



Serogroup C Meningococcal Disease Among Chicago-Area Men Who Have Sex With Men, 2015

Sarah Kemble, MD
ACIP, October 21, 2015

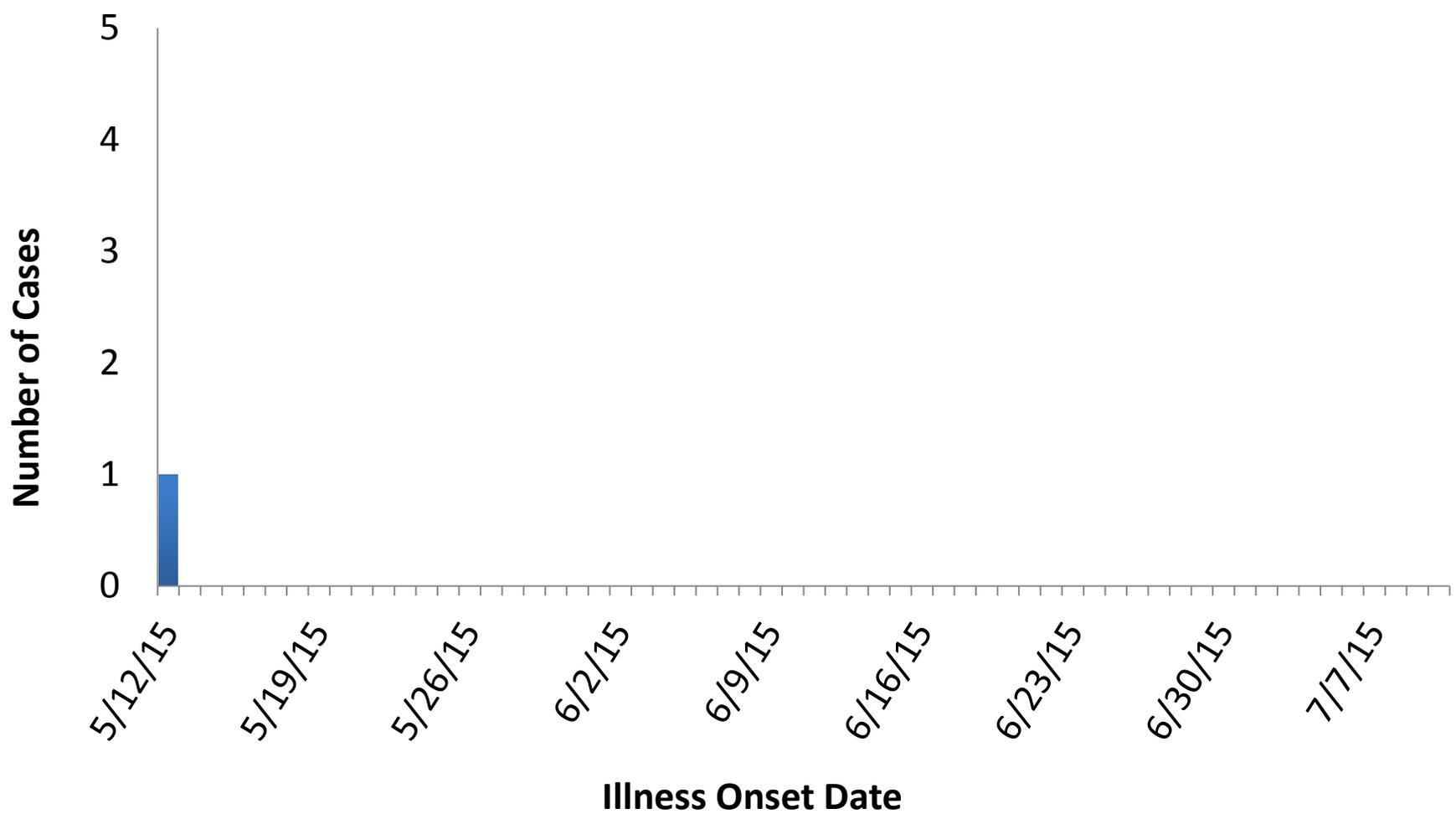
Overview

- Outbreak epidemiology and response
- Vaccination Campaign
- Challenges encountered
- Cost of the campaign

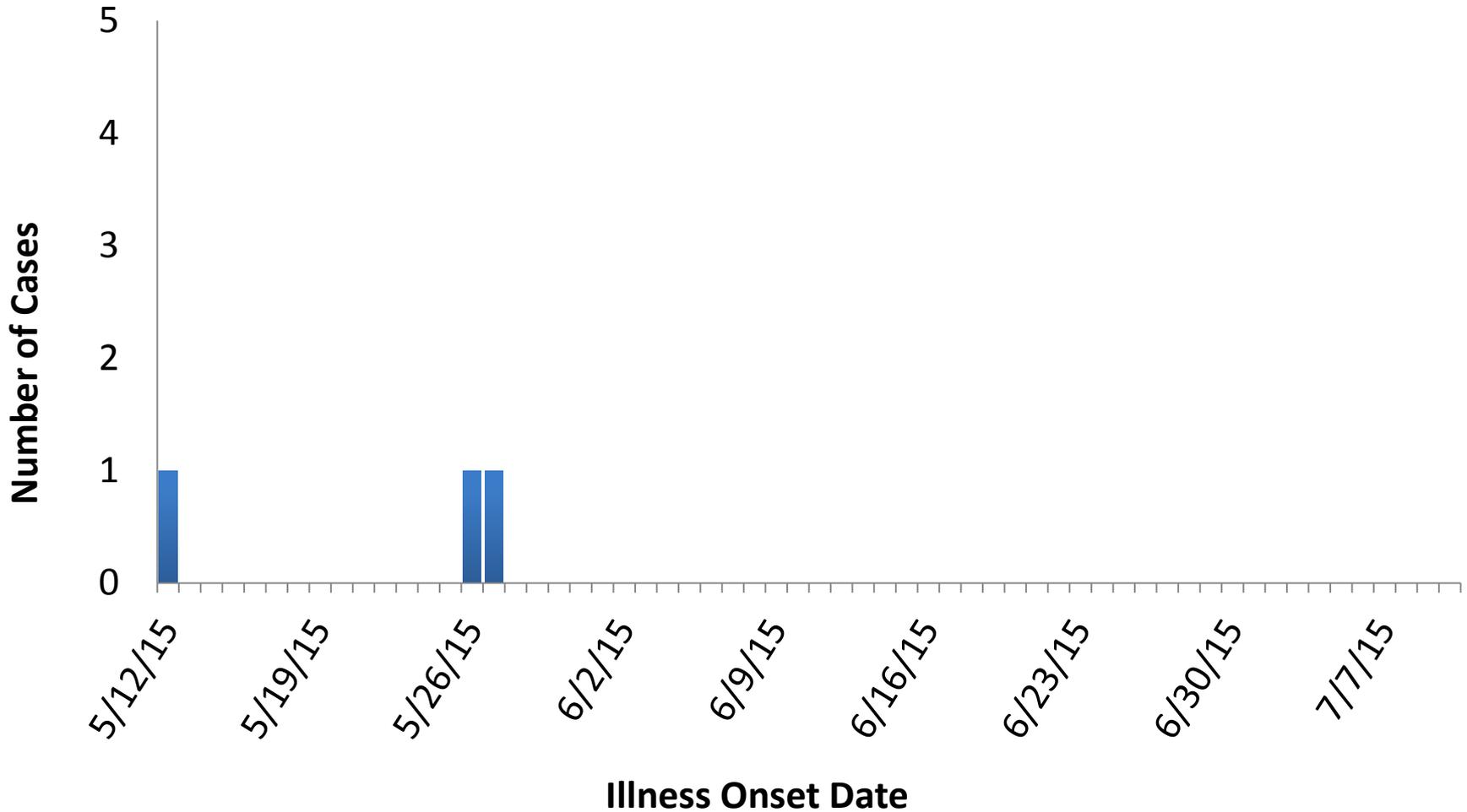
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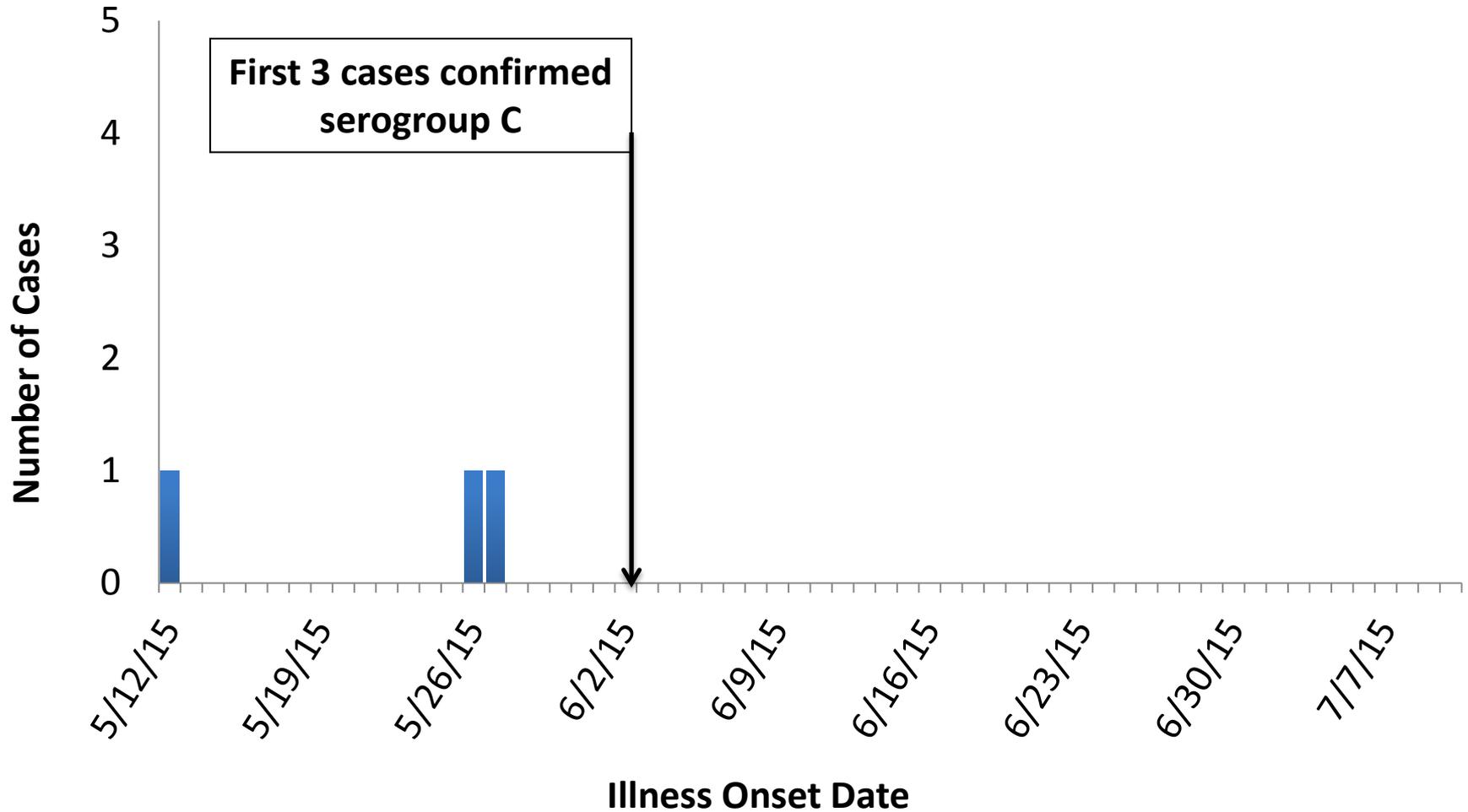
Meningococcal Disease, Serogroup C Chicago Area 2015



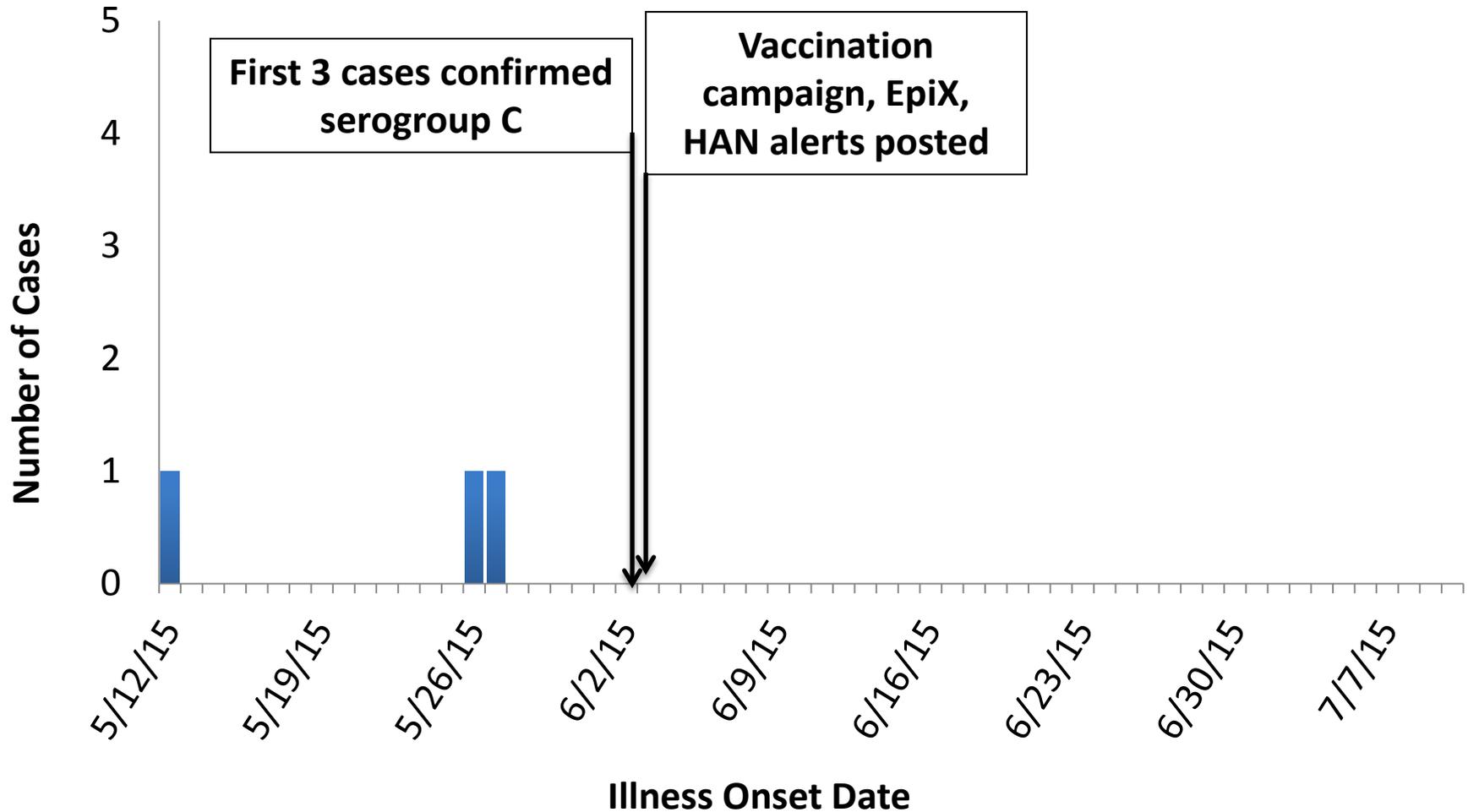
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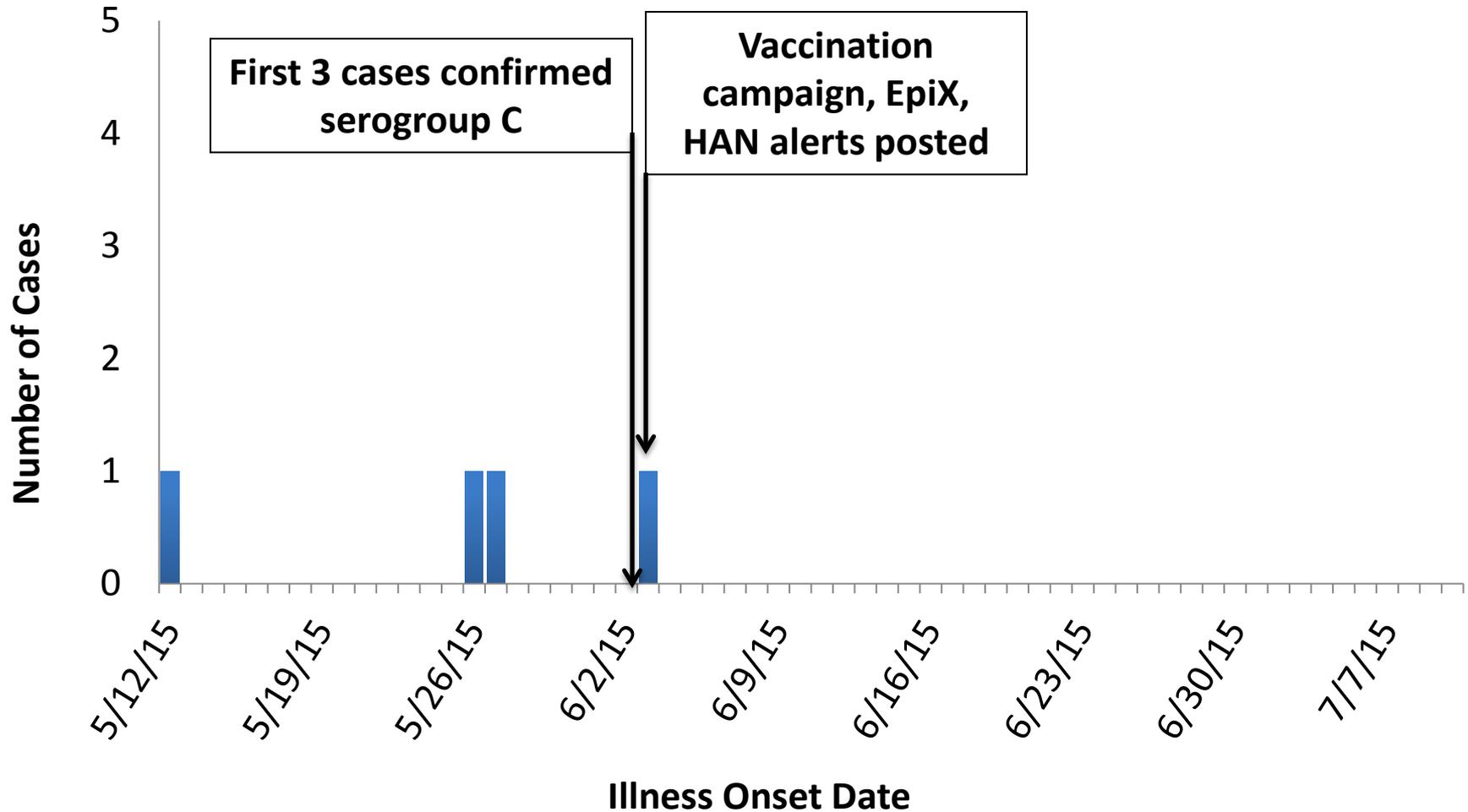


CDPH Initial Vaccination Recommendations Issued June 3, 2015

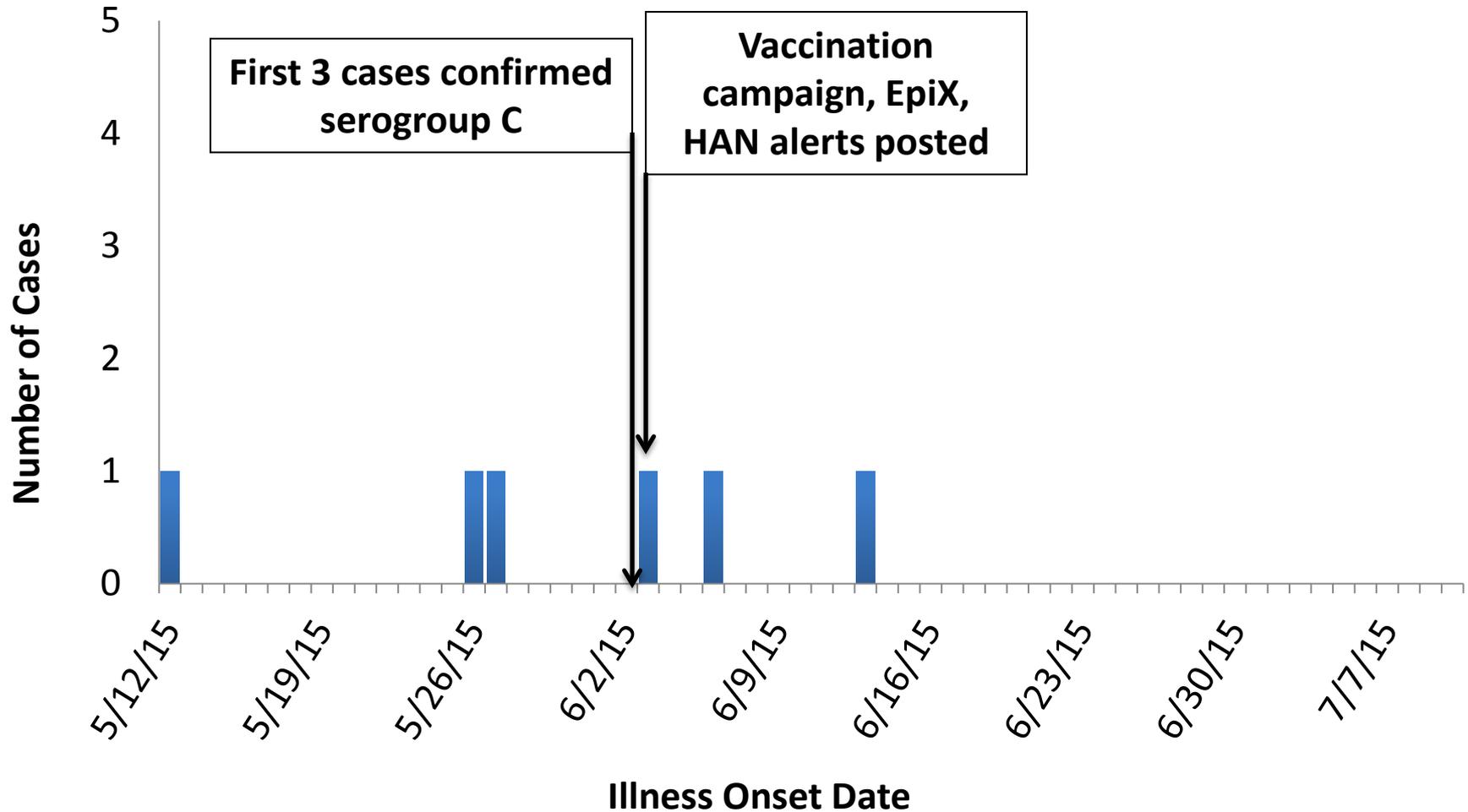


- HIV-positive men who have sex with men (MSM)
- MSM regardless of HIV status who
 - have close/intimate contact with anonymous partners
 - seek sexual partners through use of on-line “hook up” apps

Meningococcal Disease, Serogroup C Chicago Area 2015



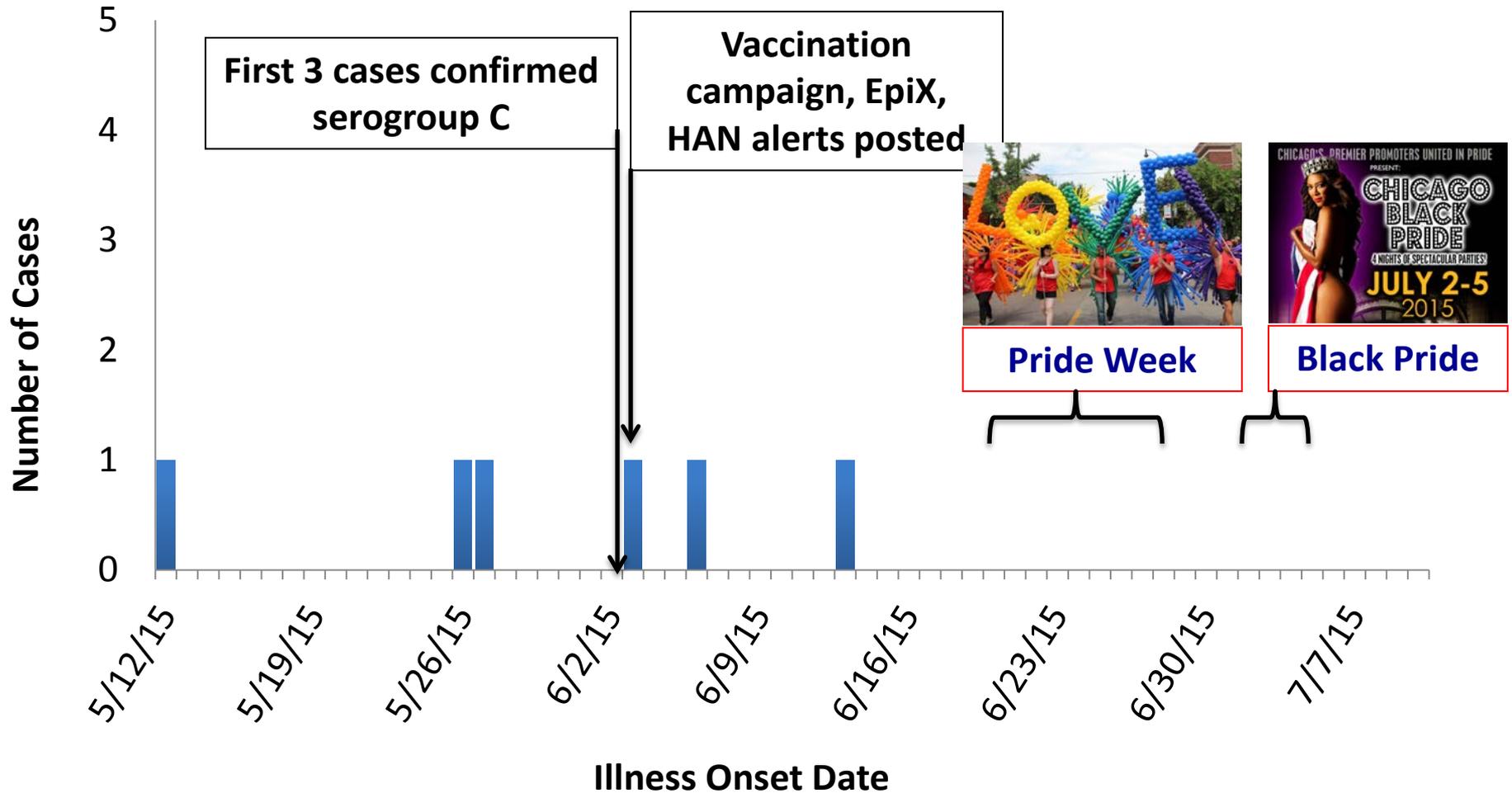
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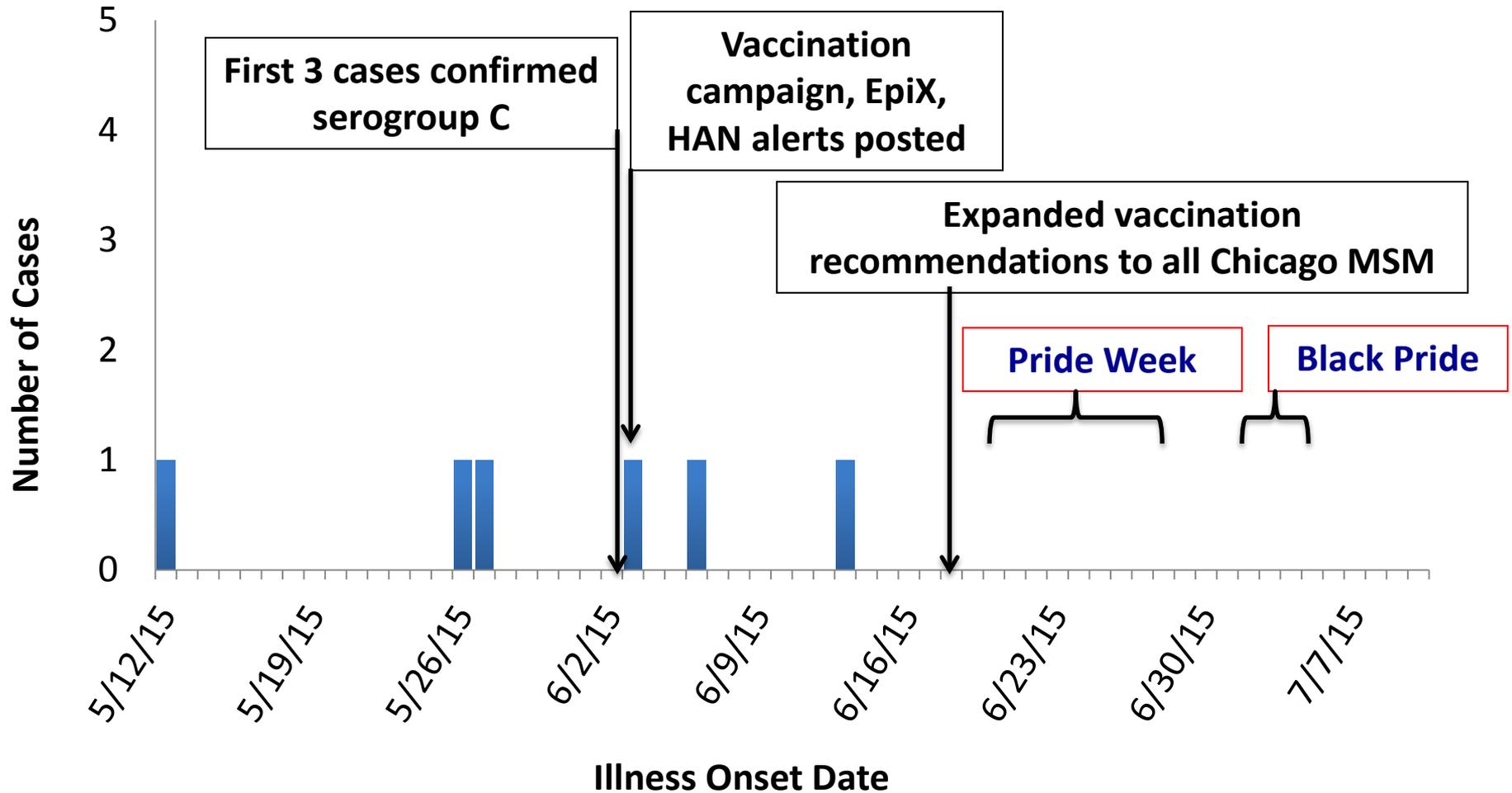
Defining an Outbreak

- ACIP recommended threshold for initiation of a meningococcal vaccination campaign:
 - Incidence of 10/100,000 among at-risk population
 - Consideration for multiple cases within short time period, shared institution or geography
- Invasive meningococcal disease (IMD) incidence among Chicago HIV+ MSM = 19/100,000 as of June 3
- IMD incidence among Chicago MSM regardless of HIV status = 10/100,000 as of June 18

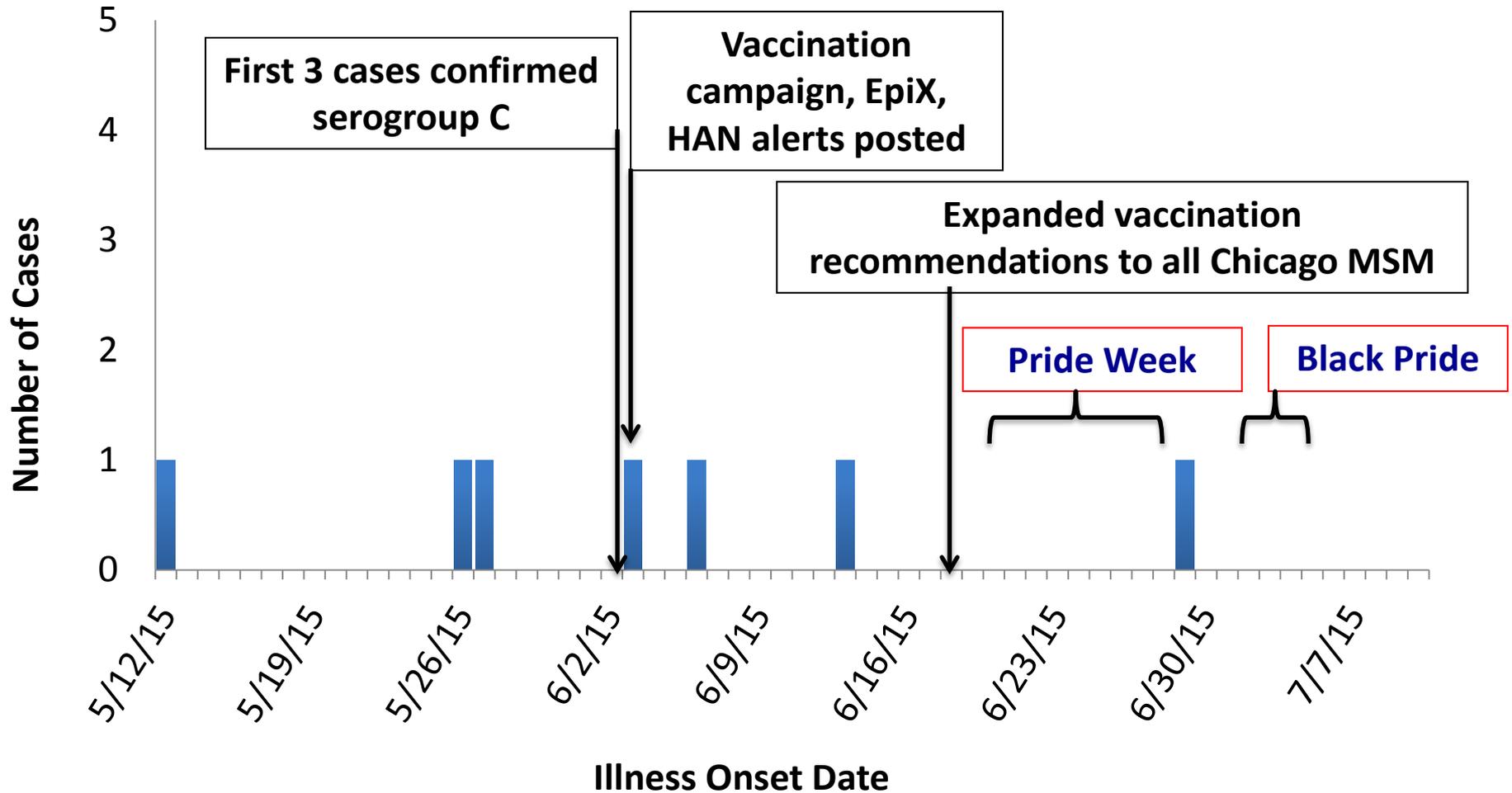
Meningococcal Disease, Serogroup C Chicago Area 2015



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Meningococcal Disease, Serogroup C Chicago Area 2015



Outbreak Case Characteristics

- 7 cases
 - 6 in Chicago, 1 in neighboring county
 - Age range 29–54 years
 - 1 death
 - 6 African American
 - 5 HIV+ (CD4 counts 91, 312, 369, 960)
 - 5 reported anonymous sex, 1 sex worker
 - 5 reported meeting partners using “hook-up” apps

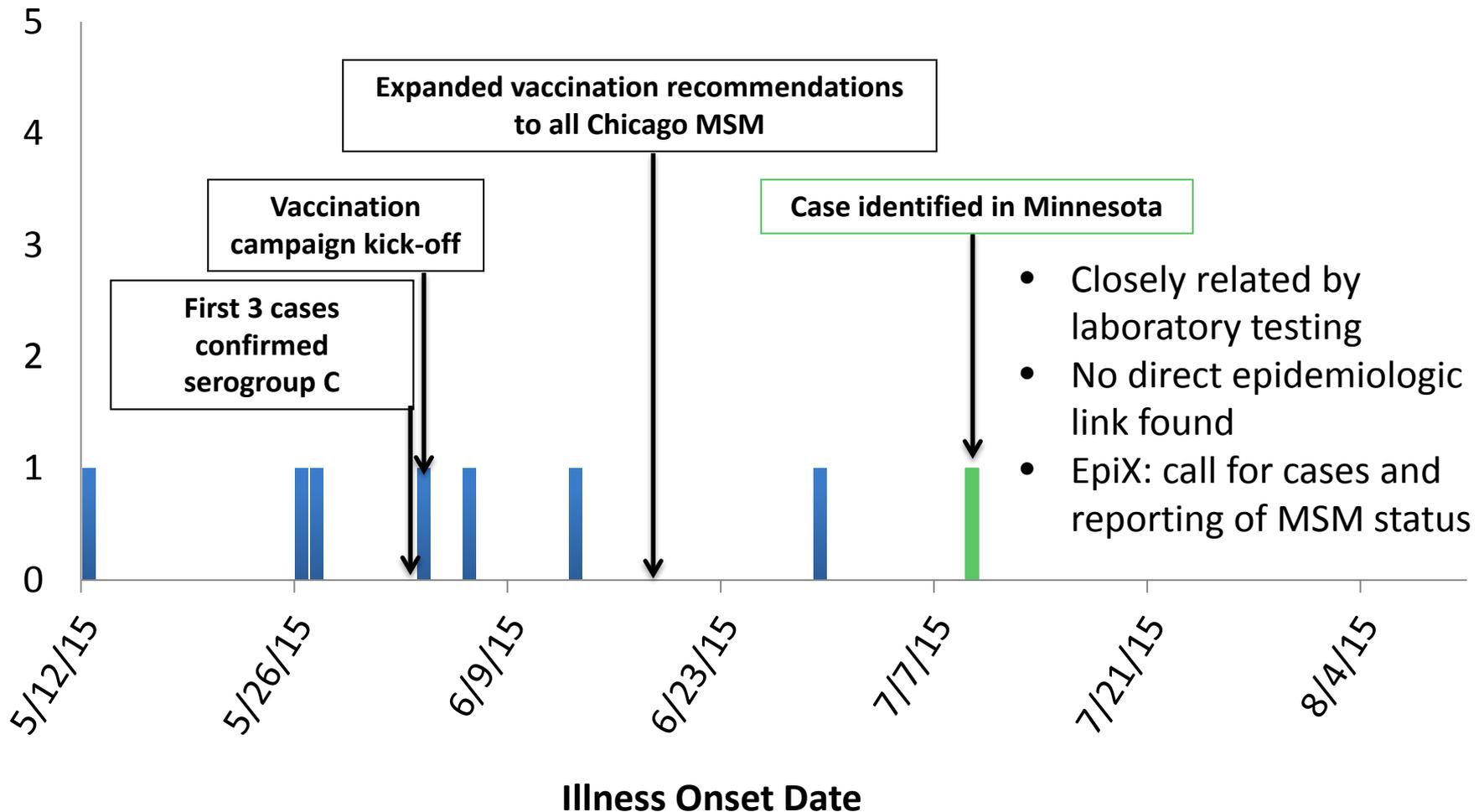
Extended Case Investigations

- Trace intimate contacts 90 days prior to illness onset
- Up to 9 contacts (median 4) per case met indications for prophylaxis (close/intimate contact ≤ 14 days of illness onset)
- No direct epidemiologic links found
- HIV partner services
- Identify additional vaccination targets
 - Individuals, friend networks, venues

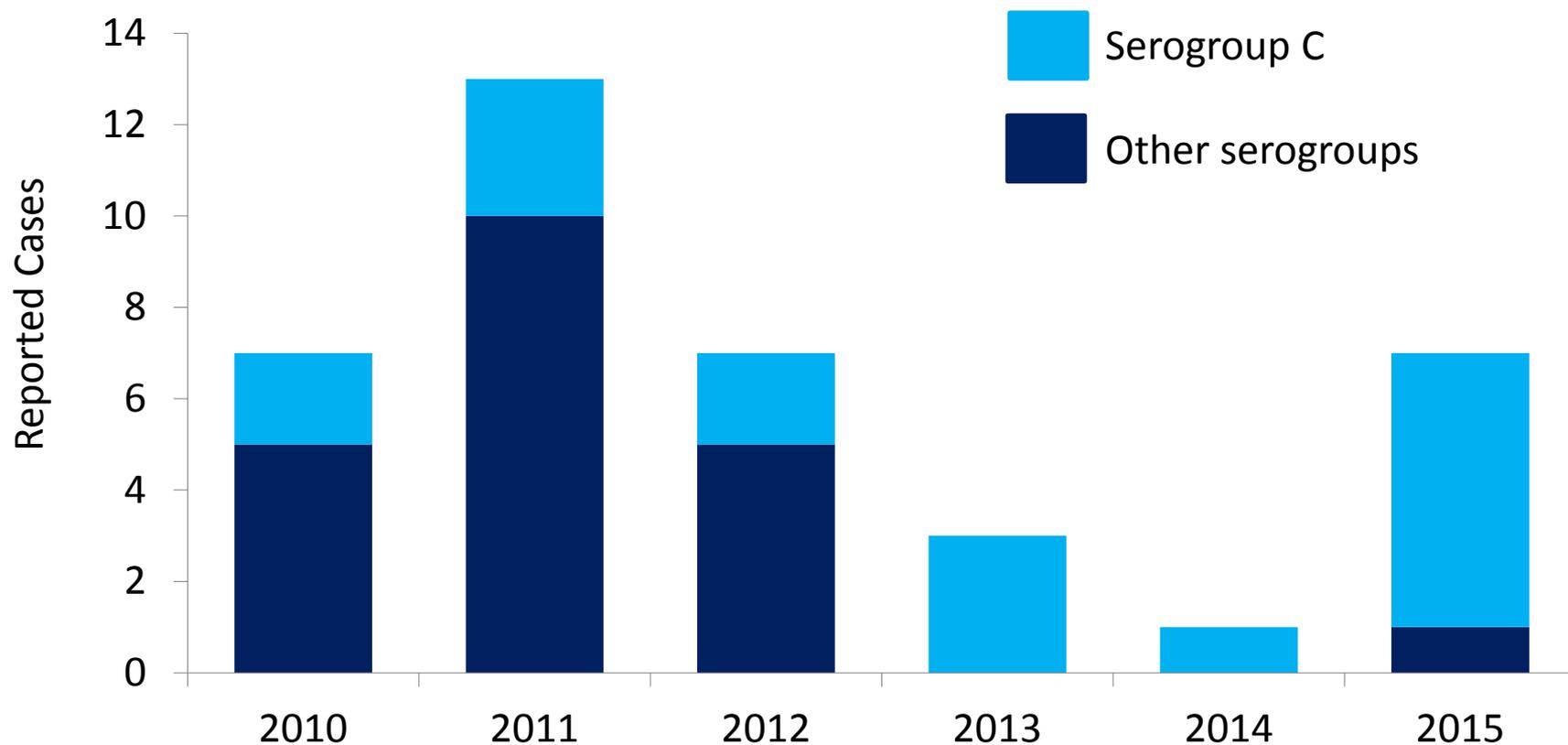
Outbreak Molecular Epidemiology

- All 7 Chicago-area case isolates
 - Indistinguishable pulsed-field gel electrophoresis (PFGE) pattern and multi-locus sequence type (MLST)
 - <12 single nucleotide polymorphism (SNP) differences by whole genome sequencing (WGS)

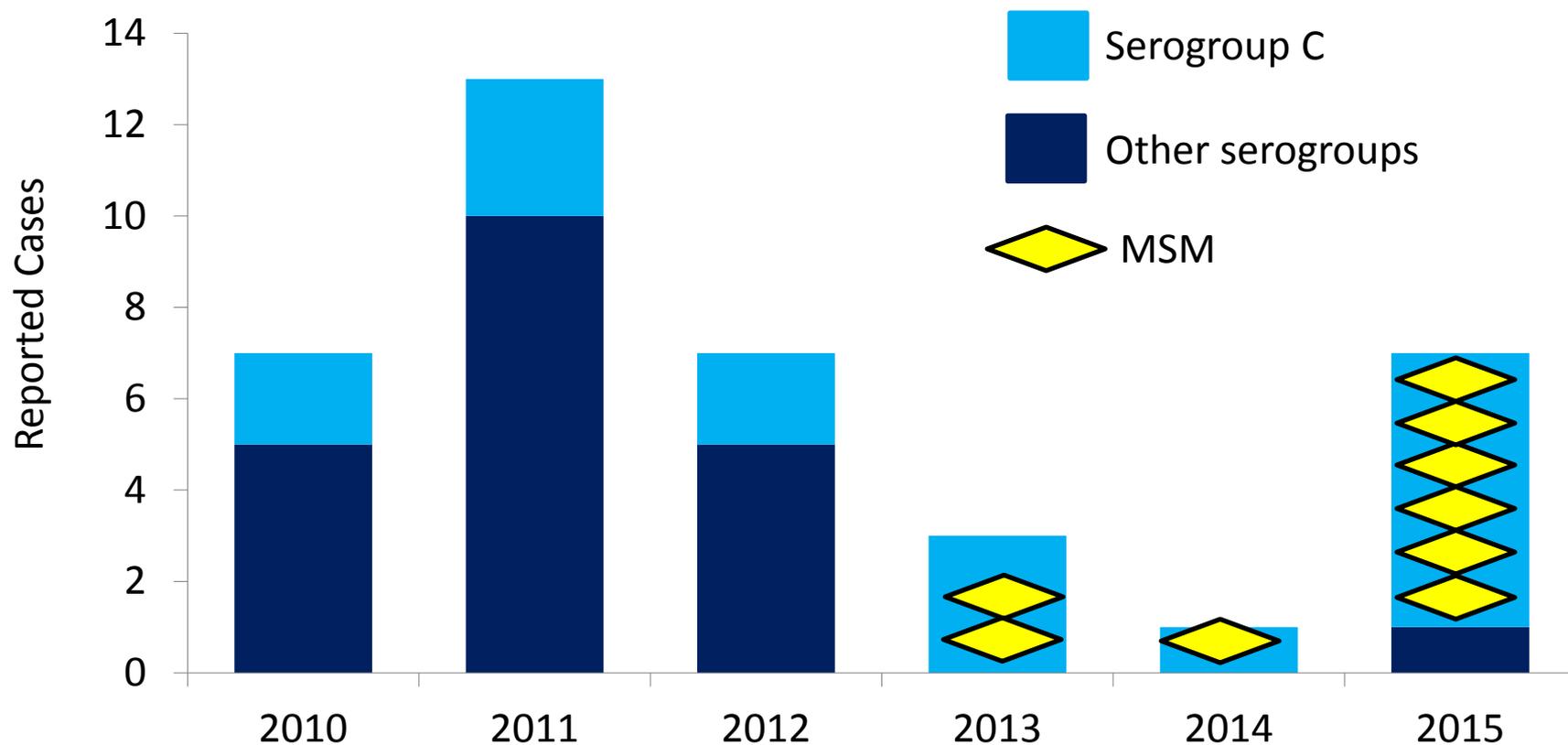
Meningococcal Disease Outbreak, Chicago Area 2015



Chicago Invasive Meningococcal Disease By Serogroup, 2010–2015



Chicago Invasive Meningococcal Disease By Serogroup, 2010–2015



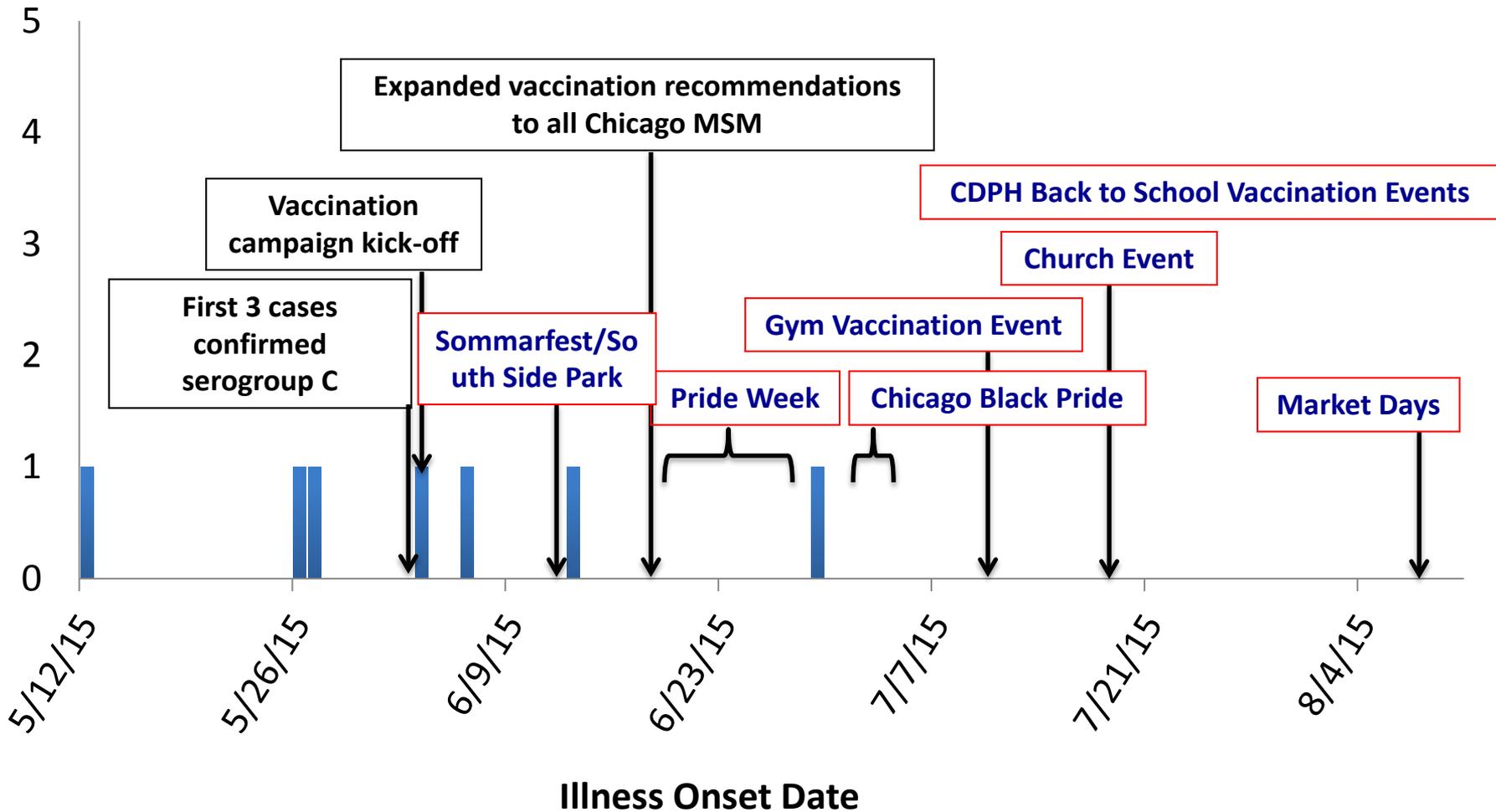
Overview

- Outbreak epidemiology and response
- **Vaccination Campaign**
- Challenges encountered
- Cost of the campaign

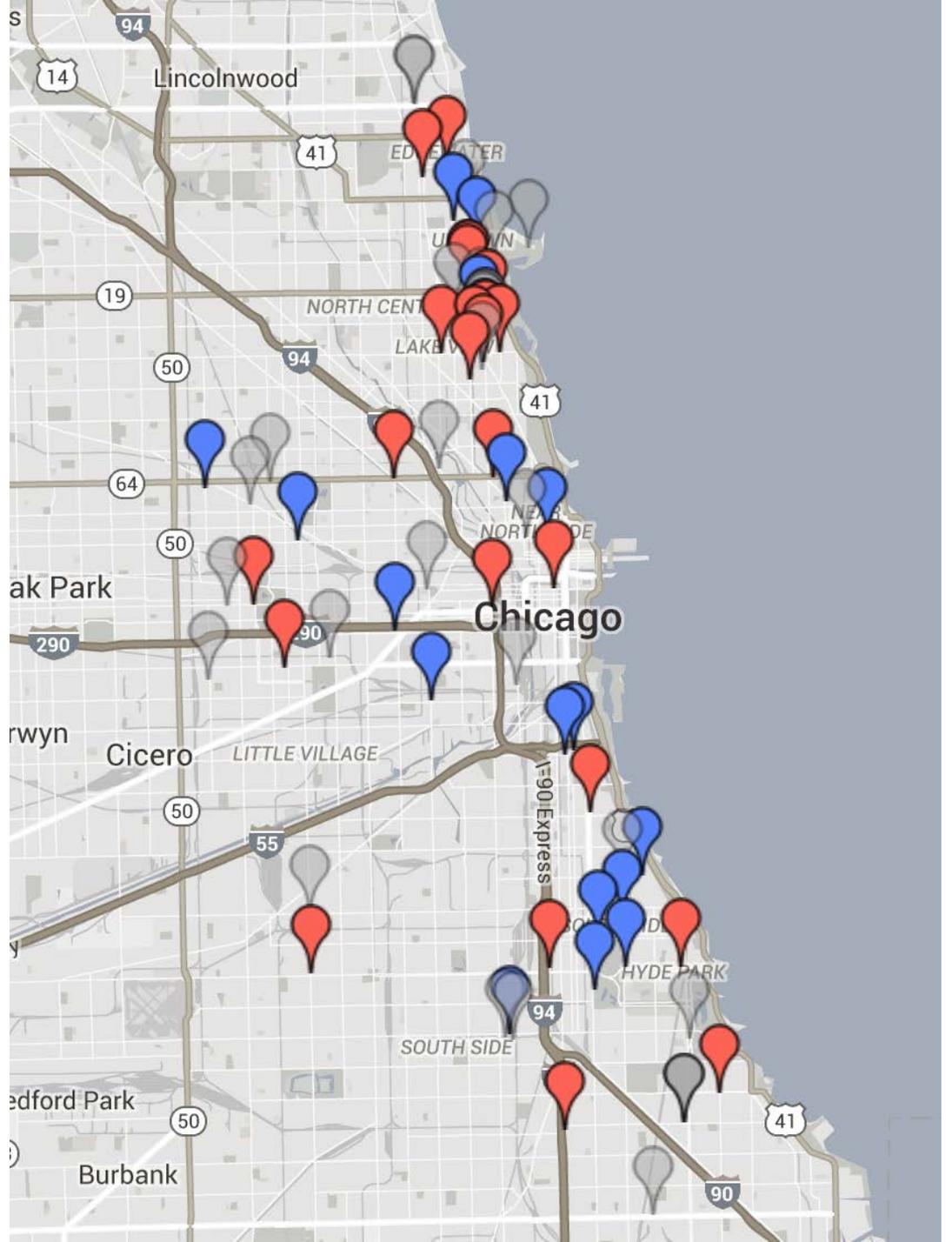
CDPH Meningococcal Vaccination Campaign Components

- Federally funded 317 vaccine distribution
 - CDPH “pop-up” clinics
 - Partner clinic sites
 - Pharmacies (Walgreens)
- Communications/Media
- Community Outreach (Ryan White grant recipients and other community partners)
- Evaluation

“Pop-Up” Meningococcal Vaccination Clinics



<http://chicagomeningvax.org>



Media Campaign

- Press Release - television, radio, print media
- Paper canvassing – posters, flyers, palm cards
- Billboards
- Action Alerts to community partners
- Twitter feeds, Facebook posts
- Push notifications on hook-up apps
- Digital Ads – Facebook, Twitter, Google

If you're a man who has sex with men, you're at risk for meningitis. Meningitis can be extremely serious and even deadly.

Meningitis is spread through intimate activities like kissing and sexual contact or sharing drinks or cigarettes. Signs and symptoms are **fever, headache** and a **stiff neck**.

If you're at risk, **call your doctor, pharmacist or 311** for vaccination information. You can also visit www.cityofchicago.org/health for more information.

If you believe you have any symptoms, **seek medical help immediately**.

Get The Facts. Get Vaccinated.

**Get vaccinated today at
Club Escape**

Vaccines are also available at the following locations:

Englewood Clinic, 641 W 63rd St, Thurs 9-4:30pm, Fri 8am-3:30pm

Walgreens, 11 E 75th St, open 24 hours

Walgreens, 7109 S Jeffery Ave, 24 hours

For a full list of clinics visit www.cityofchicago.org/health and click on the **MENINGITIS** link

Media Campaign

Meningitis
Get the Facts. Get Vaccinated.
www.dhs.gov/health or call 1-877-339-3839

LOCAL
90 94
ALL EXITS
RIGHT 1 MILE

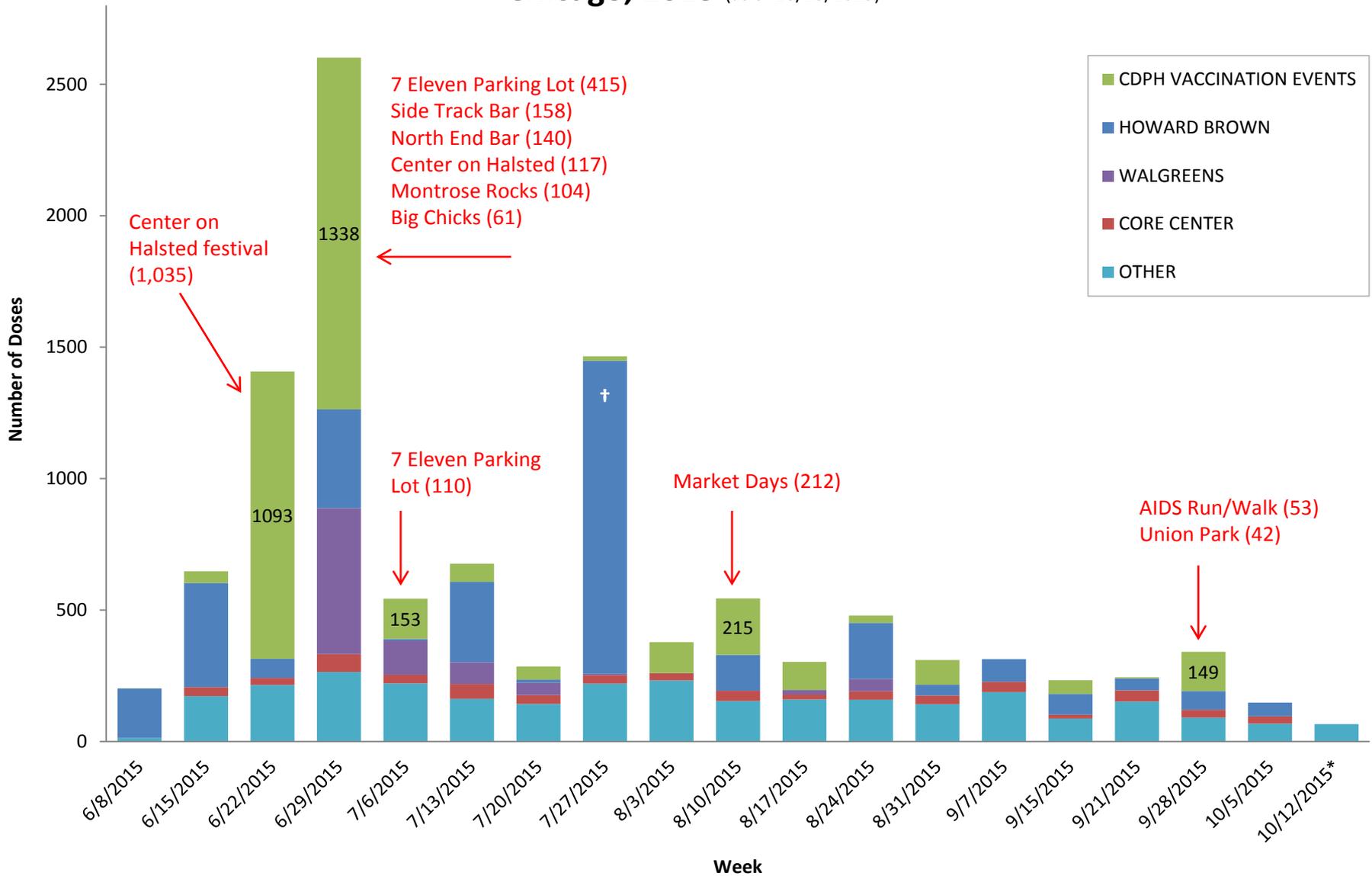


Engagement of Community-Based Partner Organizations

- HIV/MSM providers
- STI clinics
- Community-based organizations (non-clinical)
- LGBT Aldermen's Caucus
- African American Aldermen's Caucus
- Gyms, bars/clubs, health fairs, community events
- House Ball networks

Meningitis 317 Vaccine Doses Administered by Week and Site, Chicago, 2015 (as of 10/13/2015)

n=11,185



*incomplete data
reporting backlog

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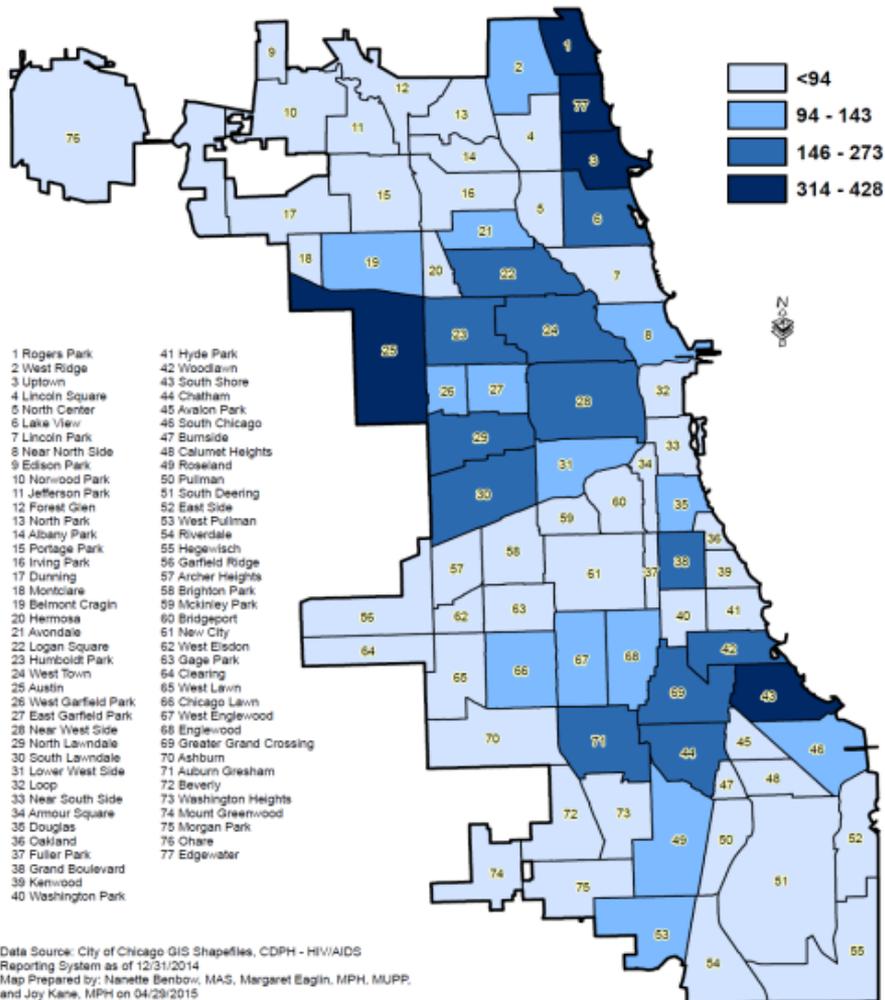
Who Is At Risk?

The image displays three overlapping screenshots of mobile applications. The top-left screenshot shows the 'A4A Radar' app with a grid of user profiles, some with redacted faces. The top-middle screenshot shows the 'Grindr' app with a grid of user profiles, including one with a map overlay. The right-side screenshot shows the 'Jack'd' app's account menu with various options like 'Download Jack'd', 'Terms', 'FAQ', 'Jack'd Store', 'Facebook', 'Twitter', 'Translate Jack'd', and 'Delete Account'. A 'Download Google Chrome' banner is visible at the bottom left, and a 'HotelTonight' banner is at the bottom center.

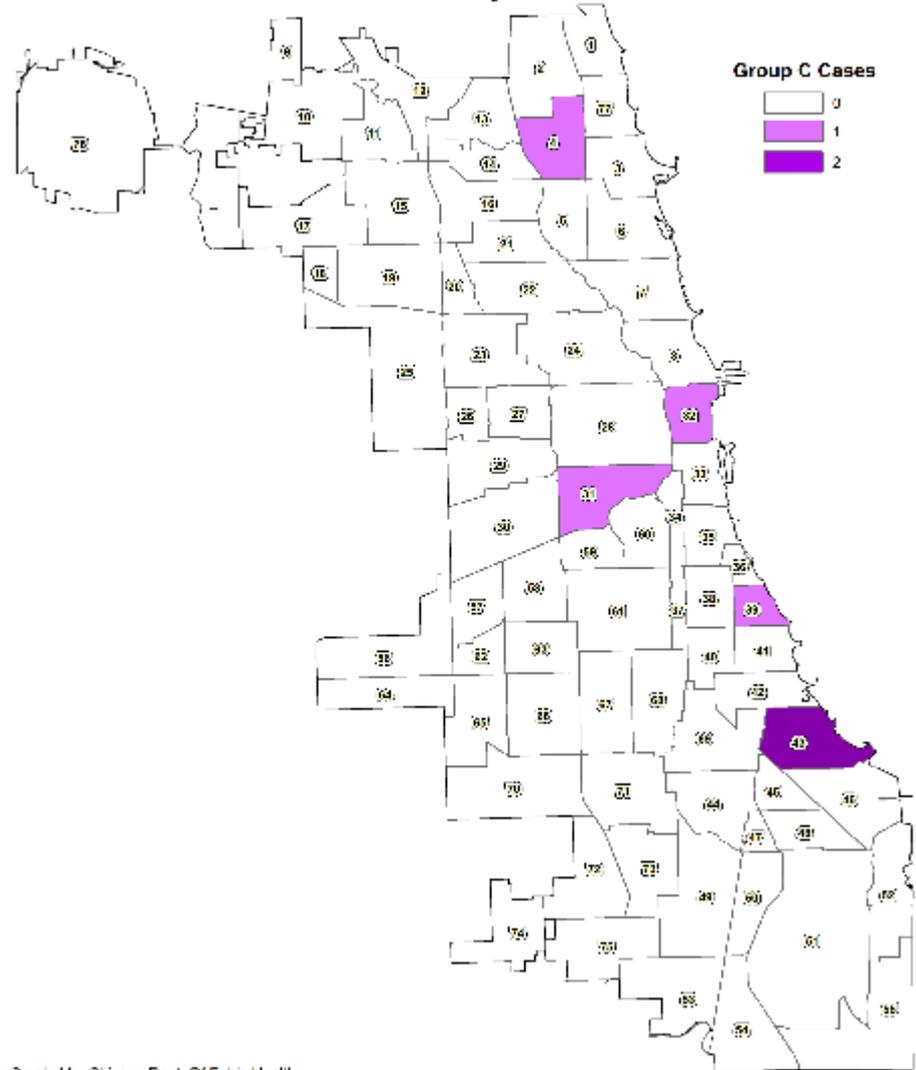
 **HotelTonight**
Last-minute hotels at unbelievable prices. [DOWNLOAD NOW](#)

Demographic Disparities

Prevalence of HIV among Black or Hispanic MSM, Chicago (as of 12/31/2014)

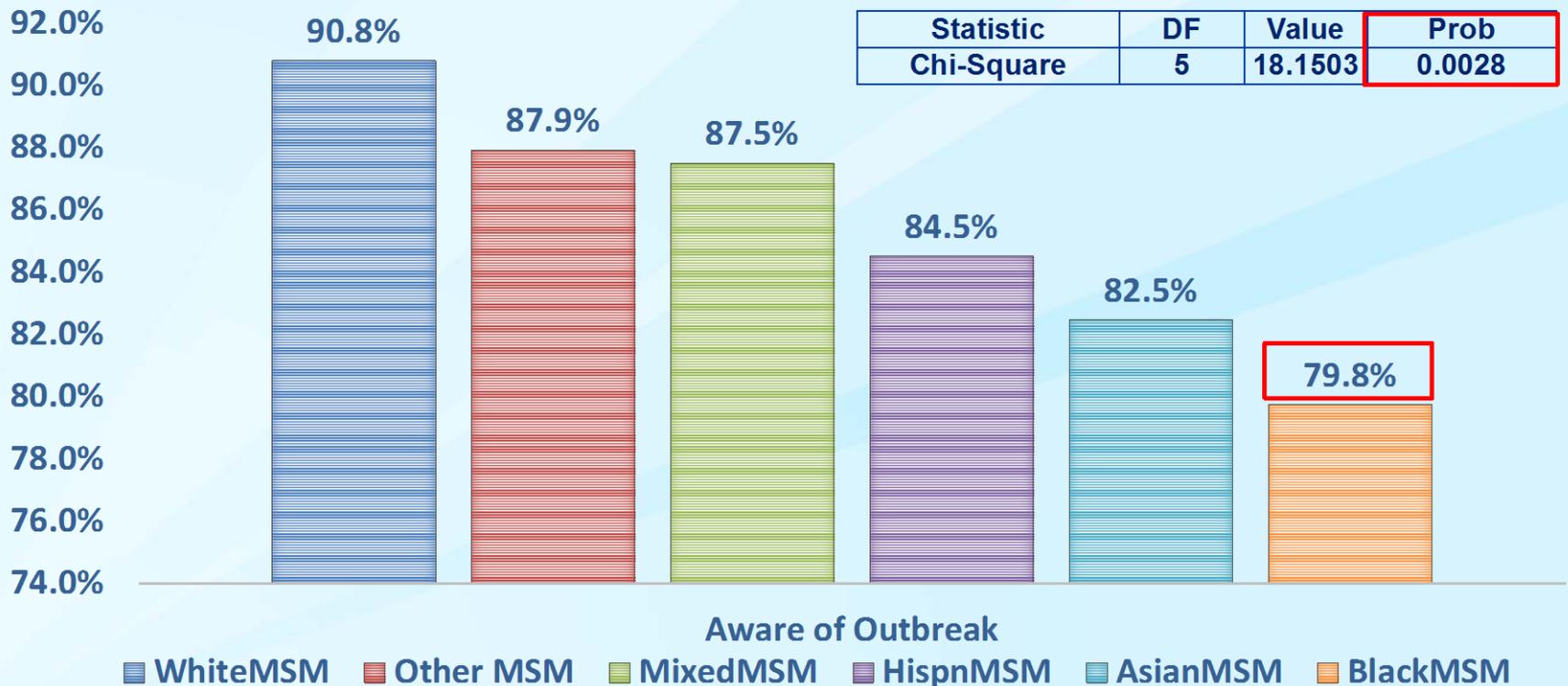


Chicago 2015 Meningococcal outbreak case distribution by community area



Highest Risk Least Aware

Awareness of Outbreak by Race



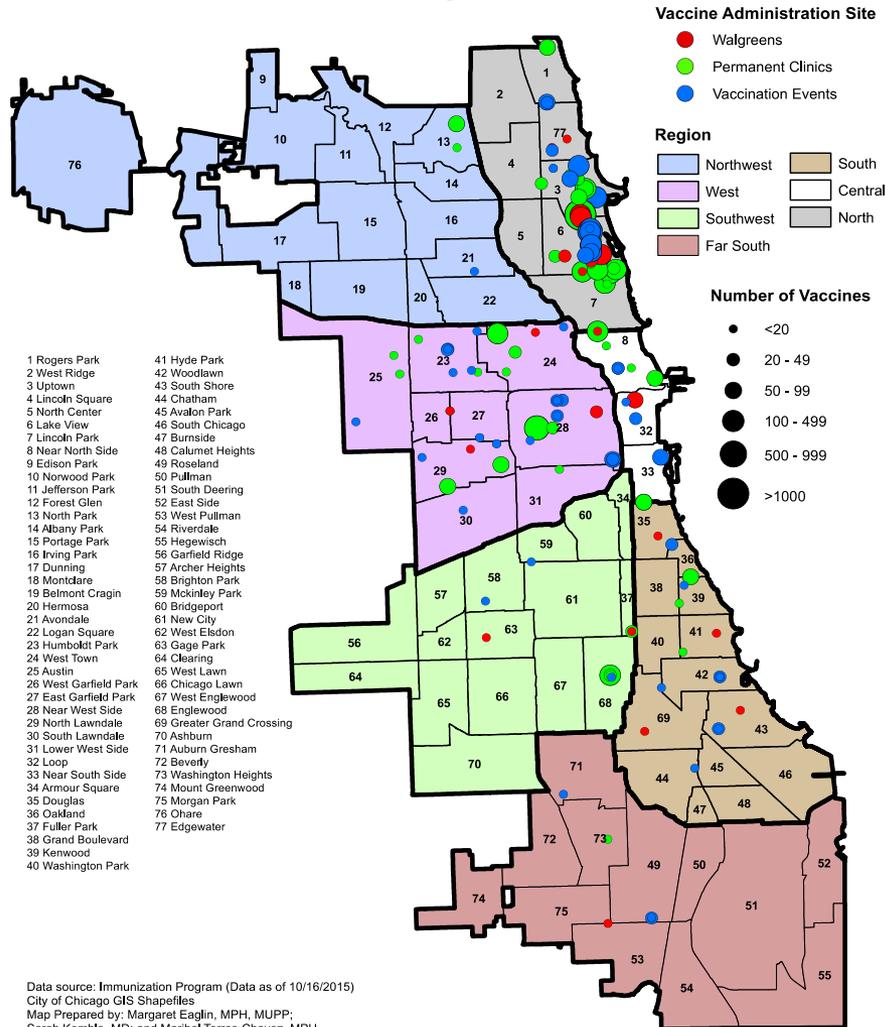
Fighting Denial and Stigma

“When we first heard about this [outbreak] we assumed, it’s those white boys in Uptown bringing it in...We never thought it was happening in *our* community.”

“It feels like HIV all over again. Like, everything bad happens to [black gay men].”

Tracking Vaccine Administration Reported to CDPH by Site

Federal (317) Meningococcal Vaccine Administration by Location, Chicago 2015

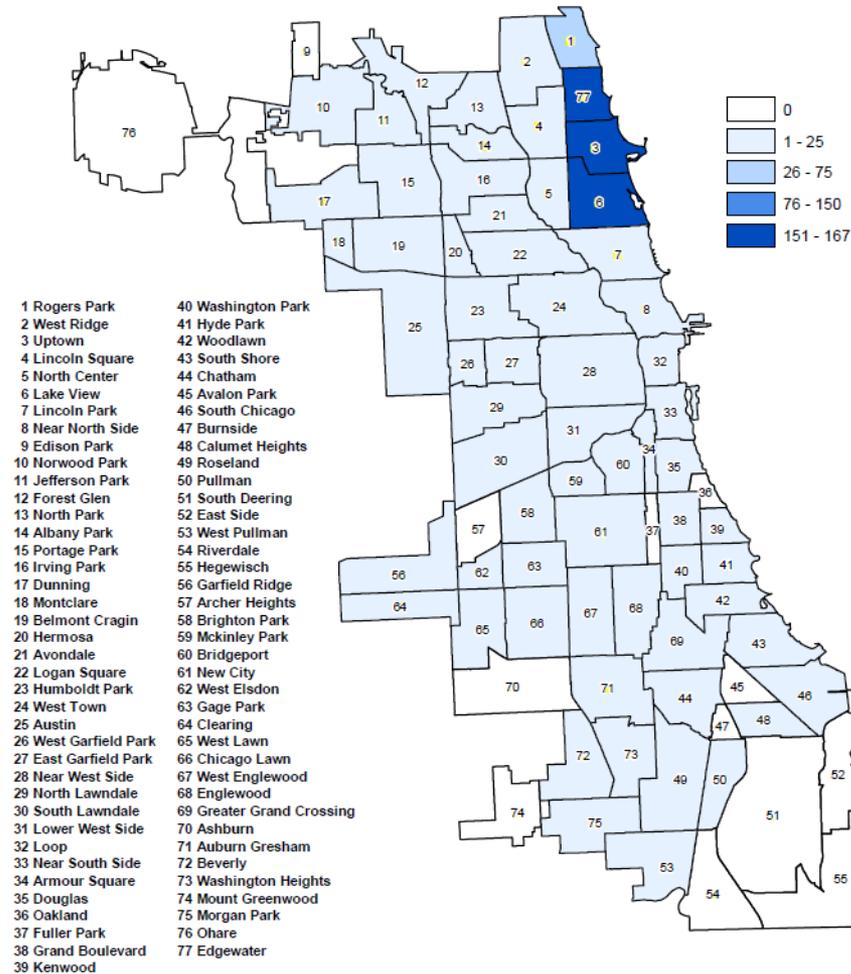


Tracking Vaccine Uptake By Using I-CARE Vaccine Registry

Residence of Individuals Receiving Meningococcal Vaccine by Chicago Community Area, 2015

Includes Vaccines Administered at CDPH Partner Clinics and Pop-up Clinics as of 06/15/2015

June 15
N=888



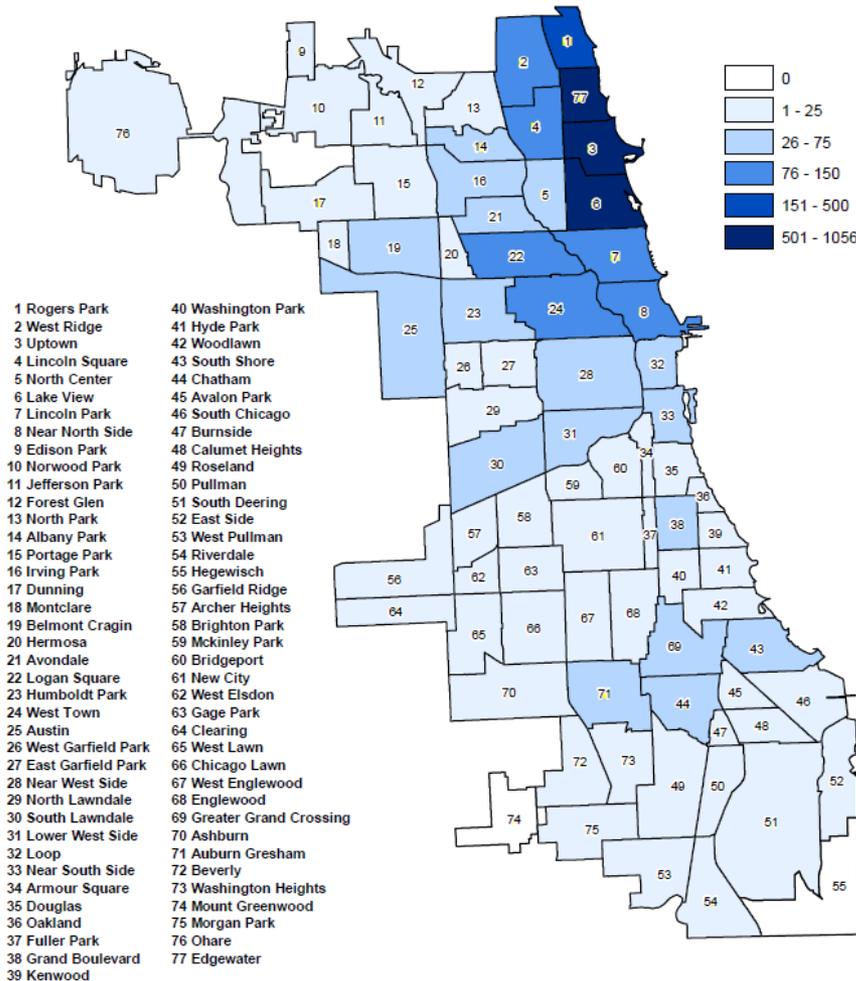
Map prepared by Whitney Clegg, CSTE Fellow, IDPH

Tracking Vaccine Uptake By Using I-CARE Vaccine Registry

Residence of Individuals Receiving Meningococcal Vaccine by Chicago Community Area, 2015

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June 30
N=4615



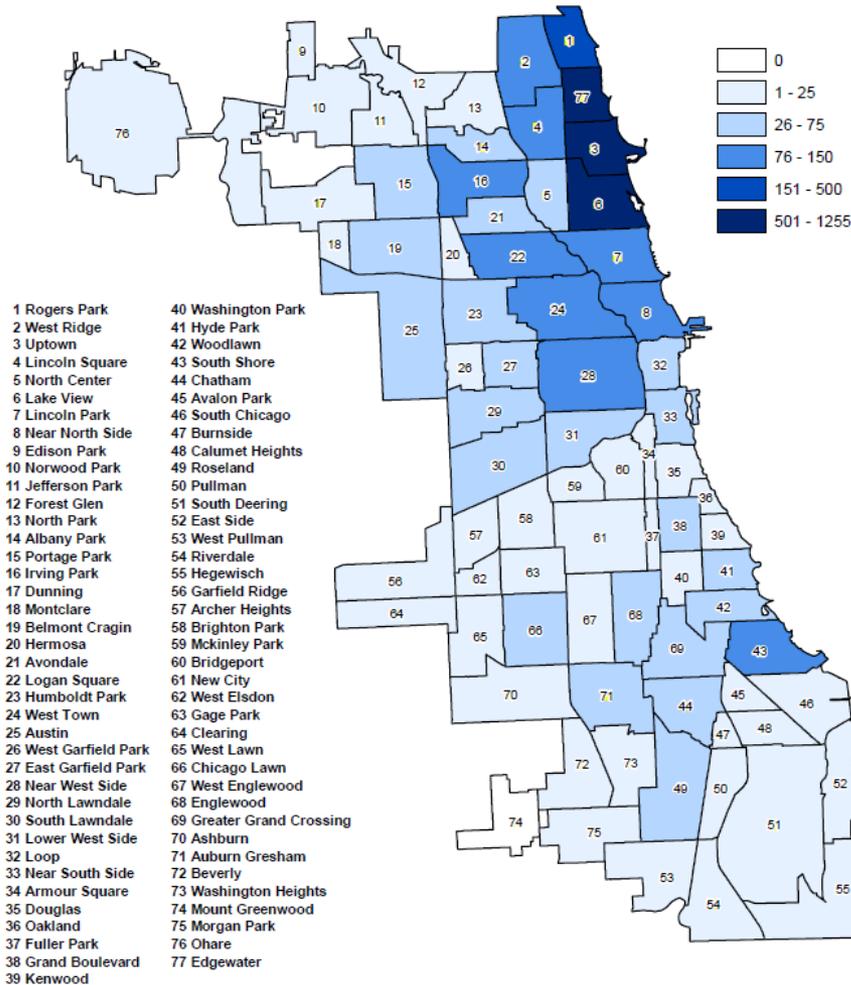
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Tracking Vaccine Uptake By Using I-CARE Vaccine Registry

Residence of Individuals Receiving Meningococcal Vaccine by Chicago Community Area, 2015

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July 31
N=5860



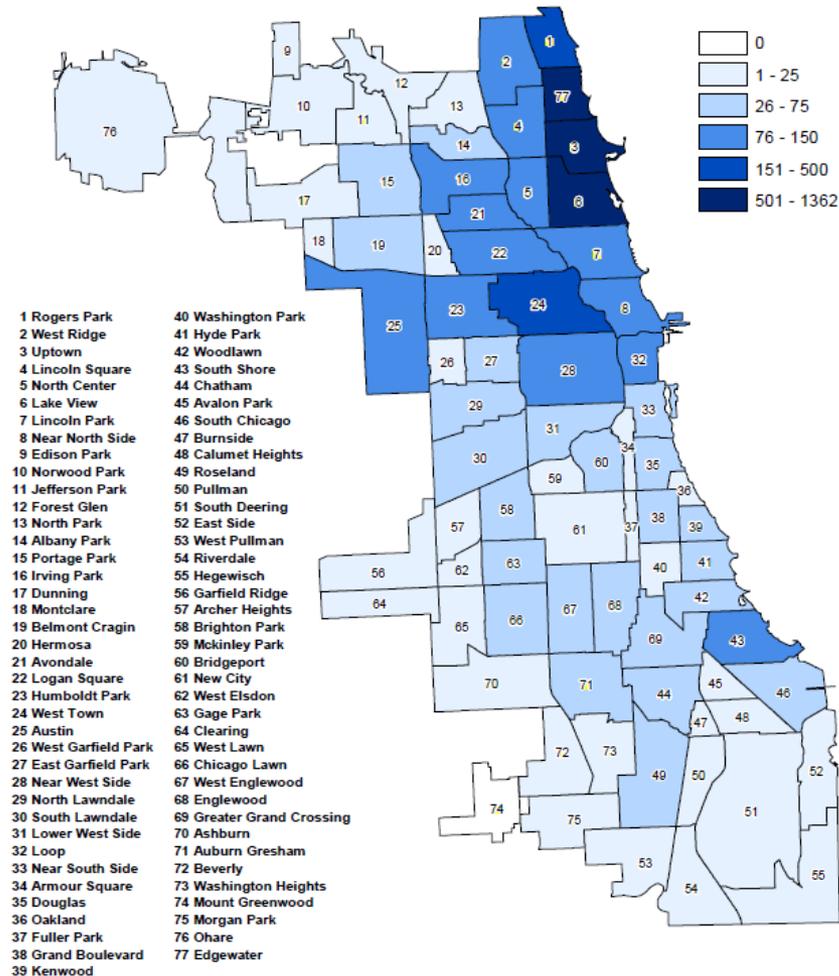
Map prepared by Whitney Clegg, CSTE Fellow, IDPH

Tracking Vaccine Uptake By Using I-CARE Vaccine Registry

Residence of Individuals Receiving Meningococcal Vaccine by Chicago Community Area, 2015

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August 31
N=6707



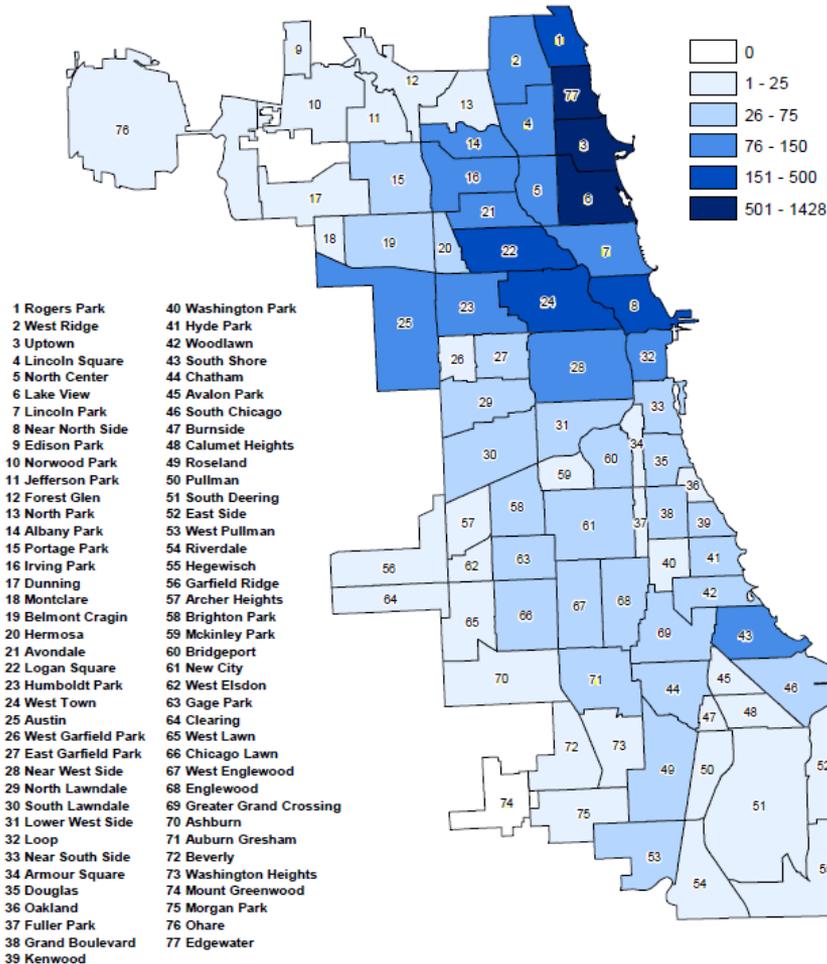
Map prepared by Whitney Clegg, CSTE Fellow, IDPH

Tracking Vaccine Uptake By Using I-CARE Vaccine Registry

Residence of Individuals Receiving Meningococcal Vaccine by Chicago Community Area, 2015

Includes Vaccines Administered at CDPH Partner Clinics and Pop-up Clinics as of 09/30/2015

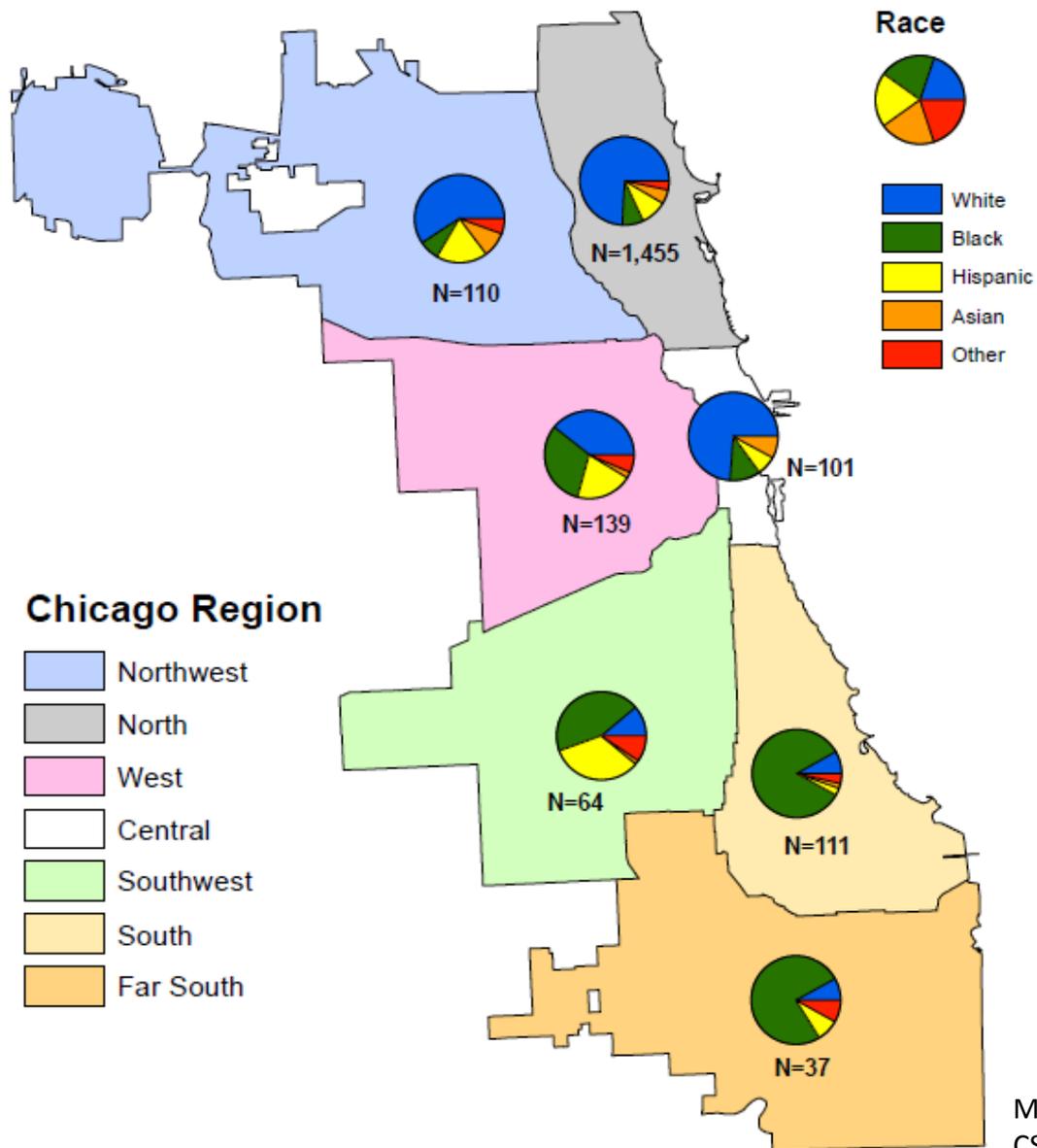
September 30
N=7458



Map prepared by Whitney Clegg,
CSTE Fellow, IDPH

Race/Ethnicity of Individuals Receiving CDPH Meningococcal Vaccine by Chicago Region, 2015

Includes Vaccines Administered at Events up to 07/05



Map prepared by Whitney Clegg, CSTE Fellow, IDPH

Second Dose For People Living With HIV

- HIV-positive individuals require 2 doses of meningococcal vaccine, given 8 weeks apart
- How to identify those living with HIV?
- How to ensure they return for second dose?

Summary of Challenges Encountered During Outbreak Response

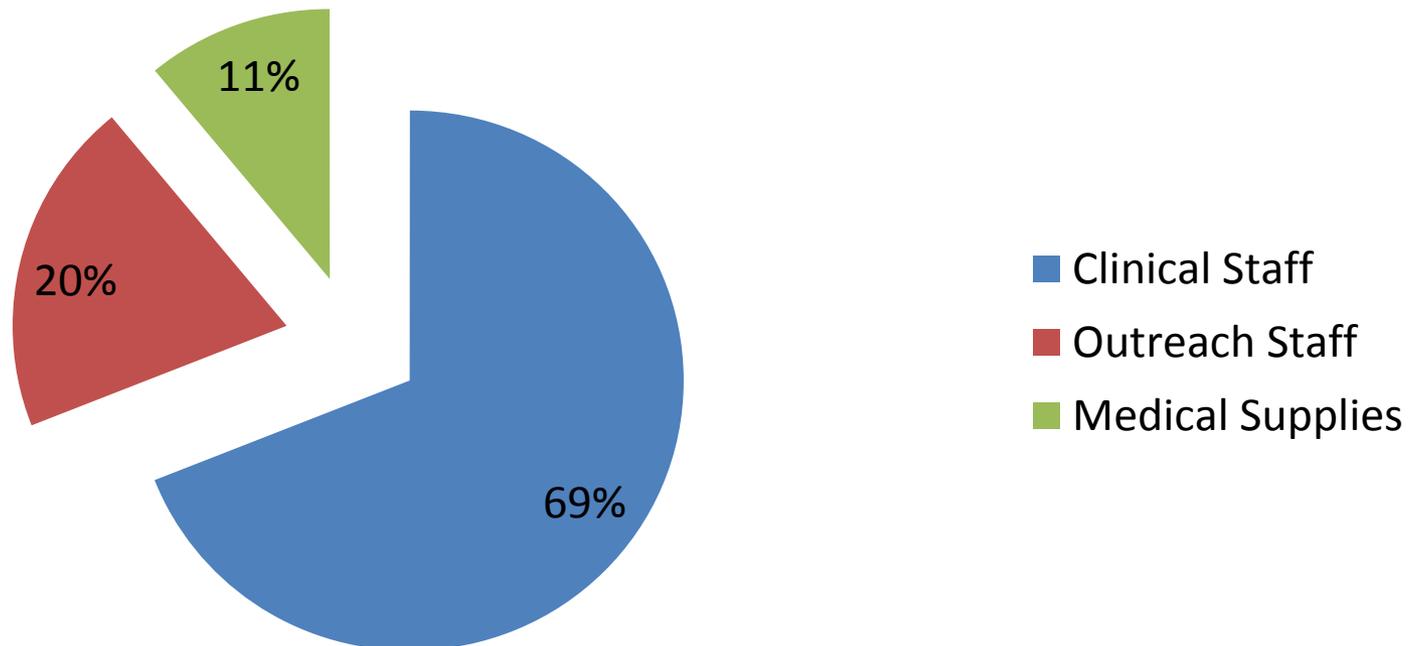
- How to reach members of social networks designed to preserve anonymity?
- How to facilitate communication and community participation to close knowledge gaps in underserved communities?
- How to deliver vaccine in these areas despite lack of infrastructure?

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- **Cost of the campaign**

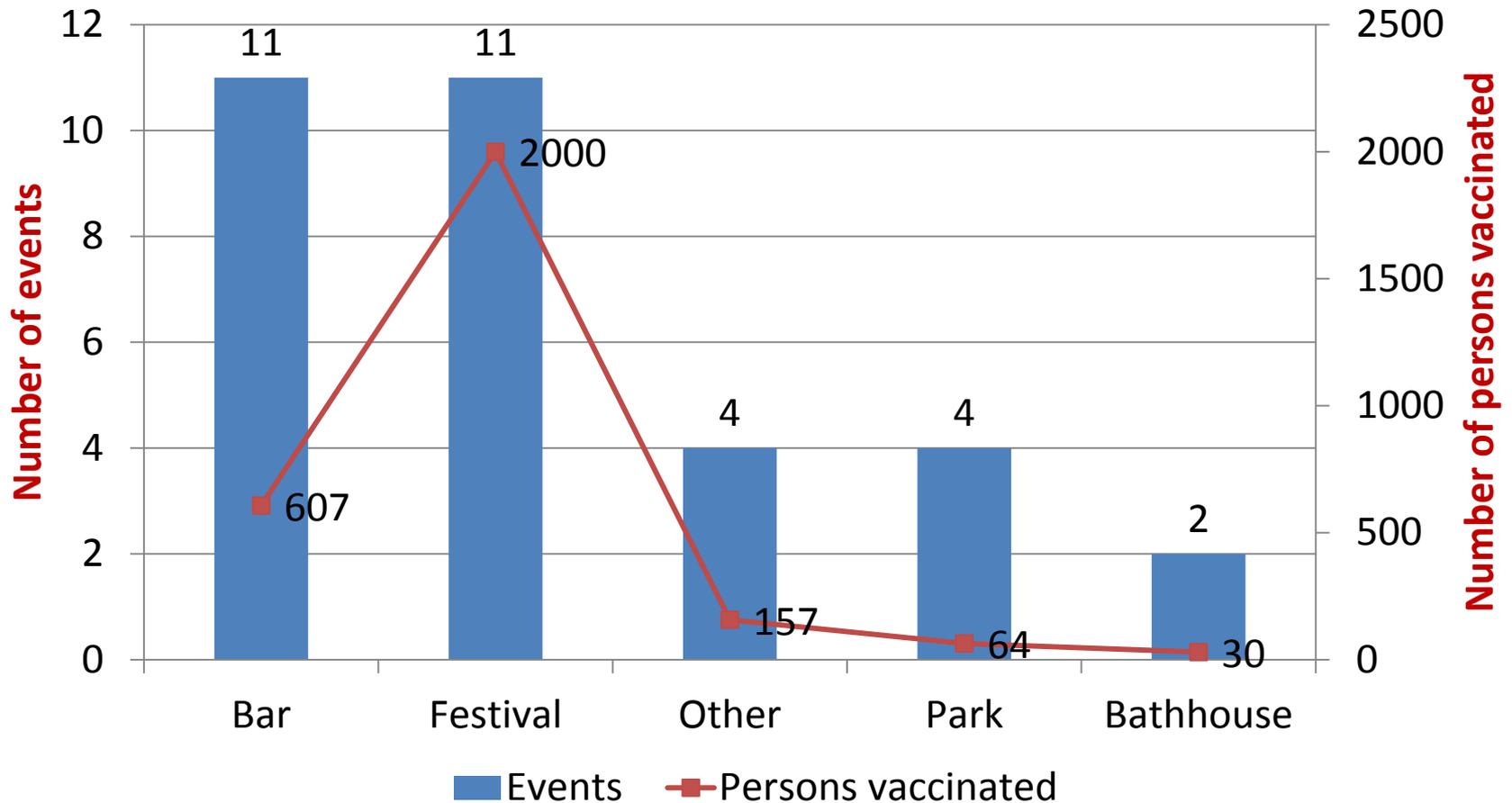
CDPH "Pop-up" Clinic Costs

Total Cost: \$51,672.76*



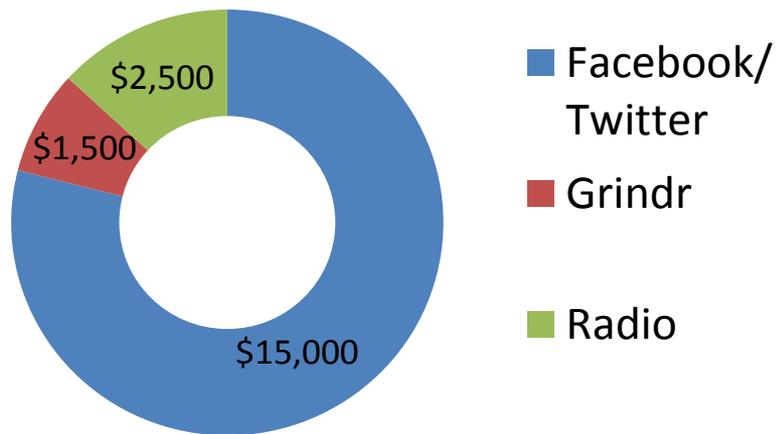
*Does not include vaccine cost.

Number of Vaccinations By Event Type



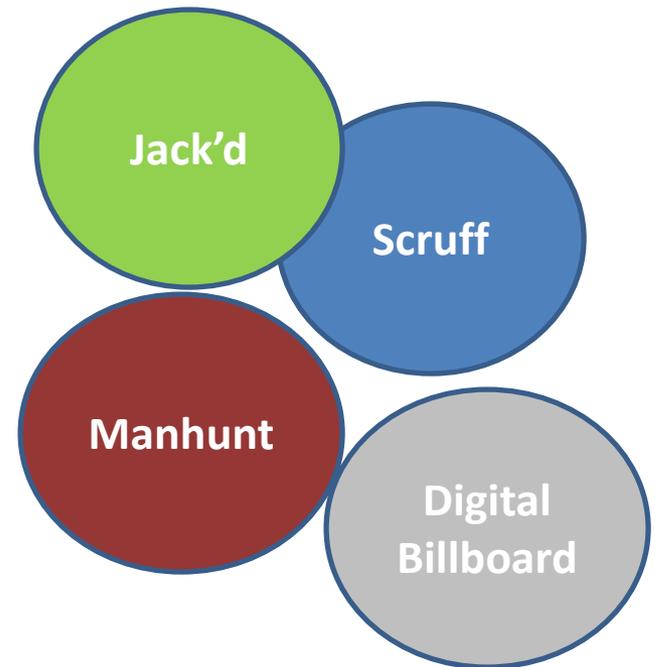
Media Costs

Paid Media Channels



Total Cost: \$19,000

Free Media Channels



Total Cost of Vaccination Campaign to CDPH

TOTAL EXPENDITURE ~ \$70,000

STAFF TIME >3700 person-hours
(466 work days)

Conclusions

- Demographic most affected by meningococcal outbreak (AA, HIV+, “high-risk”) also most challenging to reach
- Pop-up clinics quickly boosted numbers vaccinated, but permanent clinical sites critical for sustained response
- Vaccination campaign imposed substantial burden on CDPH

Acknowledgments

- **CDPH Programs:**
 - **Communicable Diseases**
 - **Immunization**
 - **STI**
 - **HIV**
 - **Emergency Preparedness**
 - Quenjana Adams
 - Vilma Alicea
 - Saul Ayala
 - Nanette Benbow
 - Ramona Bhatia
 - Stephanie Black
 - Corey Blum
 - Dawn Broussard
 - Maribel Chavez-Torres
 - Margaret Eaglin
 - Donna Feaster
 - Julio Fernandez
 - Alexandra Gagner
 - Evelyn Green
 - Edgar Gutierrez
 - Charlayne Guy
 - Joanne Hall-Woods
 - Kevin Hansen
 - Karin Hearan
- Dwight Hunter
- Joy Kane
- Antonio King
- Diana La Porte
- Jesse Lava
- Jennifer Levy
- Laura Martel
- Loretta Miller
- Margaret Okodua
- Massimo Pacilli
- Donna Peace
- Damian Plaza
- Nik Prachand
- Brian Richardson
- Donovan Robinson
- Usha Samala
- Lorraine Schoenstadt
- Shamika Smith
- Laura Sparrow
- Patrick Stonehouse
- Cristina Villareal
- Christopher Widmer
- Marjani Williams
- **Illinois Department of Public Health**
 - Connie Austin
 - Whitney Clegg
 - Craig Connover
 - Andrew Beron
- Robynn Leidig
- **DuPage County Department of Public Health**
 - Rashmi Chugh
 - Elizabeth Murphy
 - Colette Petit
- **Cook County Department of Public Health**
 - Demian Christiansen
 - Mabel Frias
- **Centers for Disease Control and Prevention**
 - Temi Folaranmi, CDC EIS Officer, MVPD Branch, NCIRD
 - Manisha Patel, MVPD Branch, NCIRD
 - Melanie Taylor, NCHHSTP/DSTDP/ESB
 - Alison Albert, OID, NCIRD
- **Chicago-area HIV/MSM/STI clinical providers**
- **Community Partners**
- **Walgreens**
 - Denise Scarpelli, Regional Healthcare Director of Chicago



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