955

Engagements: 17

Engagement rate: 1.6%

Grindr

Budget: \$15K

Impressions: 1.1M

Clicks: 11K

Click through rate: 1.0%

Cost/result: \$1.33

(\$0.68 during Pride Month)

Facebook

Budget: \$2.5K

Reach: 140K

Clicks: 3K

Click through rate: 2.4%

Cost/result: \$0.74

Twitter

Budget: \$0.00

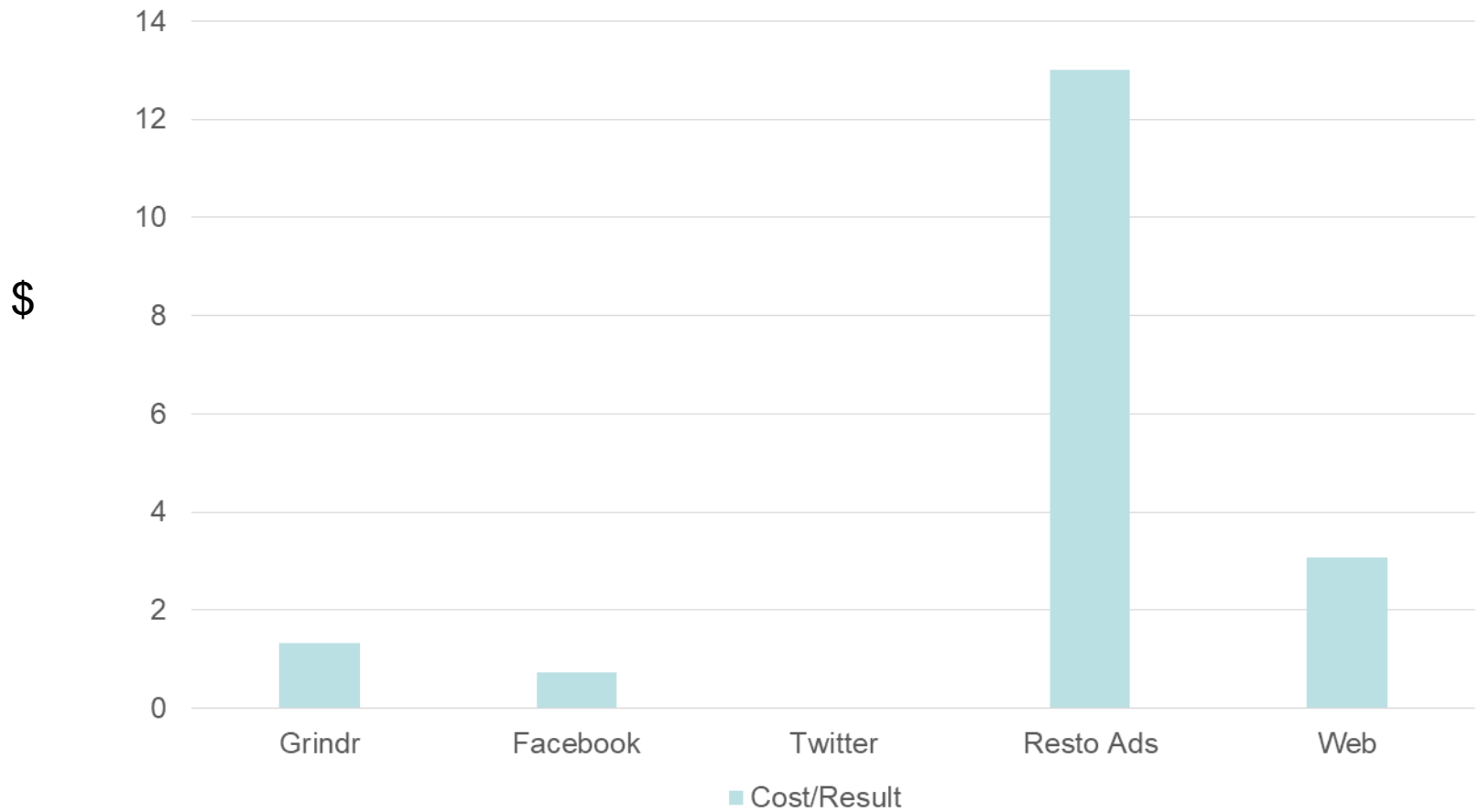
Impressions: 53K

Engagements: 0.8K

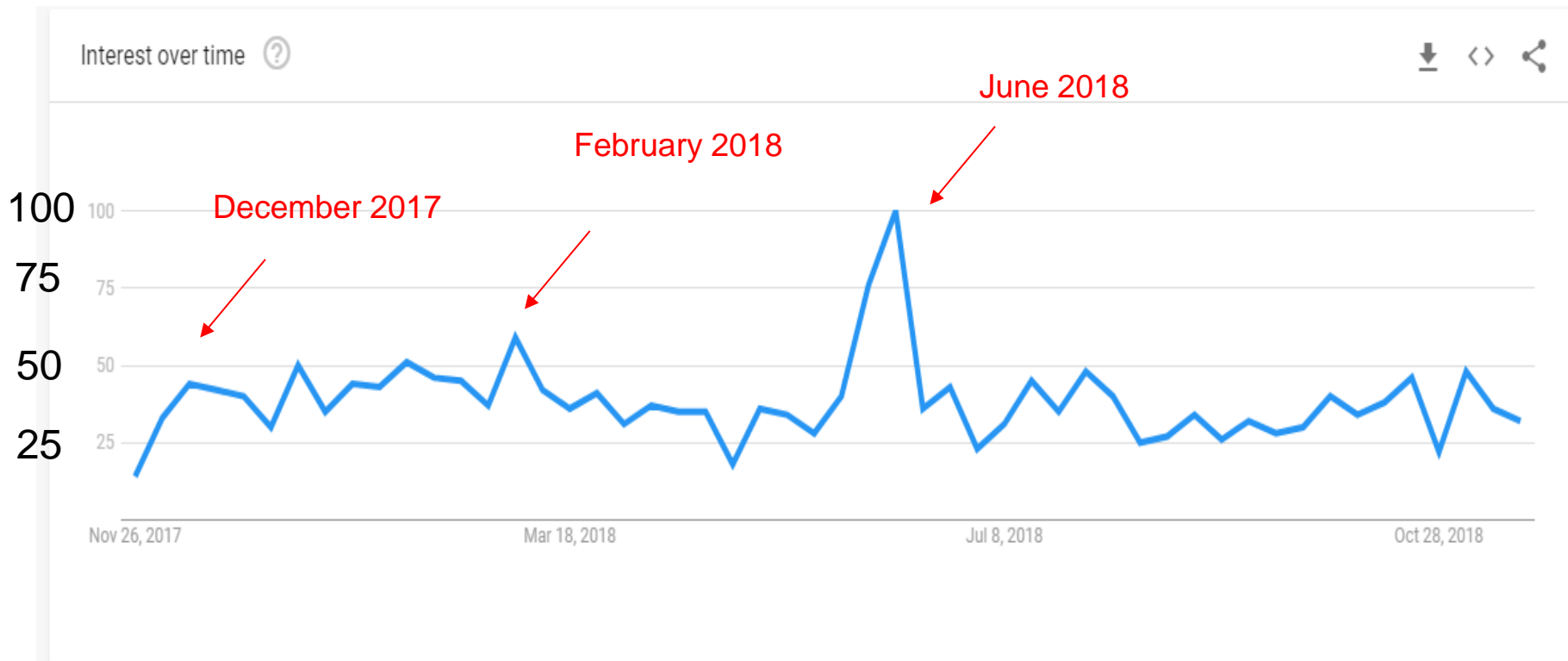
Engagement rate: 1.6%



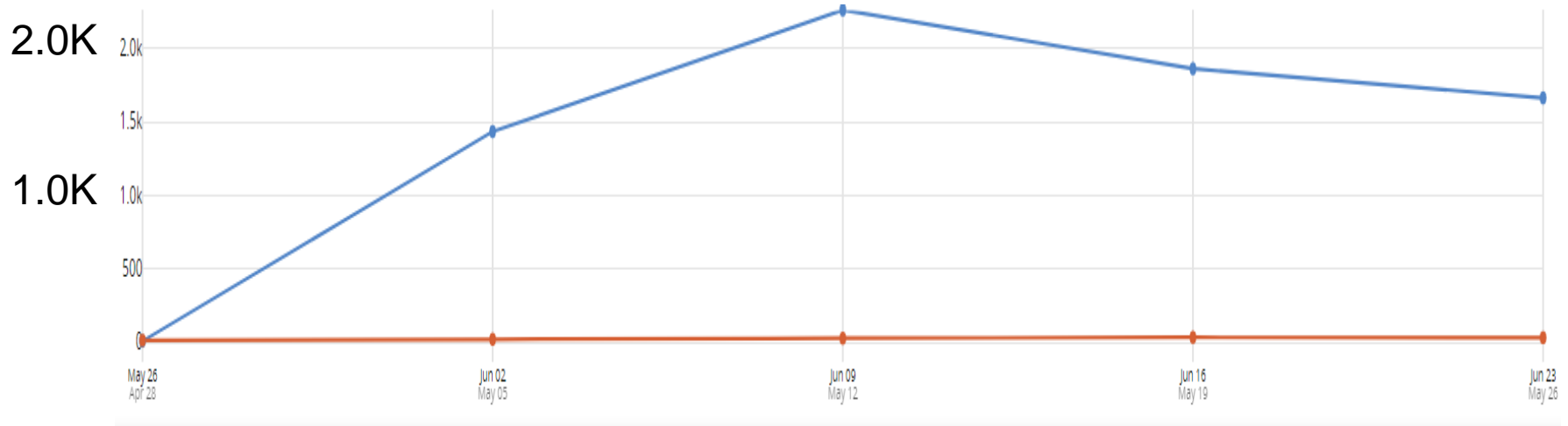
Hep A Results



Search term: Hepatitis A



Hepatitis A fact sheet on Toronto.ca/health

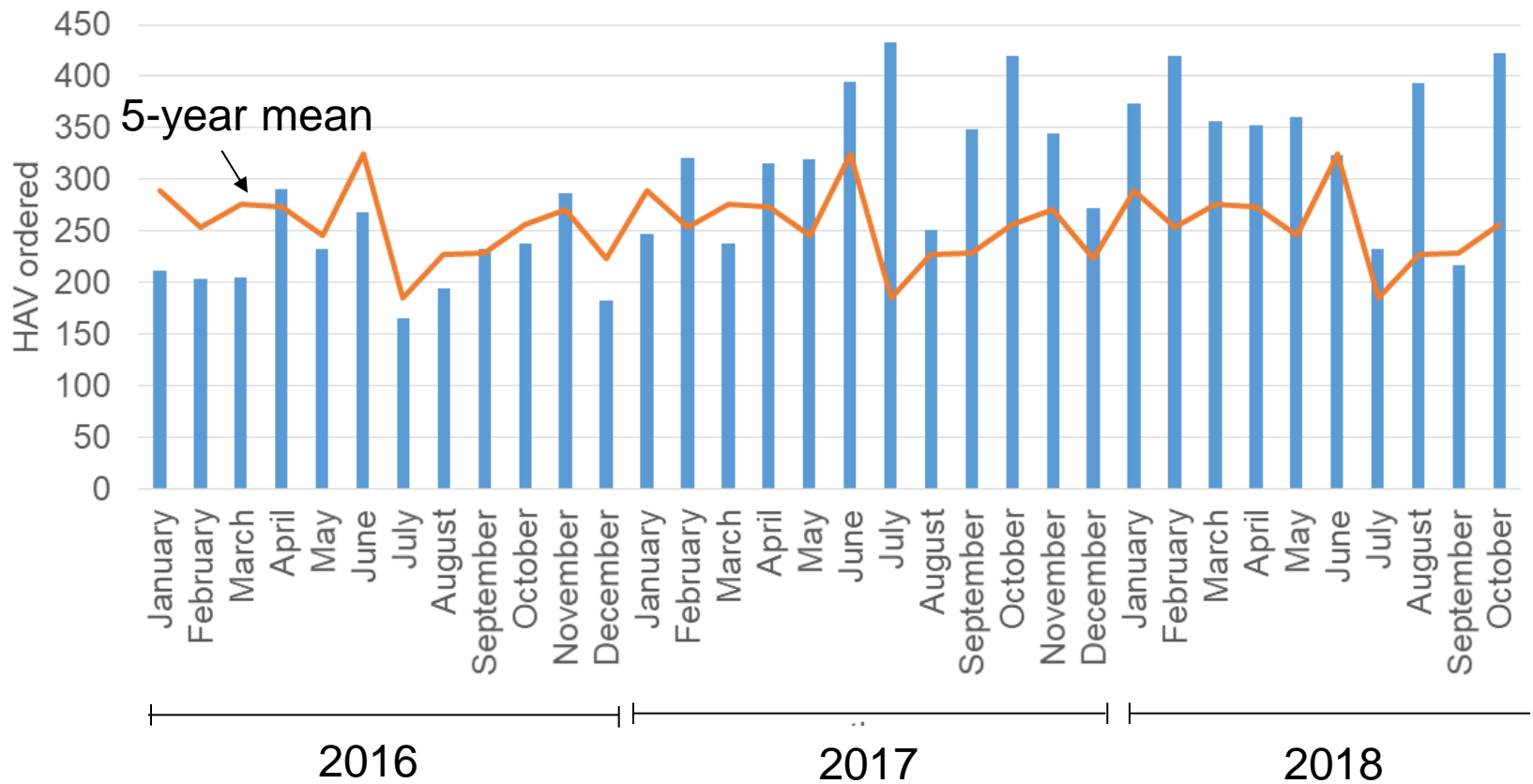


Campaign period: June 1st – June 30, 2018

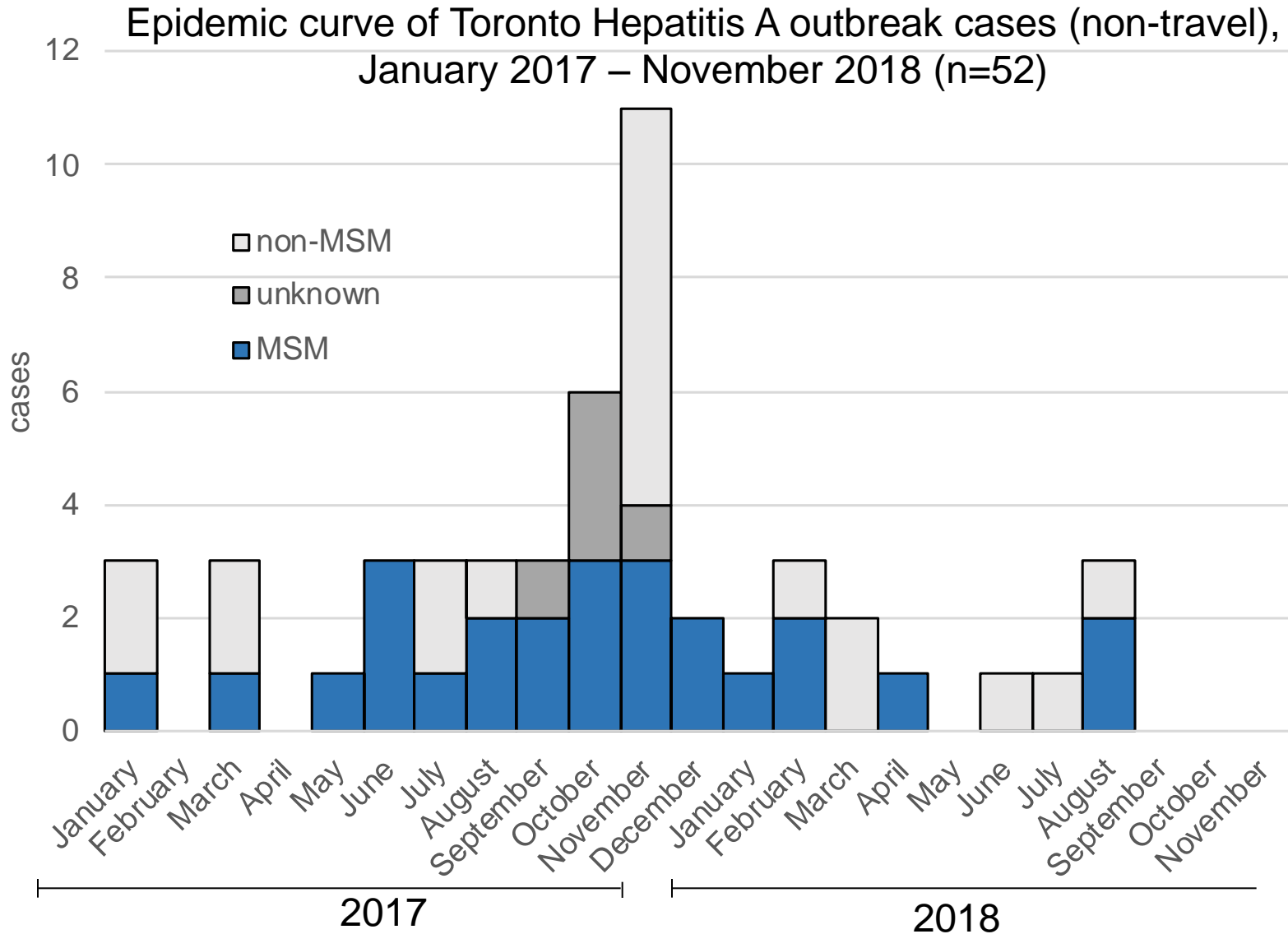
Web visits: 7,233

Increase in HAV Orders

External Hepatitis A Vaccine Orders, January 2016 – October 2018



Outbreak Declared Over



- A social media approach - reach a defined target group that is difficult to reach through traditional channels
- Case study of mumps
 - Started in a specific geographic area (west downtown Toronto)
 - Spread to a community outbreak
 - Target the 18-35 year old “hipster”
- Case study of hep A
 - Started in a specific geographic area (Church St Village)
 - Target men who have sex with men
- Use specific channels to reach communities at risk

Summary – 2 very different outbreaks

Mumps Outbreak	Hepatitis A outbreak
Young adult hipster	Men who have sex with men
A lot of media attention initially	Little media attention on outbreak
Public social behaviours (eg. Sharing drinks in a bar)	Private social behaviours – sexual identity and behaviours
Trendy, talked about	Perceived discrimination, barriers to accessing care
Vaccine readily available in doctor's offices	Vaccine had to be ordered

Summary – different social media strategies

Mumps Outbreak	Hepatitis A outbreak
Used general social media channels, but targeted message (eg. FB ads)	Used targeted social media channels (eg. Grindr)
Creative and messages developed and launched quickly	Creative and messages researched and focus tested
Humorous approach to creative and messages	More authoritative tone
Supported by additional media tactics	Supported by additional Media tactics
Evaluation occurred throughout campaign	Evaluation occurred throughout campaign

Conclusion

- Social media can amplify traditional communication approach that is a mainstay of outbreak response
 - More than tweeting out media release messages!
- Have dedicated social media and communications expertise at the outbreak response table
- Having a budget, even if limited, will significantly improve your results

Conclusion

- Even though time is limited, create a social media plan and define objectives, target group and benchmarks before
- Evaluate throughout the campaign
- Make changes based on outbreak response and anticipating the next wave of the outbreak
- Be creative and have fun



ID and Communications teams

Omar Ozaldin

Rebecca Stuart

Les Shulman

Lenore Bromley

Ashraf Ali

Alex Summers

Jia Hu

Many other TPH staff

Ministry of Health, PHO and other health units

Hepatitis A Outbreak Team

Rebecca Stuart, Sylvia Ota,
Kaitlin Bradley, Alex Summers,
Debra Hayden, Jill Gumbley, Chi
Ching Hui, Karen Beckermann,
Angela Machado

NML -Anton Andonov

Public Health Ontario and Public
Health Ontario Labs

New York City Department of
Health