



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

Sarah Kemble, MD  
ACIP, October 21, 2015

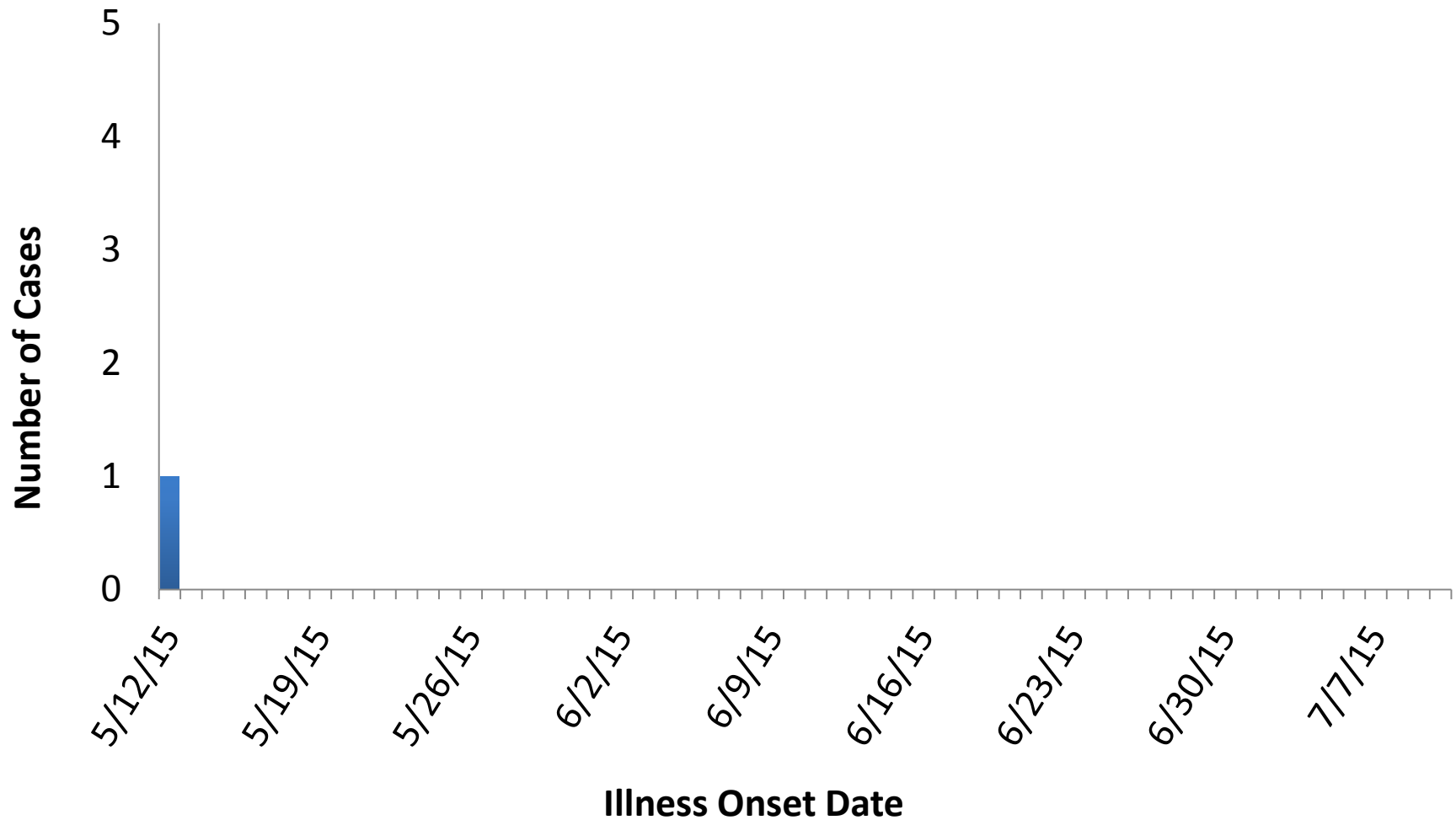
# Overview

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

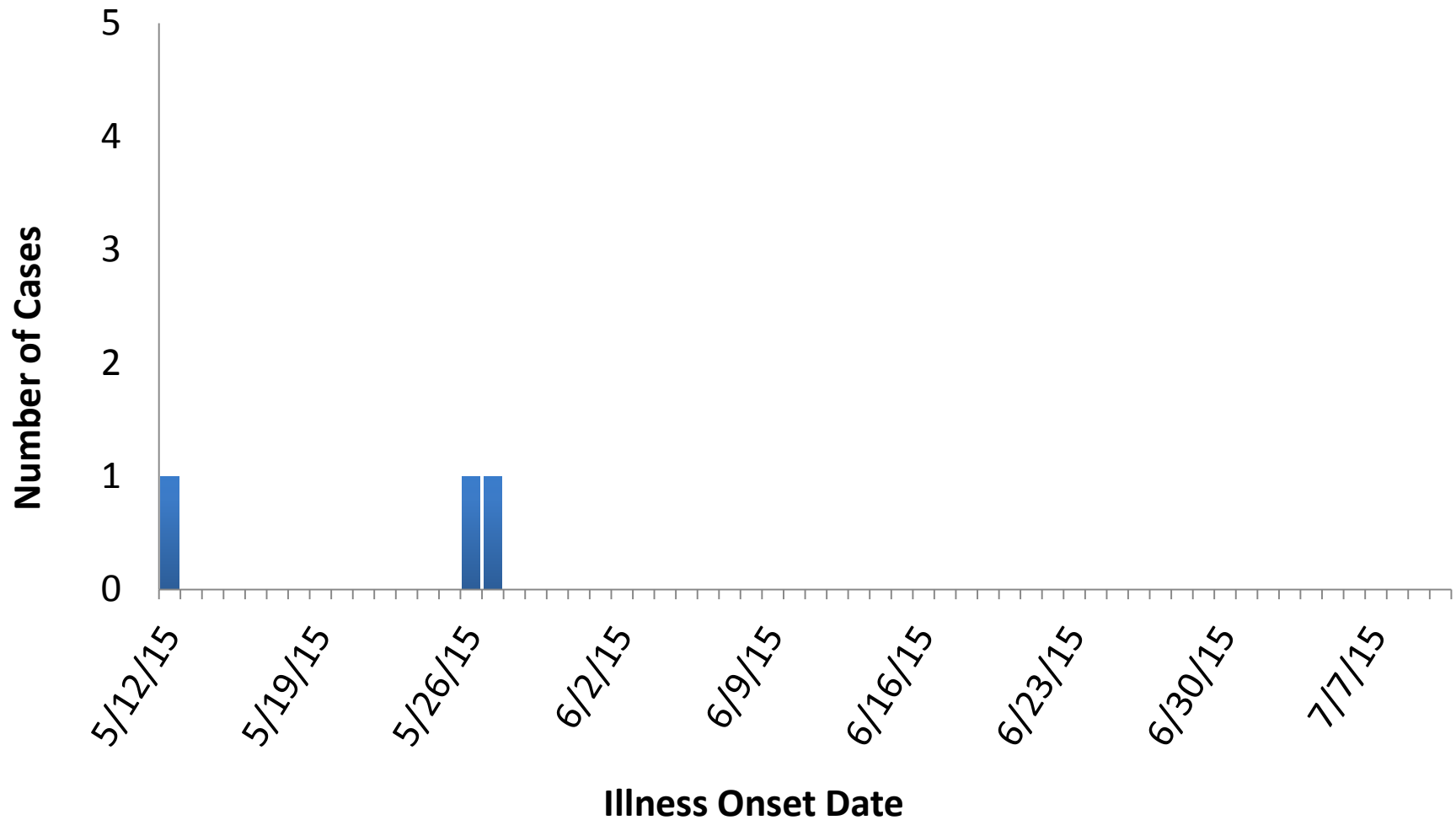
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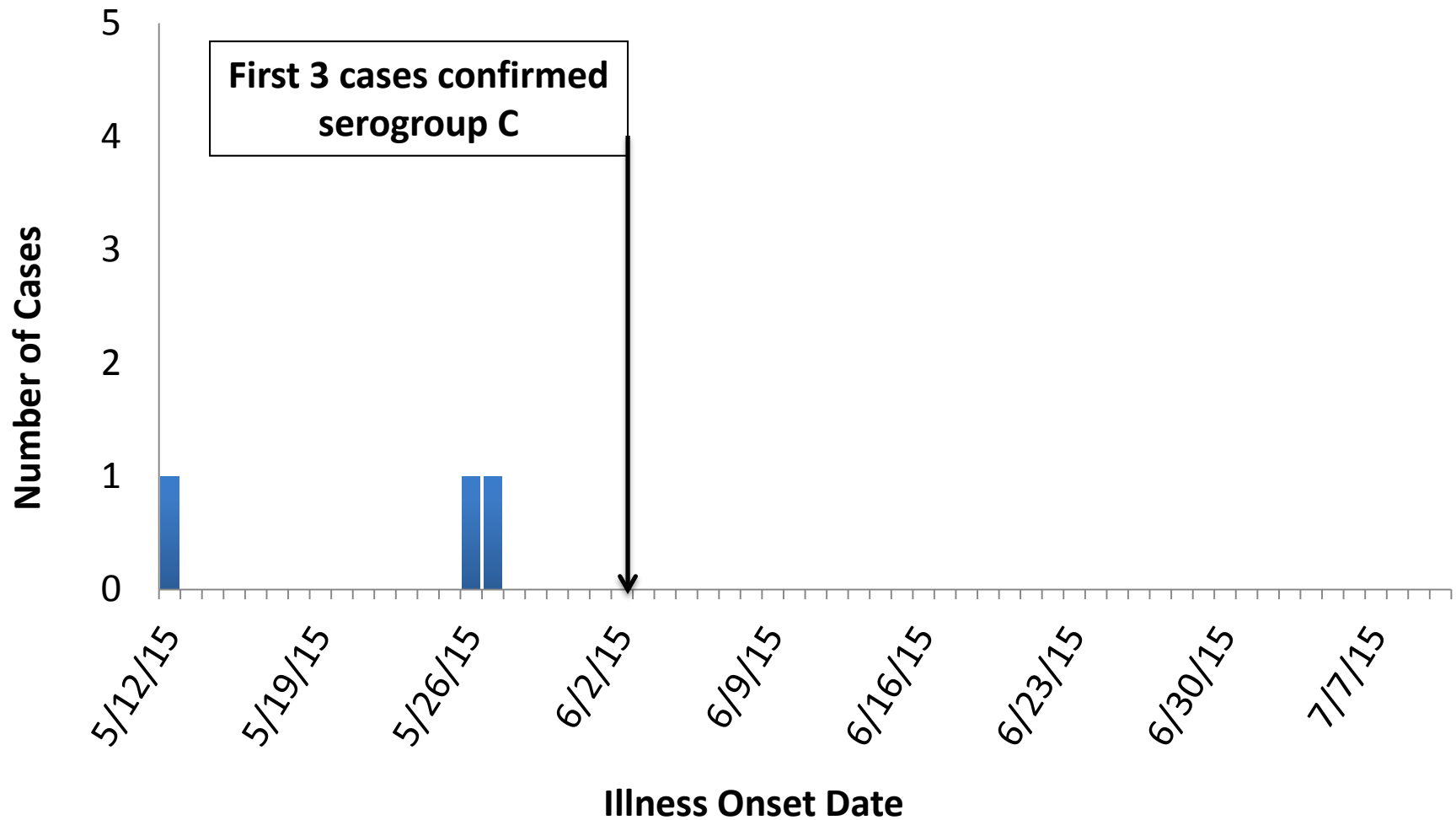
# Meningococcal Disease, Serogroup C Chicago Area 2015



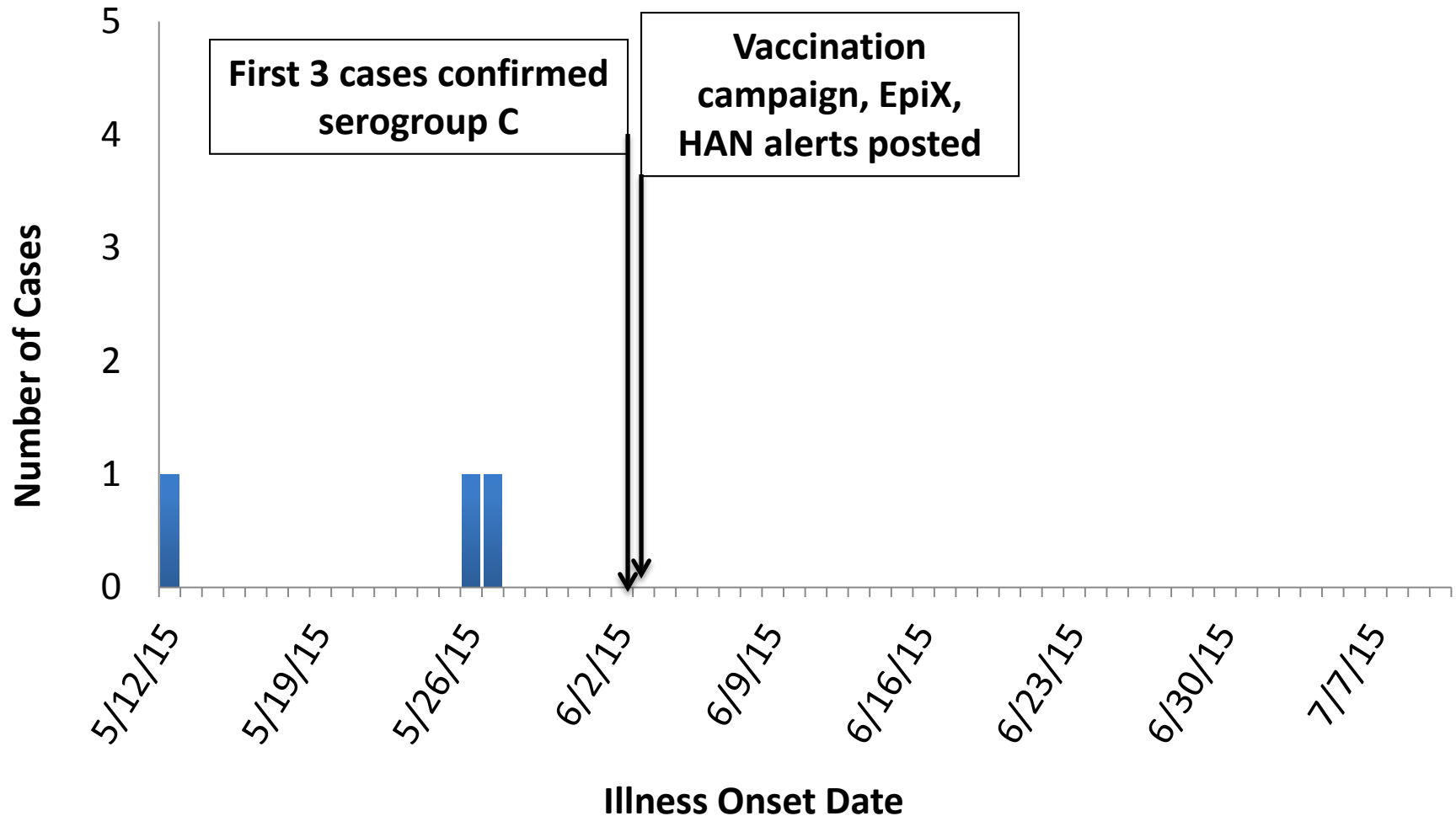
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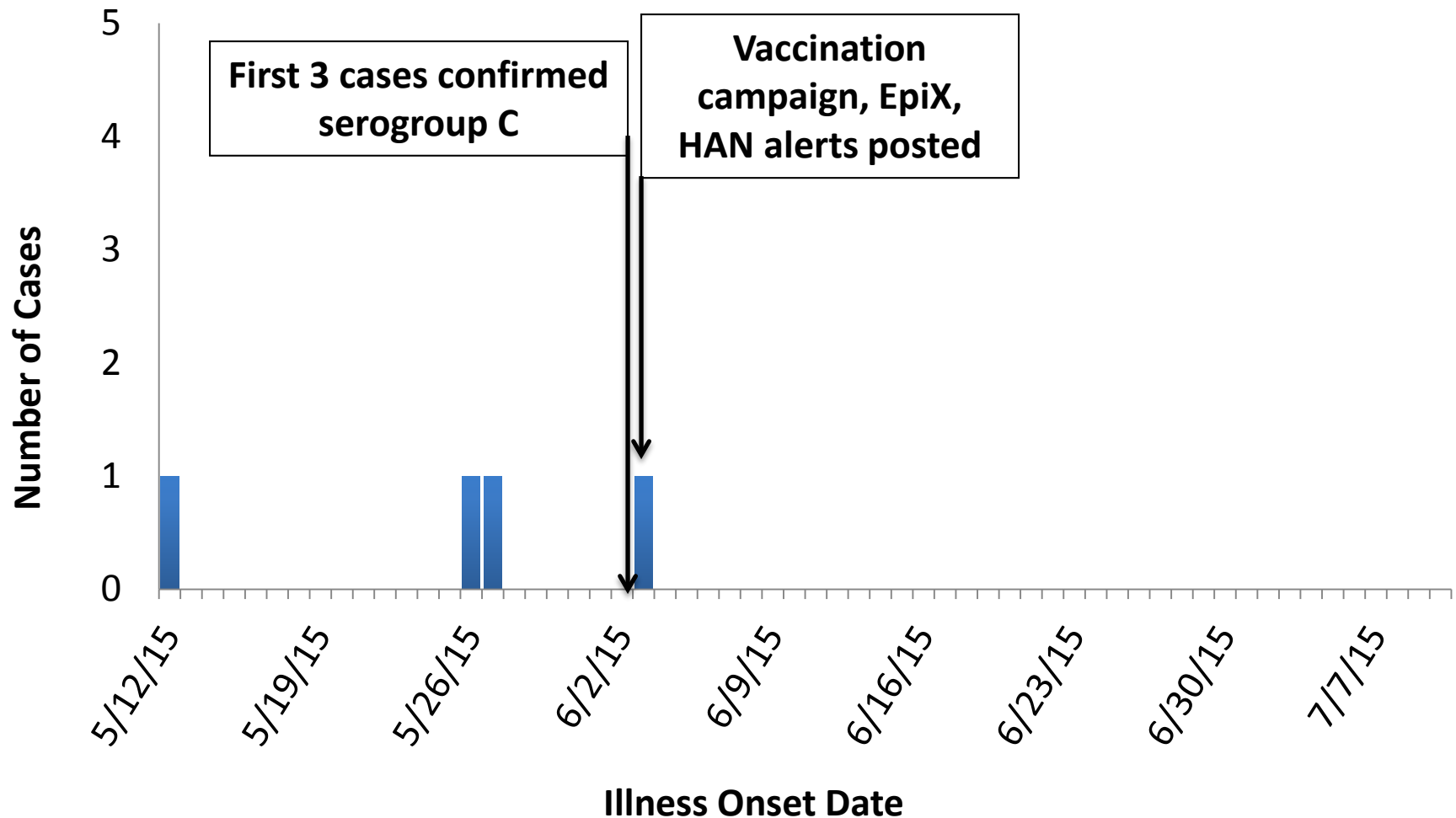
# CDPH Initial Vaccination Recommendations Issued June 3, 2015



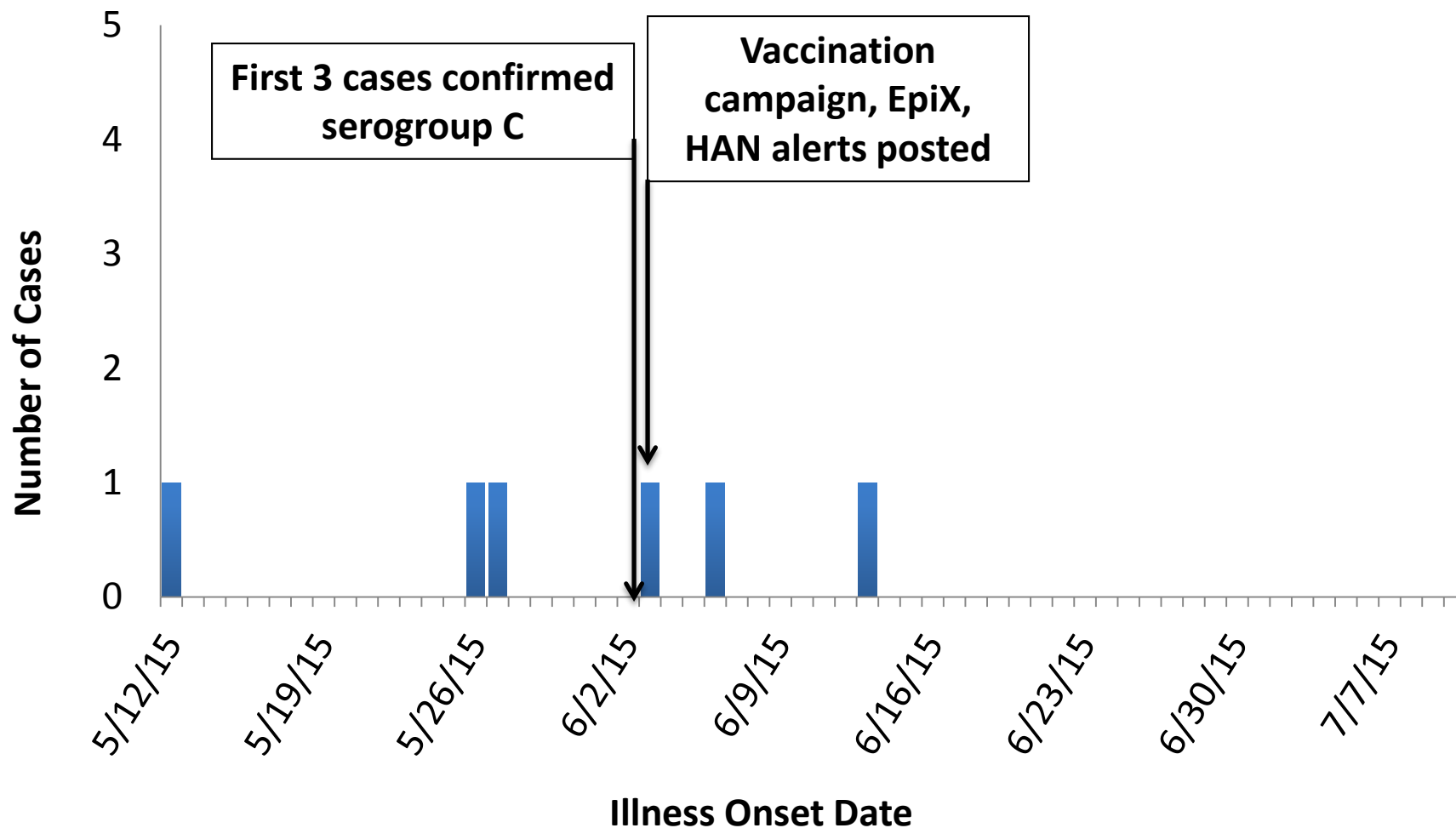
- HIV-positive men who have sex with men (MSM)
- MSM regardless of HIV status who
  - have close/intimate contact with anonymous partners
  - seek sexual partners through use of on-line “hook up” apps



# Meningococcal Disease, Serogroup C Chicago Area 2015



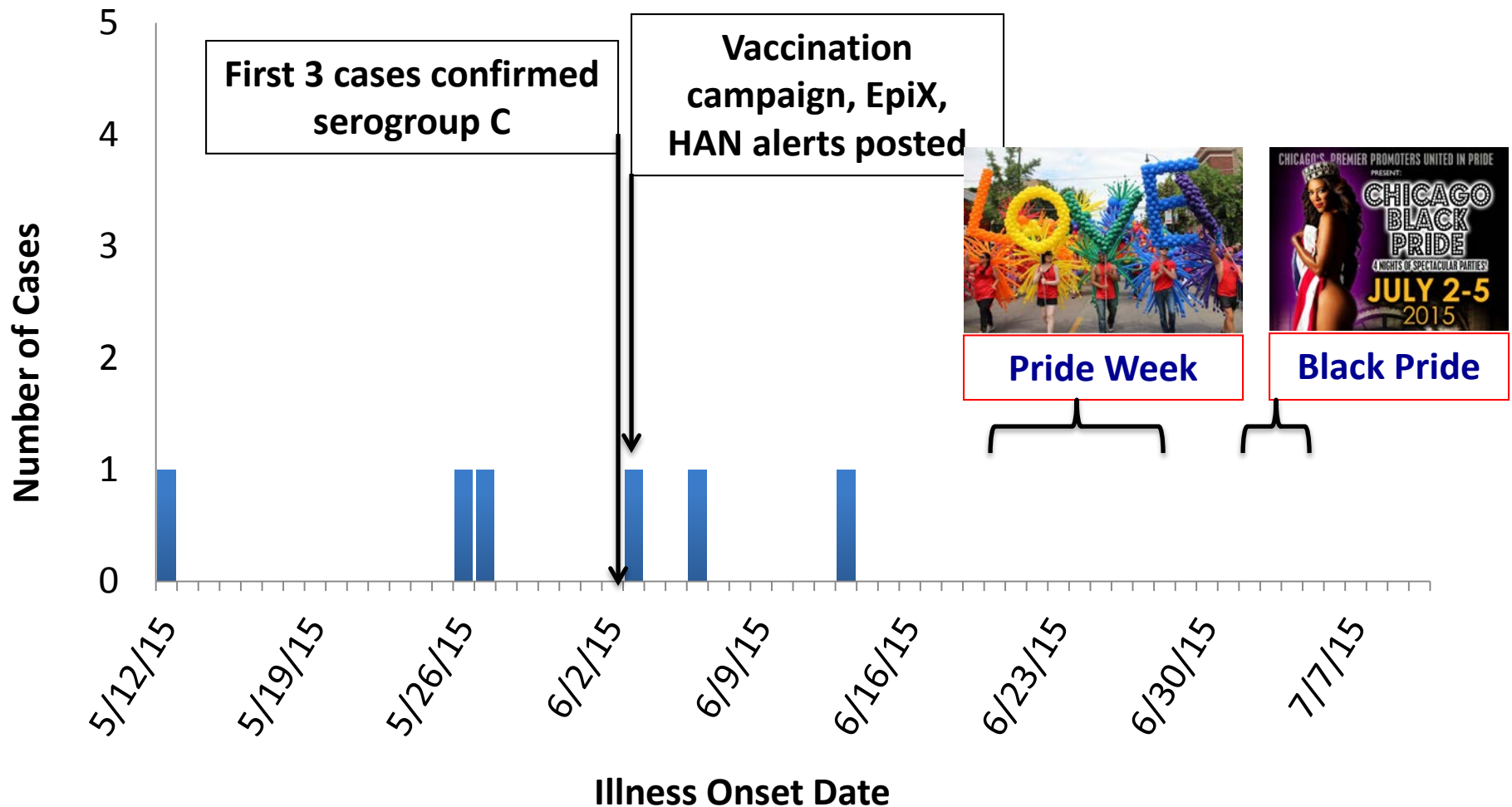
# Meningococcal Disease, Serogroup C Chicago Area 2015



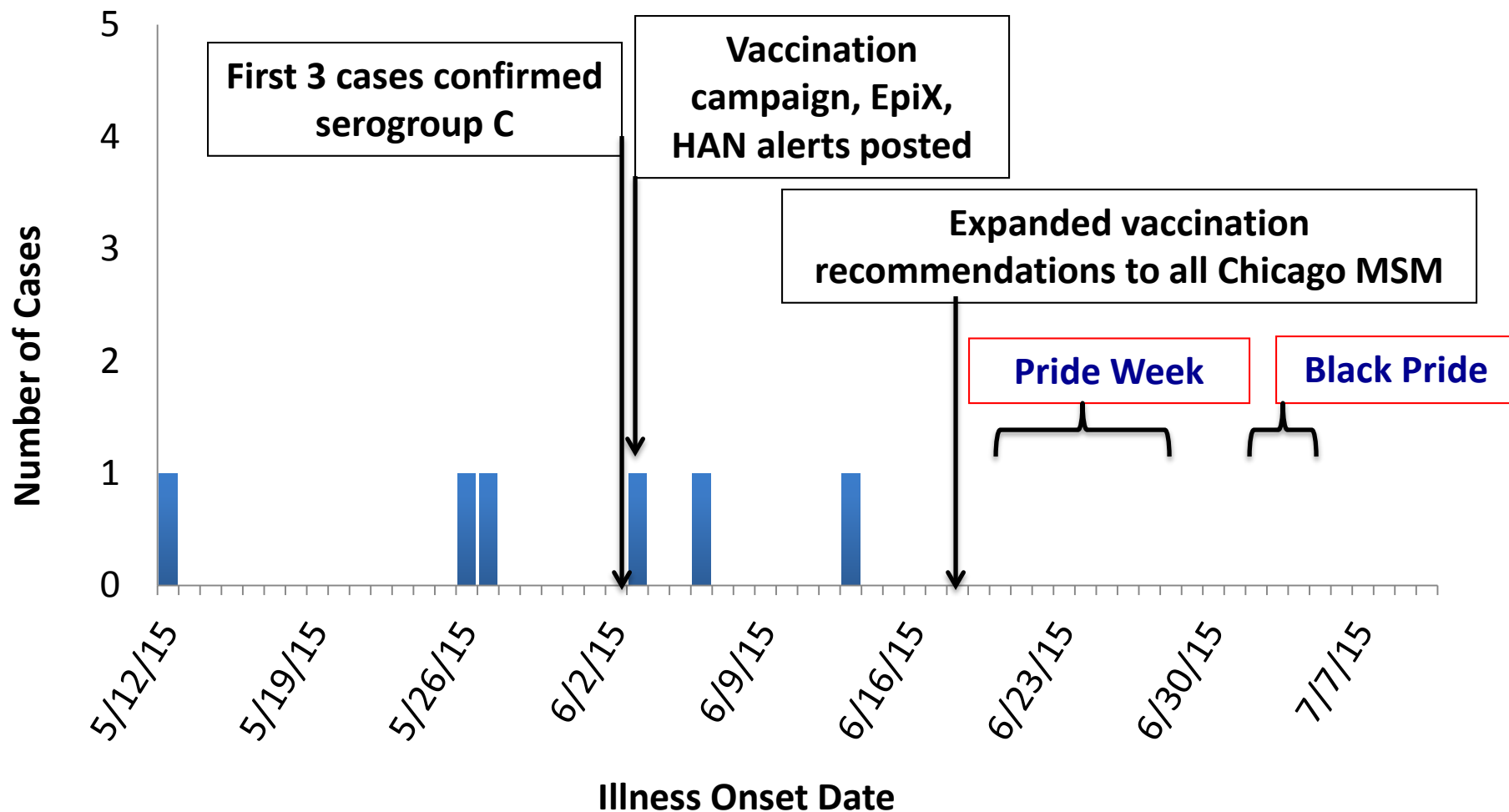
# Defining an Outbreak

- 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

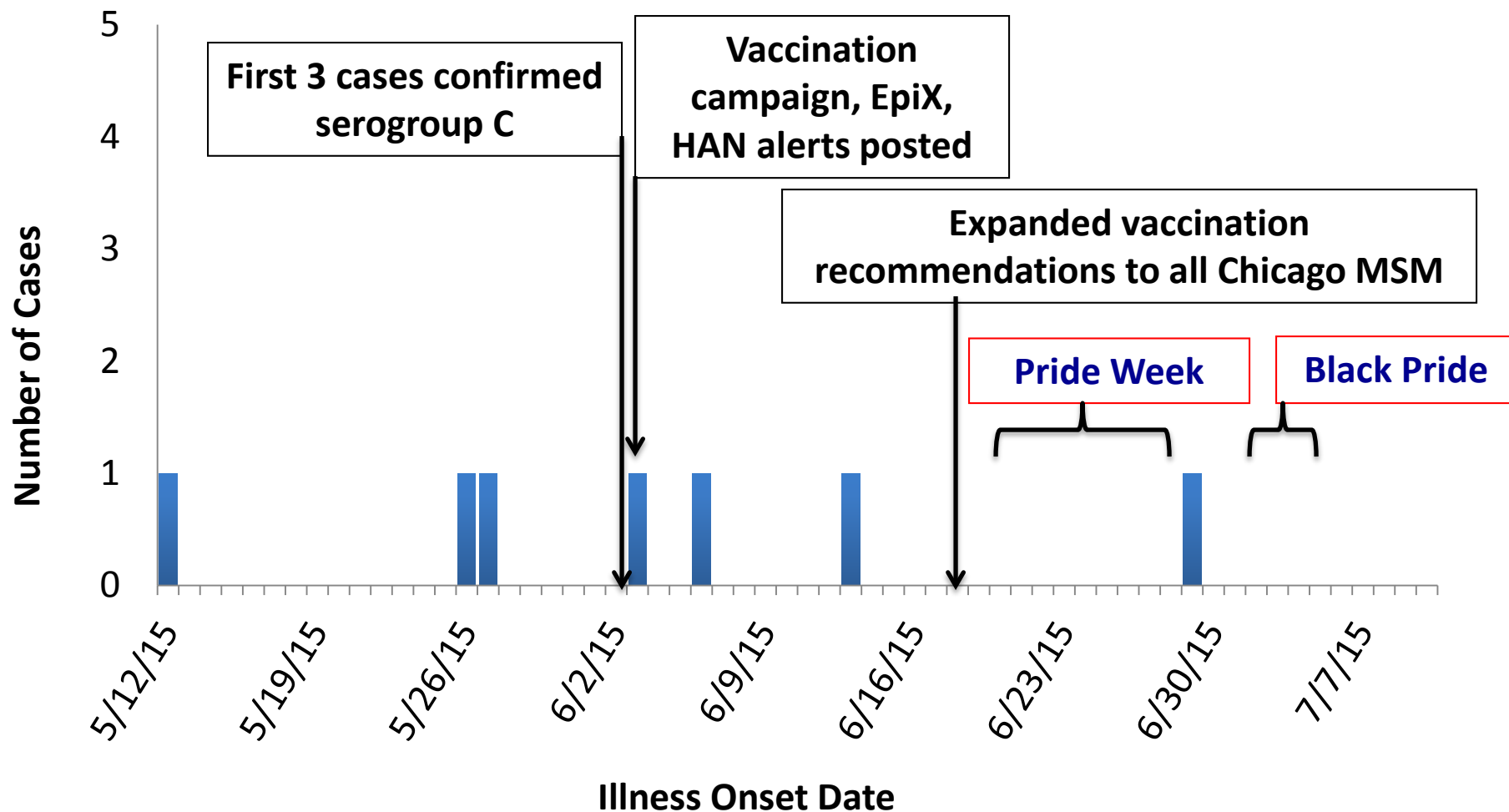
# Meningococcal Disease, Serogroup C Chicago Area 2015



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# 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

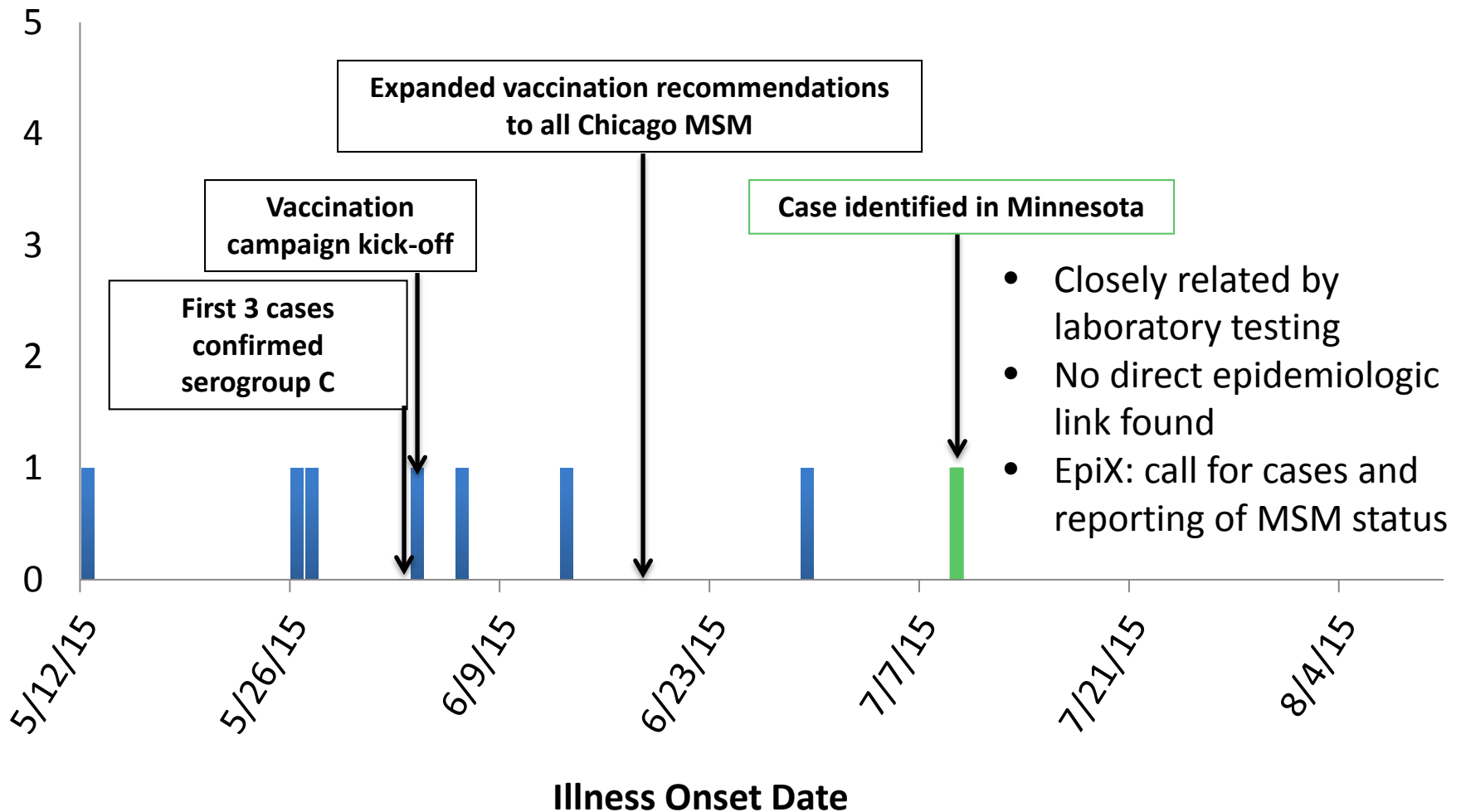
- Trace intimate contacts 90 days prior to illness onset
- Up to 9 contacts (median 4) per case met indications for prophylaxis (close/intimate contact  $\leq 14$  days of illness onset)
- No direct epidemiologic links found
- HIV partner services
- Identify additional vaccination targets
  - Individuals,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



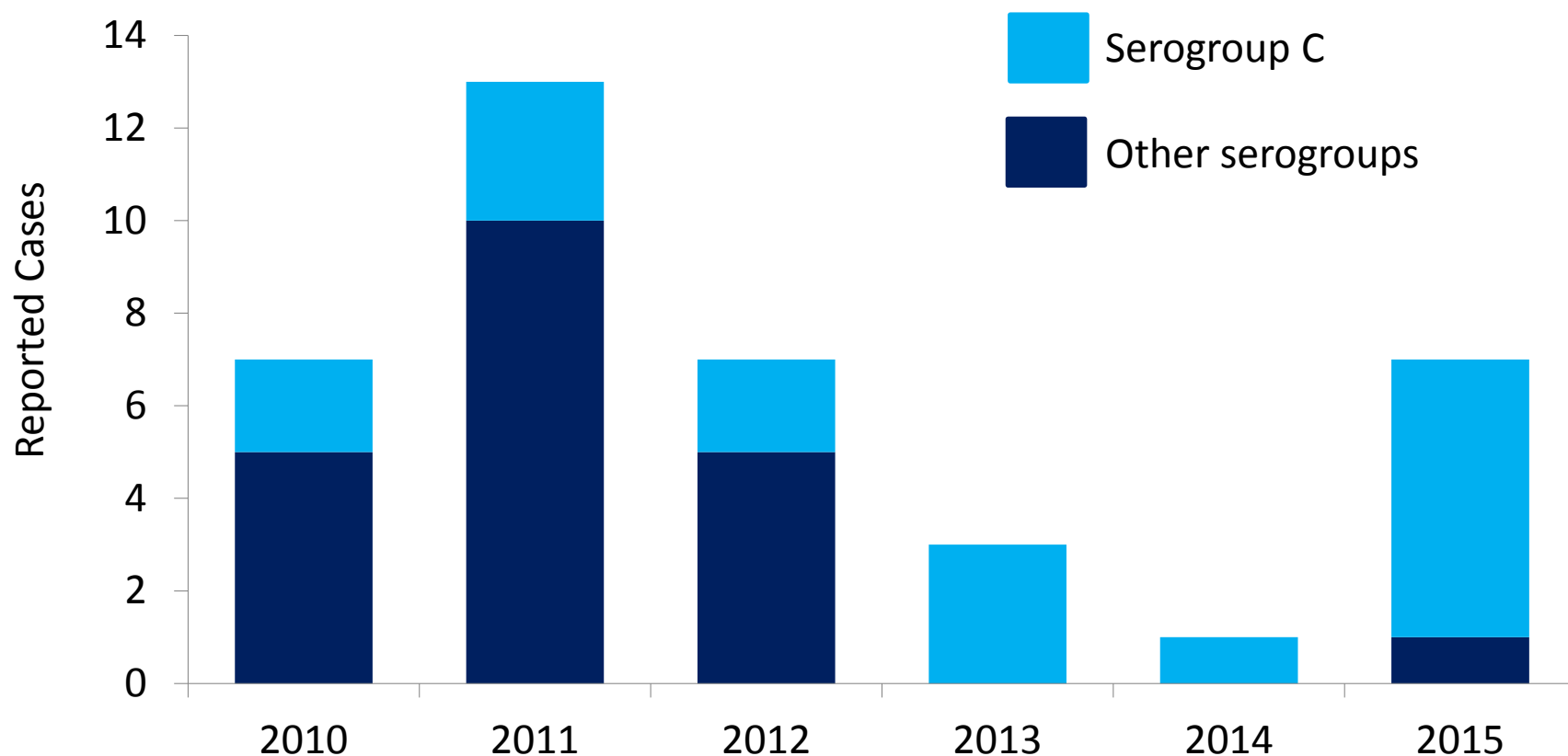
# Outbreak Molecular Epidemiology

- 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)

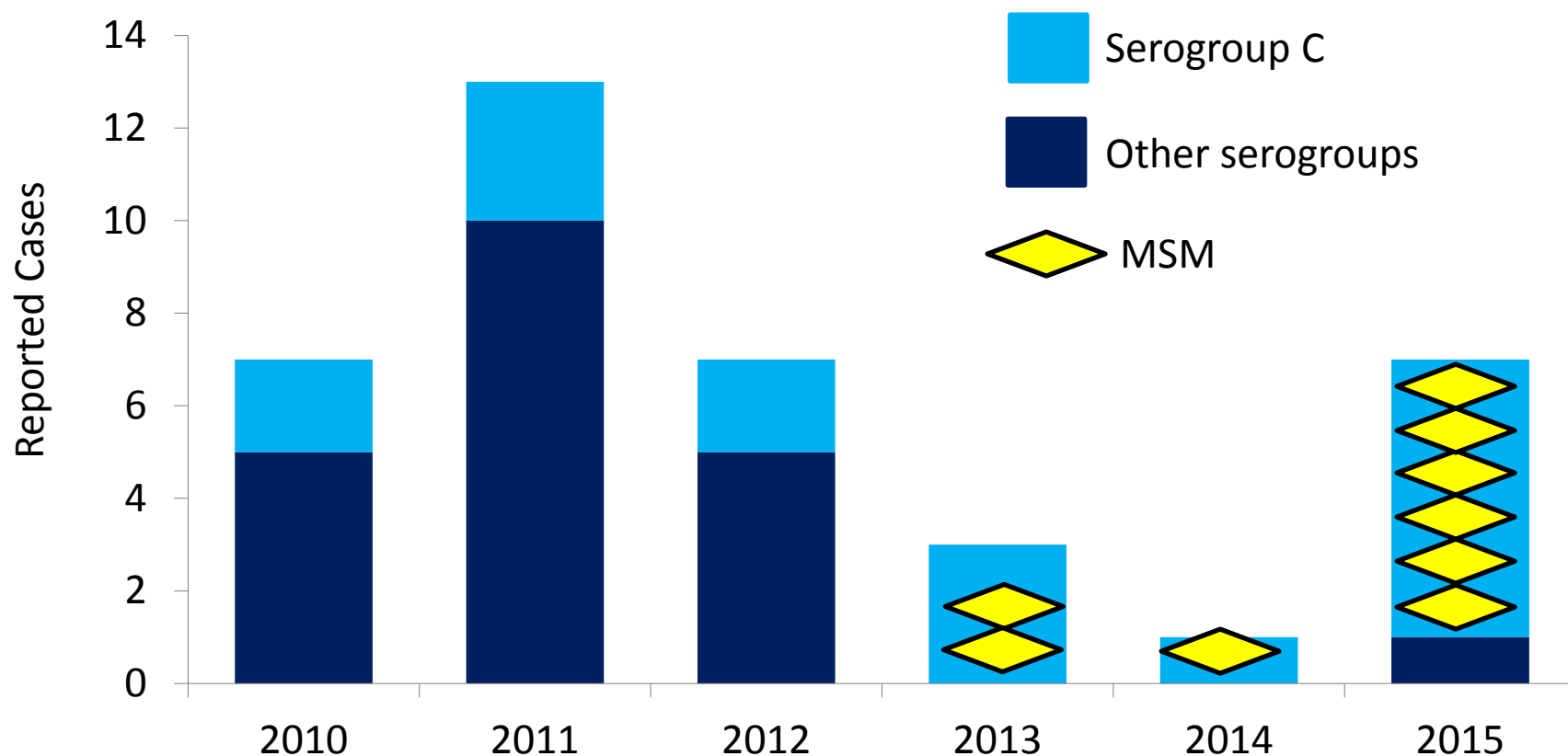
# Meningococcal Disease Outbreak, Chicago Area 2015



# Chicago Invasive Meningococcal Disease By Serogroup, 2010–2015



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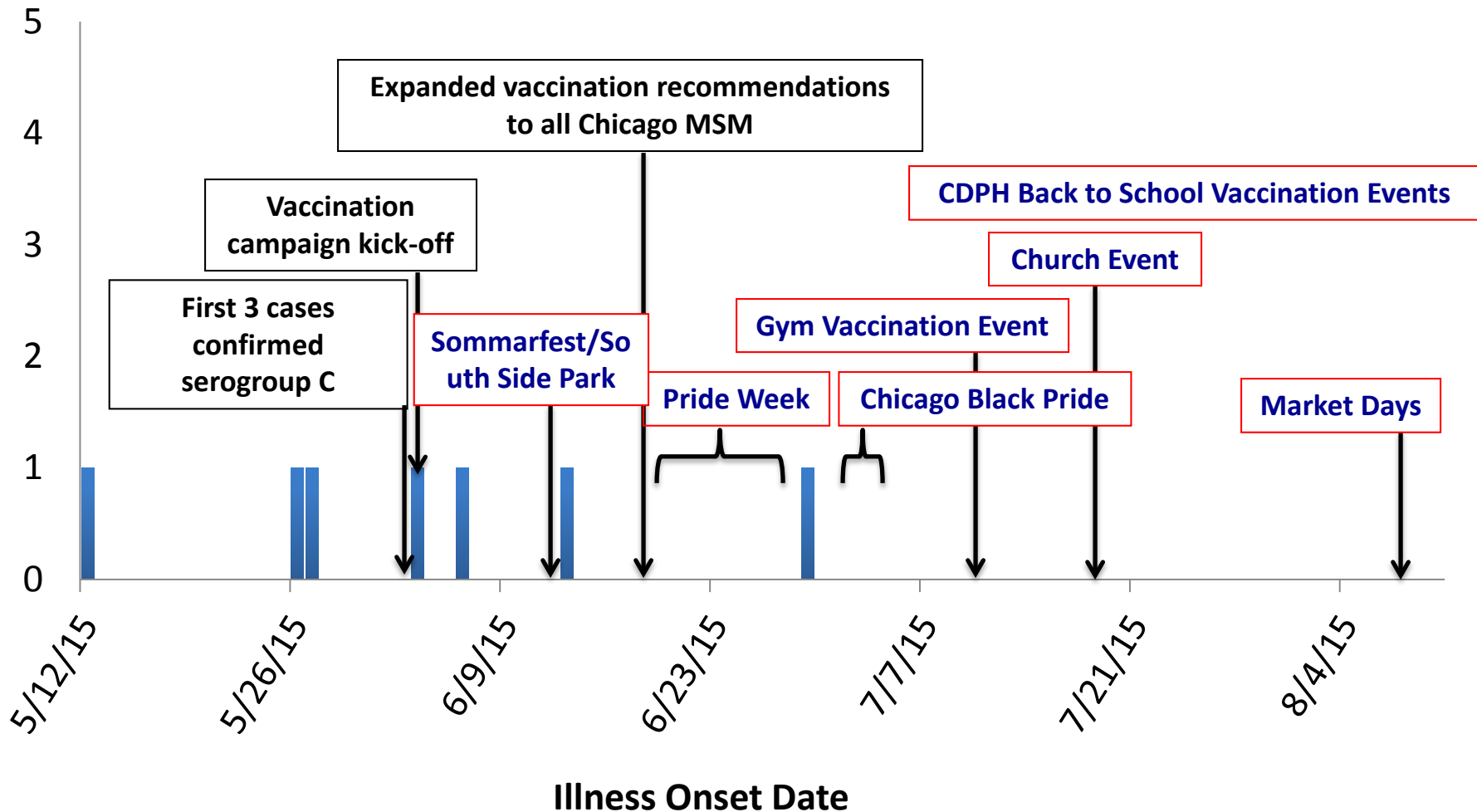
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- Outbreak epidemiology and response
- **Vaccination Campaign**
- Challenges encountered
- Cost of the campaign

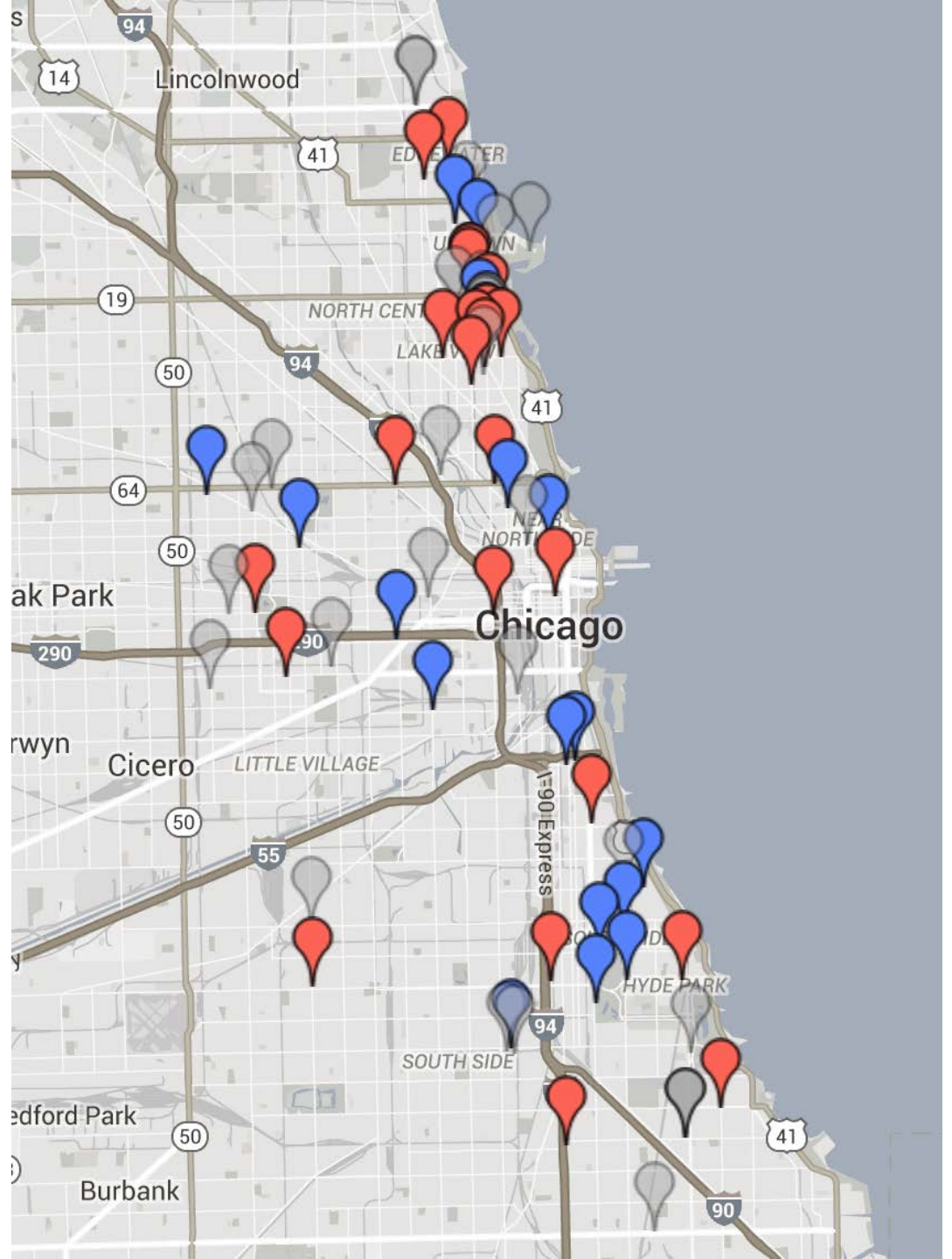
# CDPH Meningococcal Vaccination Campaign Components

- 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](http://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 63<sup>rd</sup> St, Thurs 9-4:30pm, Fri 8am-3:30pm

Walgreens, 11 E 75<sup>th</sup> St, open 24 hours

Walgreens, 7109 S Jeffery Ave, 24 hours

For a full list of clinics visit [www.cityofchicago.org/health](http://www.cityofchicago.org/health) and click  
on the MENINGITIS link

# Media Campaign

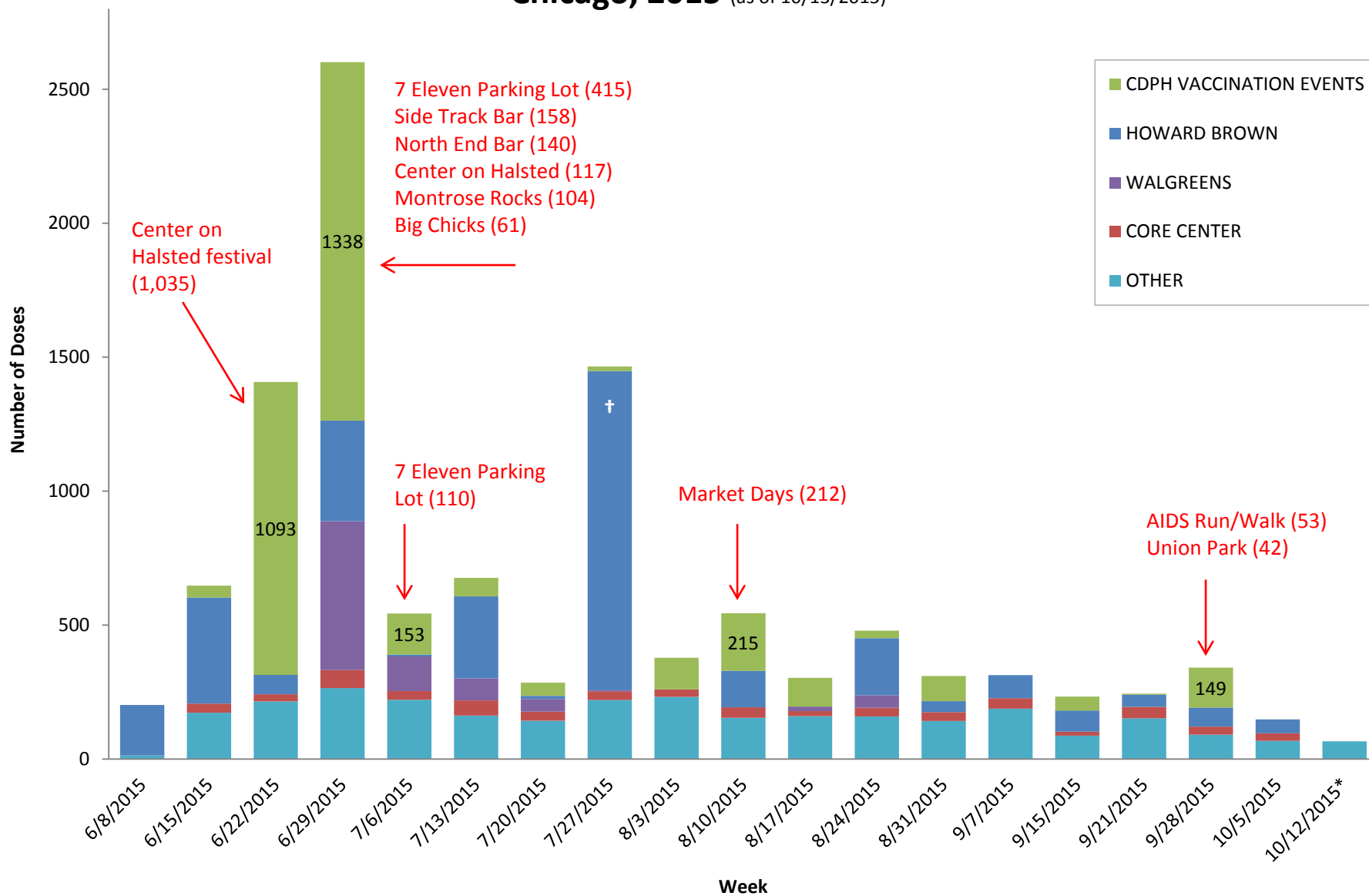


# Engagement of Community-Based Partner Organizations

- 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



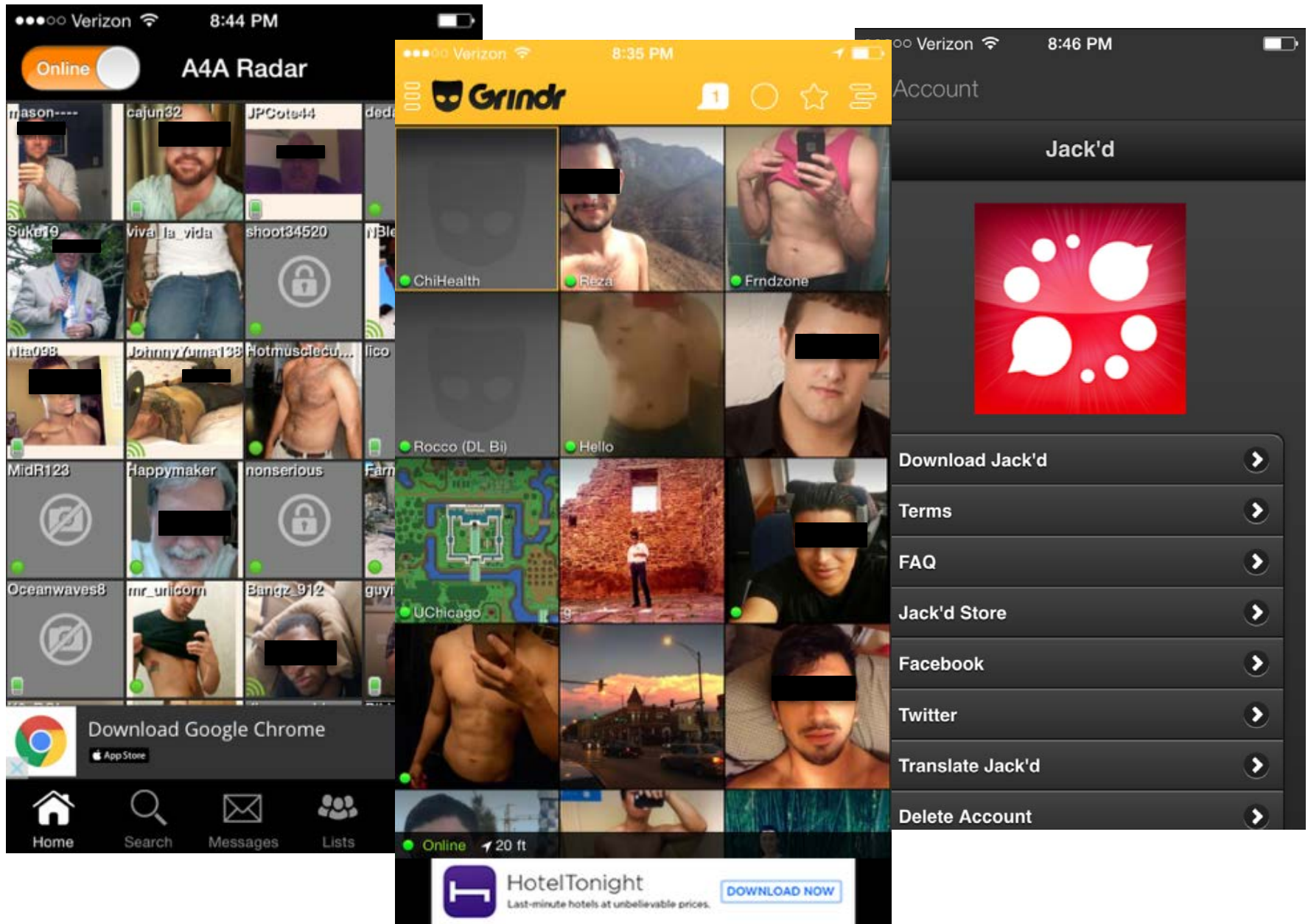
*\*incomplete data  
†reporting backlog*

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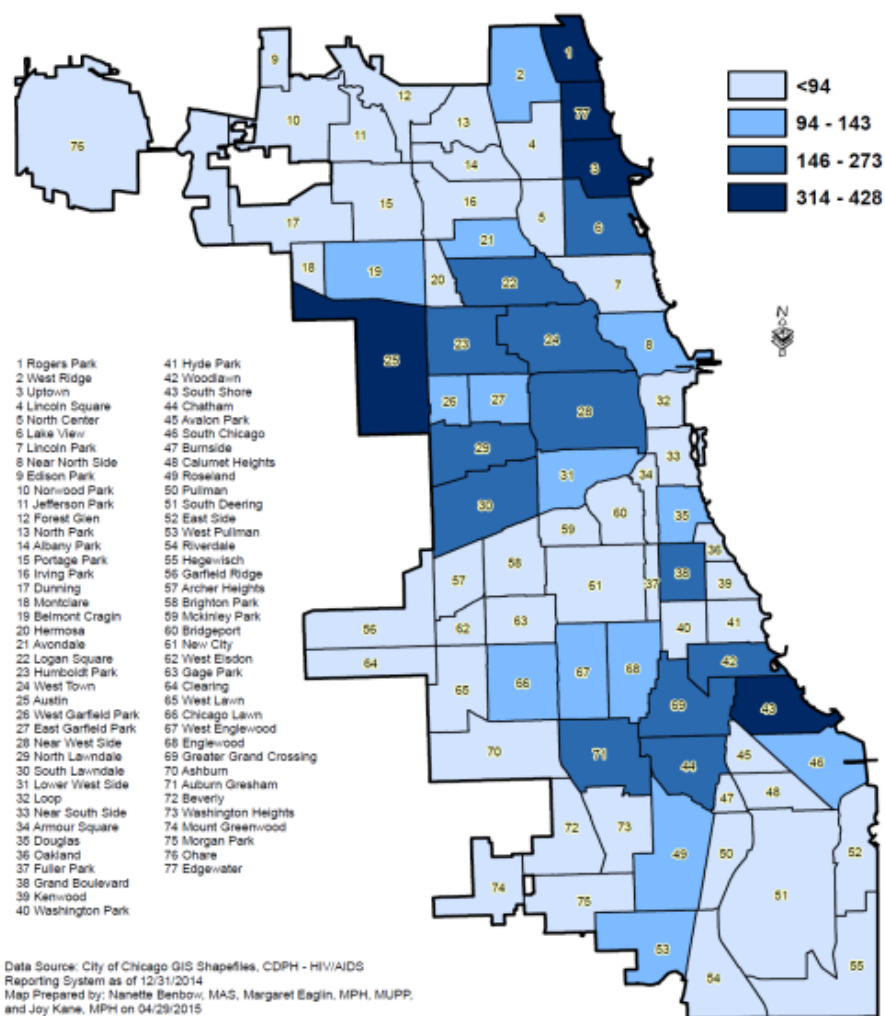


# Who Is At Risk?

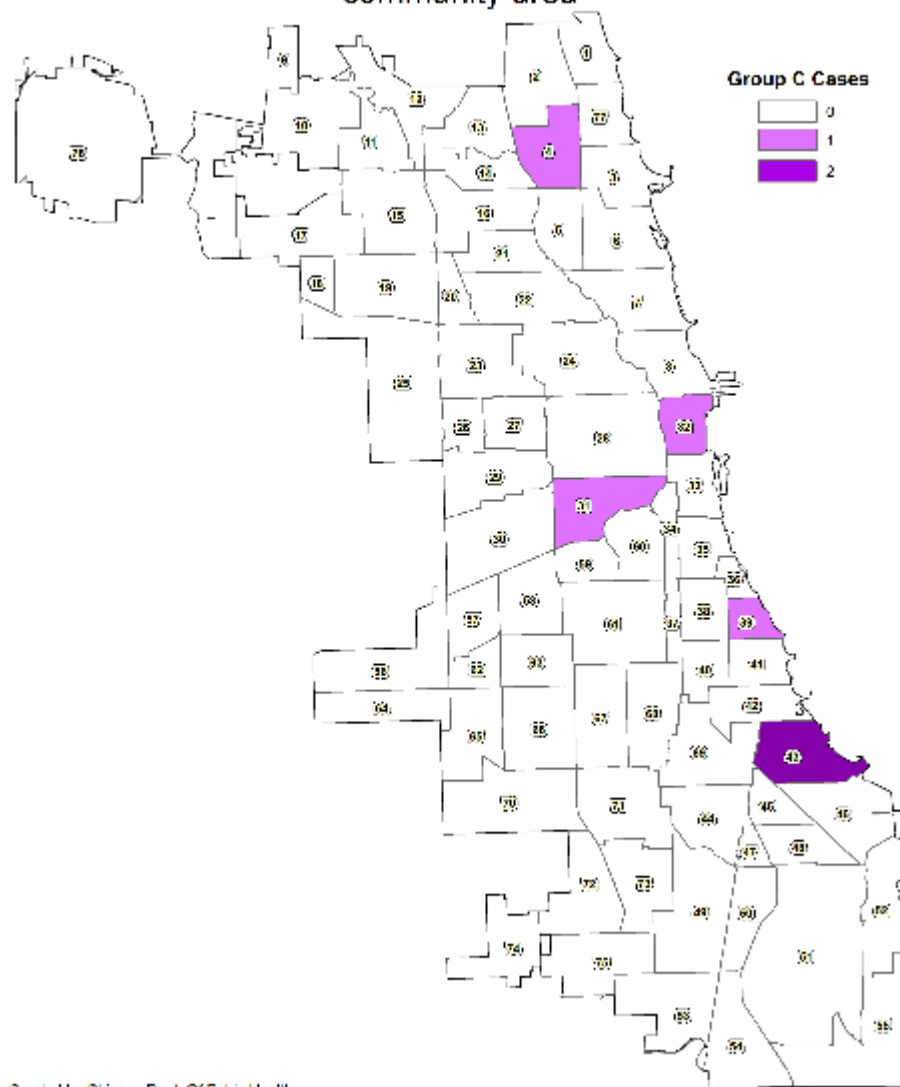


# Demographic Disparities

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



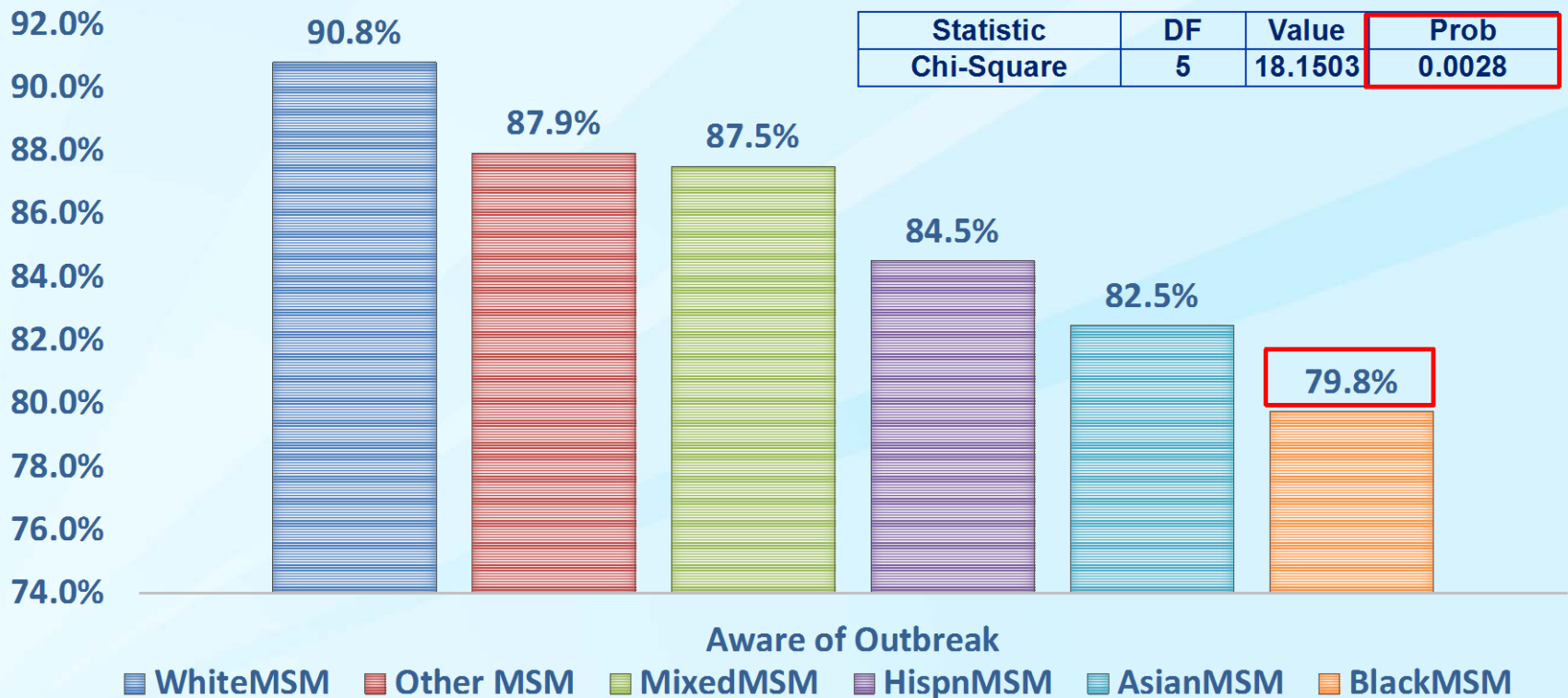
Chicago 2015 Meningococcal outbreak case distribution by community area





# Highest Risk Least Aware

Awareness of Outbreak by Race



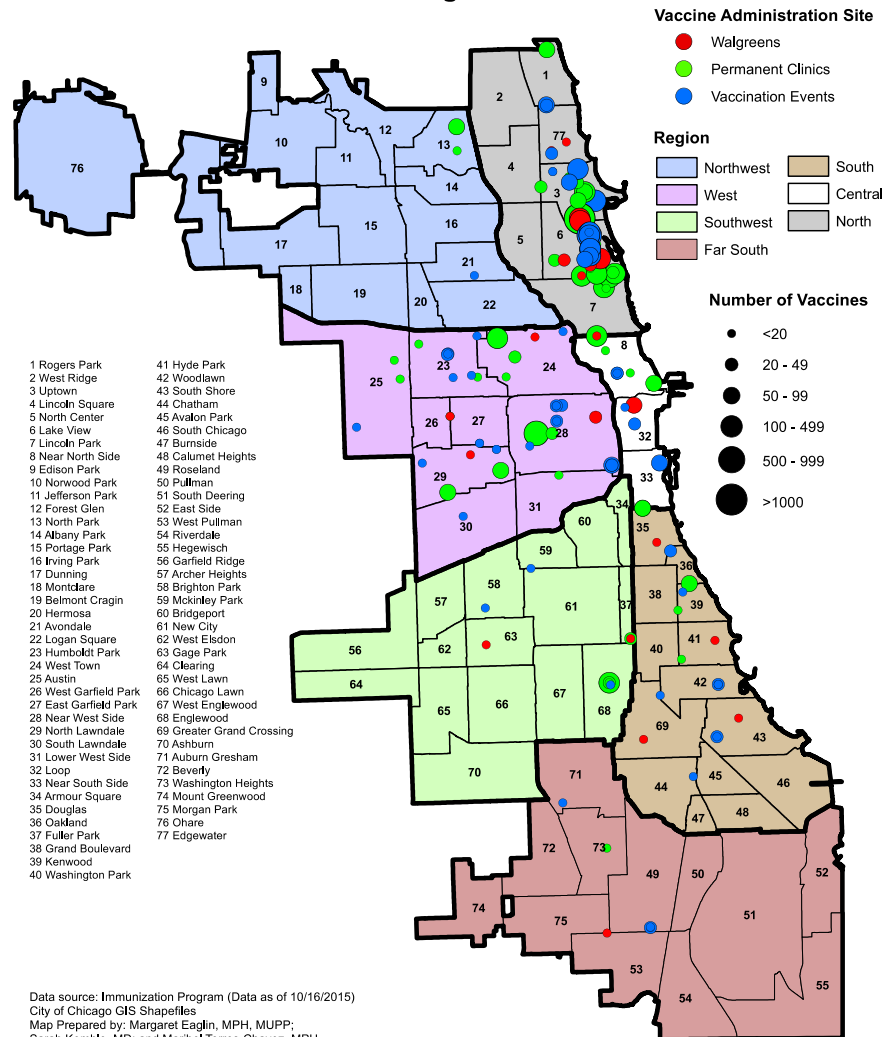
# Fighting Denial and Stigma

“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**

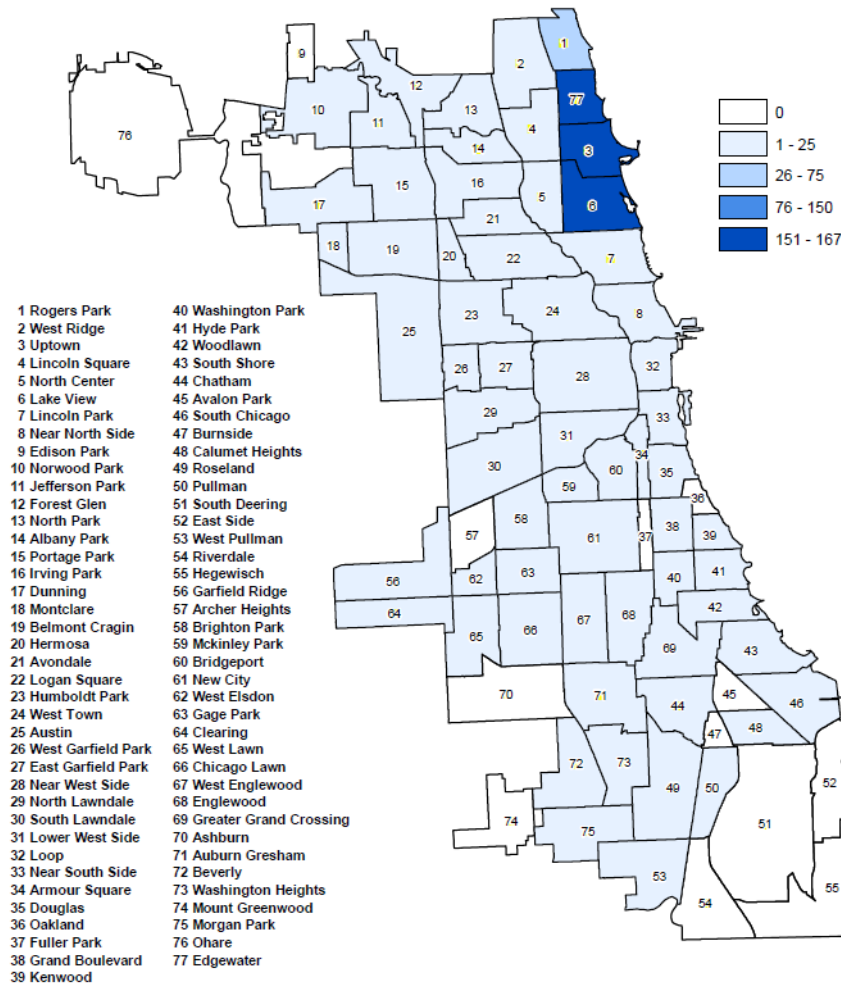


# Tracking Vaccine Uptake By Using I-CARE Vaccine Registry

## 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



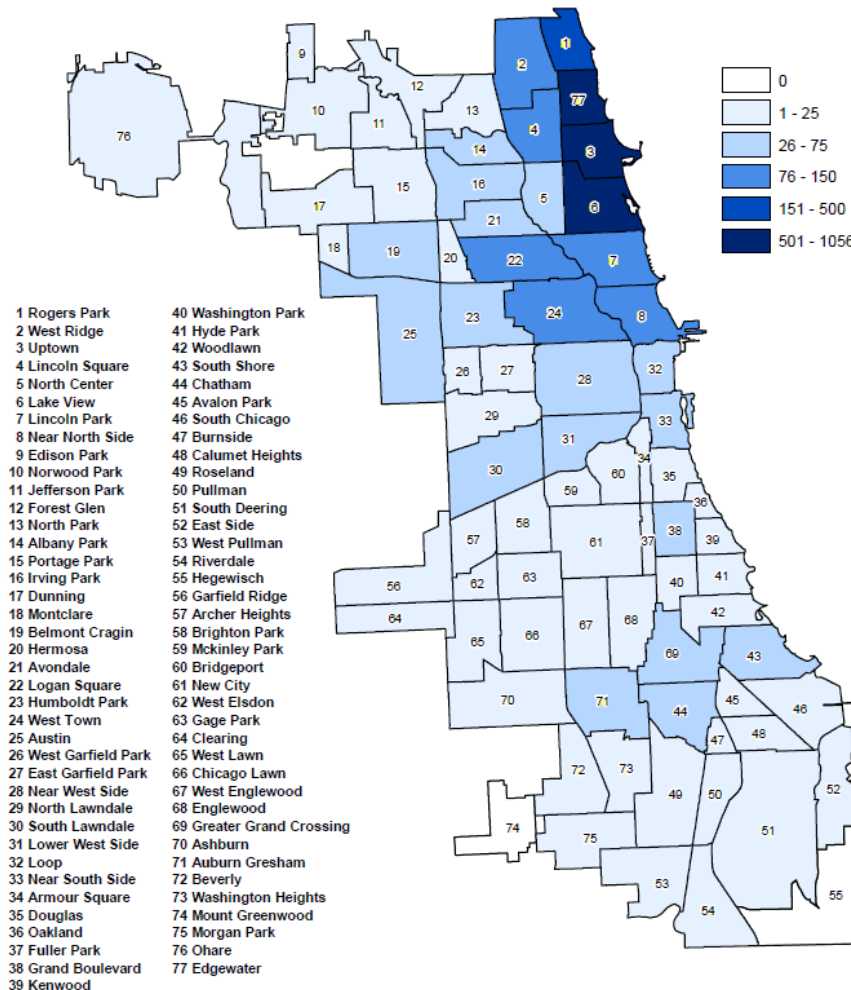
Map prepared by Whitney Clegg,  
CSTE Fellow, IDPH

# 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



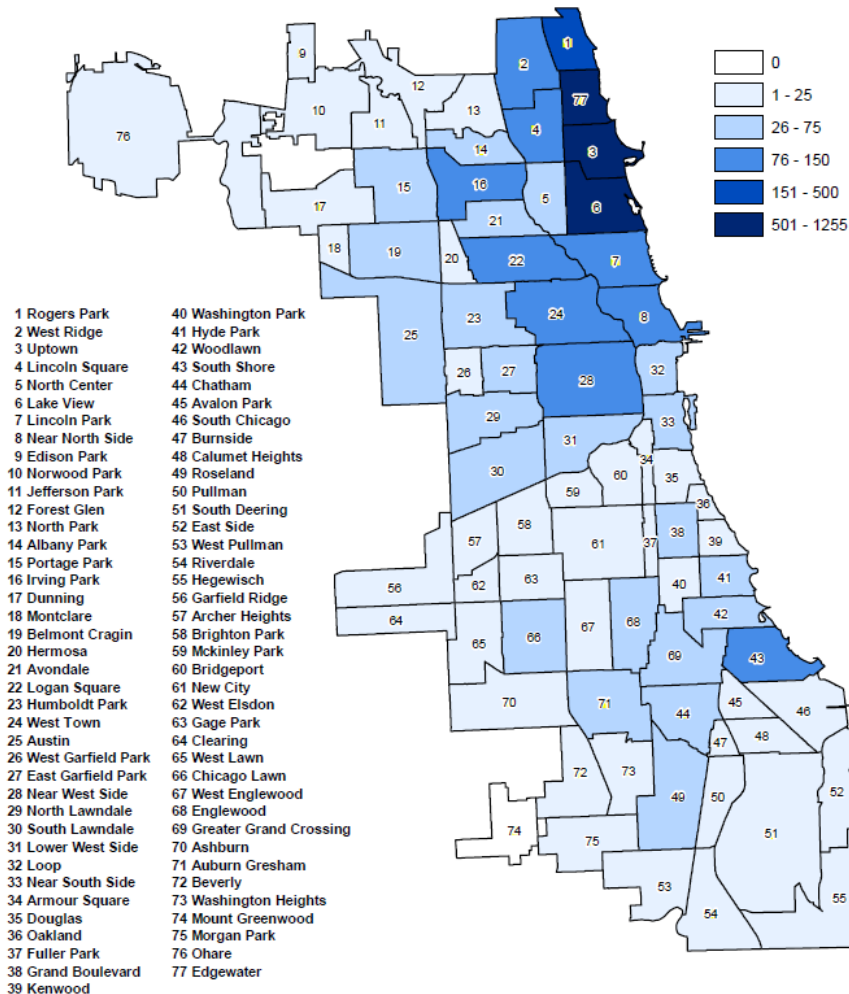
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July 31  
N=5860



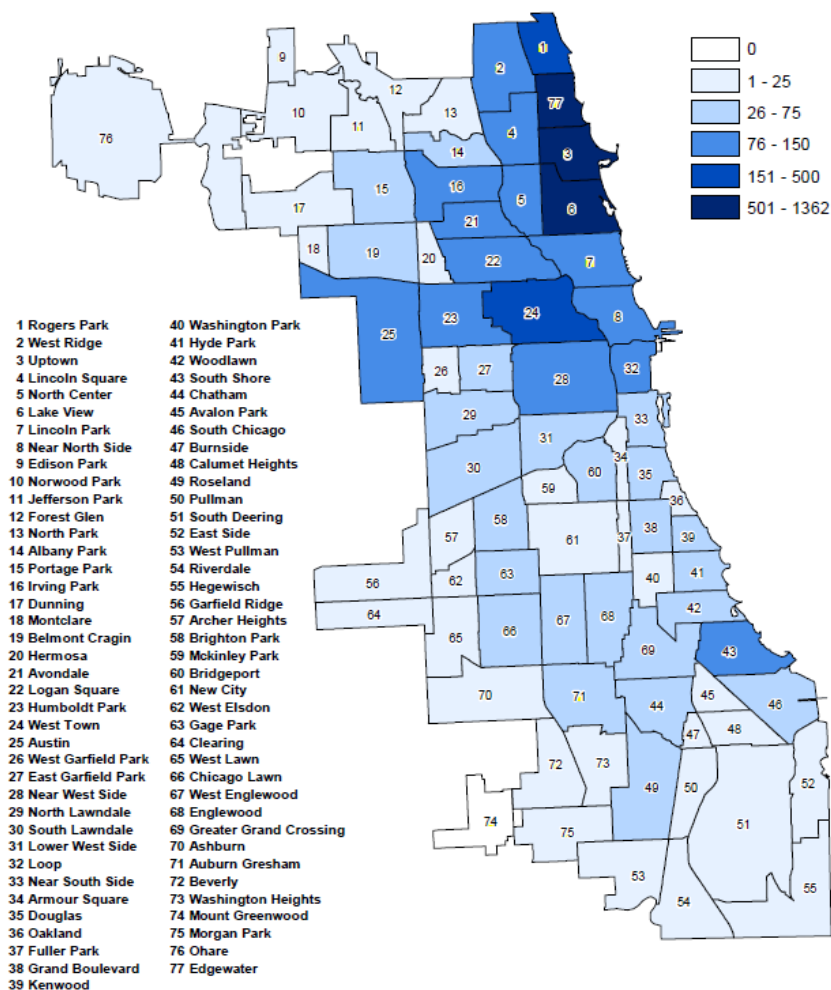
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## Residence of Individuals Receiving Meningococcal Vaccine by Chicago Community Area, 2015

Includes Vaccines Administered at CDPH Partner Clinics and  
Pop-up Clinics as of 08/31/2015

August 31  
N=6707



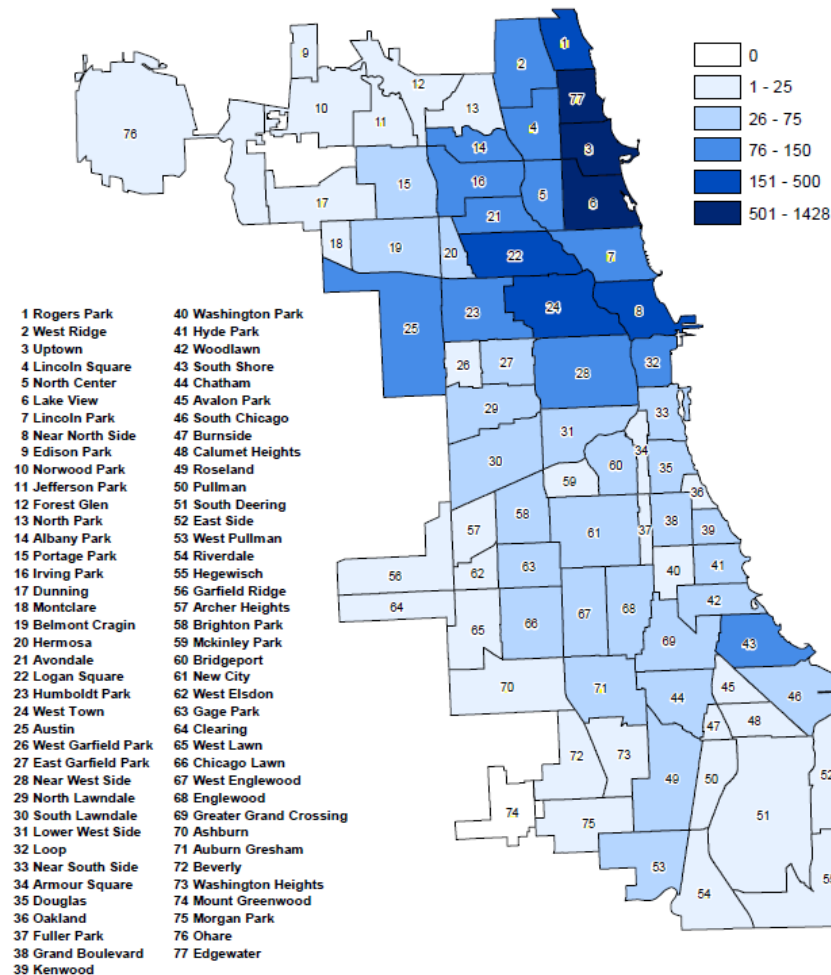
Map prepared by Whitney Clegg,  
CSTE Fellow, IDPH

# 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

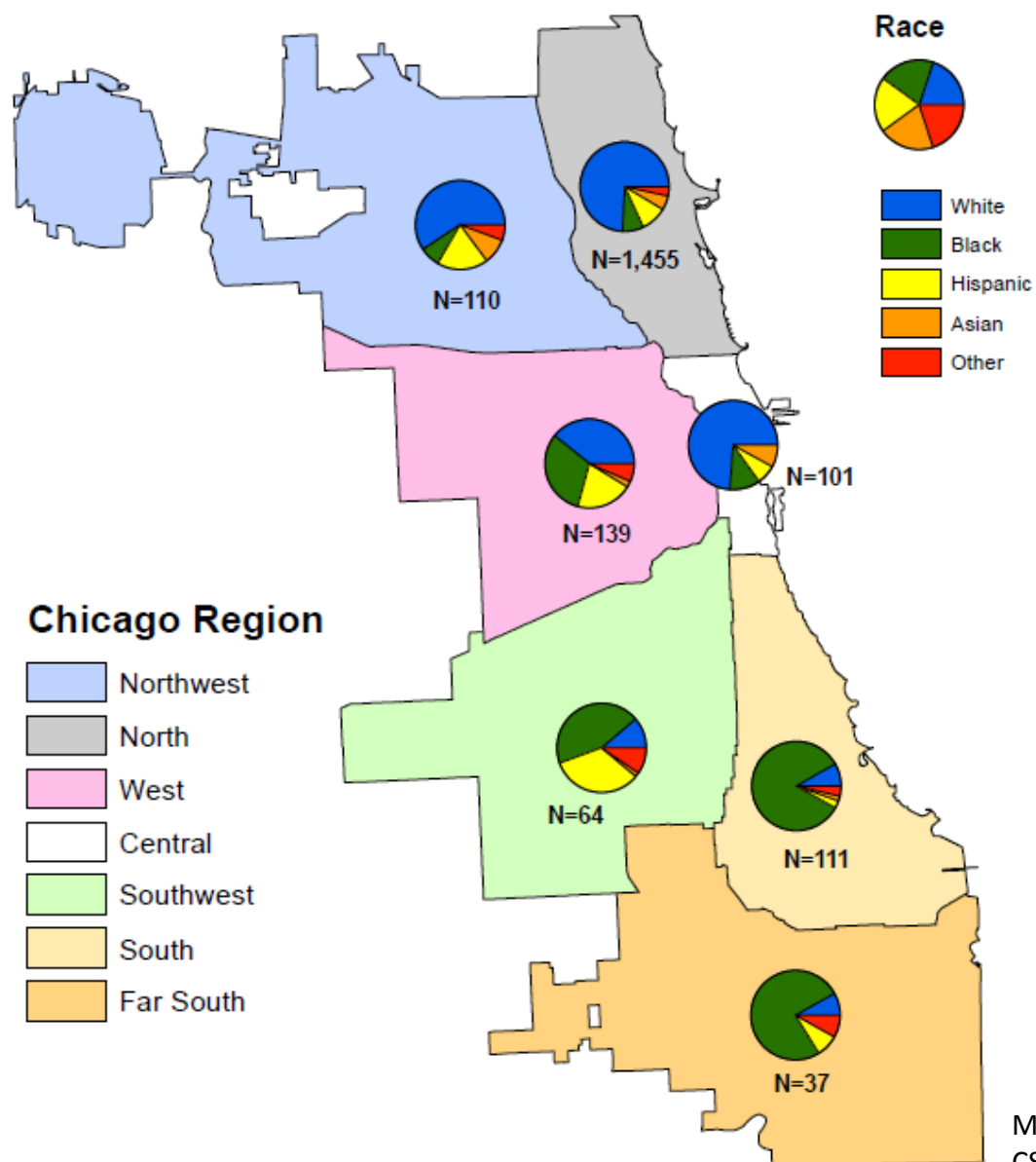


Map prepared by Whitney Clegg,  
CSTE Fellow, IDPH



# 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

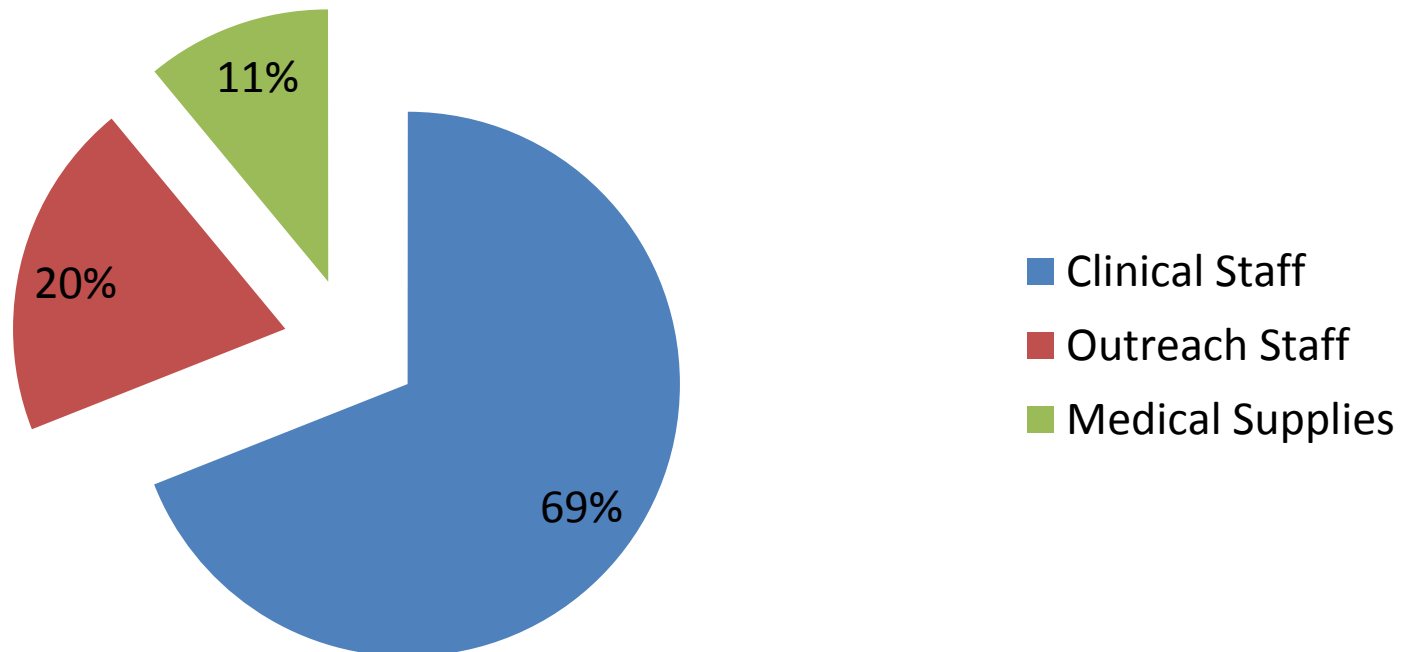
- How to reach members of social networks designed to preserve anonymity?
- How to facilitate communication and community participation to close knowledge gaps in underserved communities?
- How to deliver vaccine in these areas despite lack of infrastructure?

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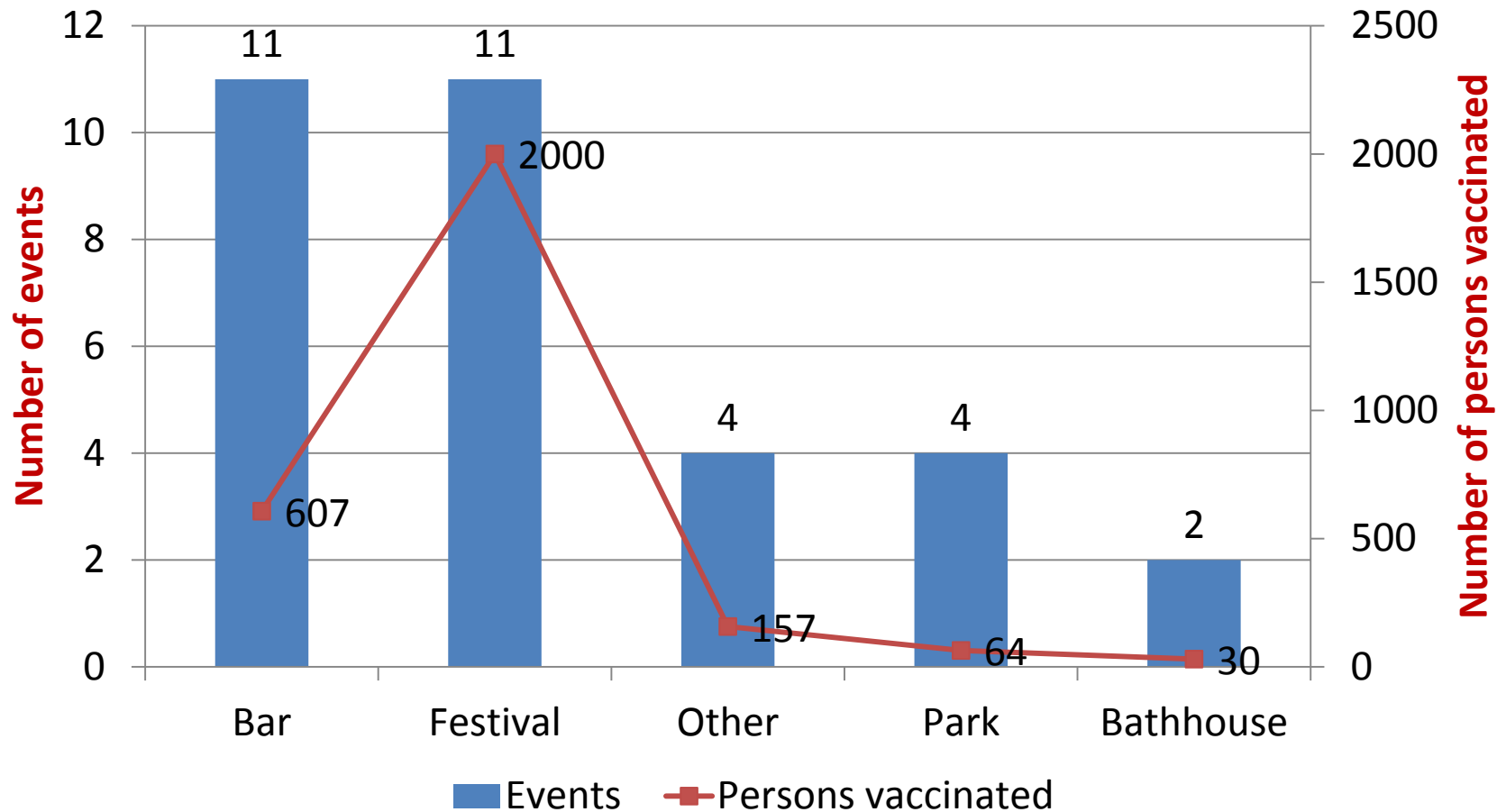
# CDPH "Pop-up" Clinic Costs

Total Cost: \$51,672.76\*



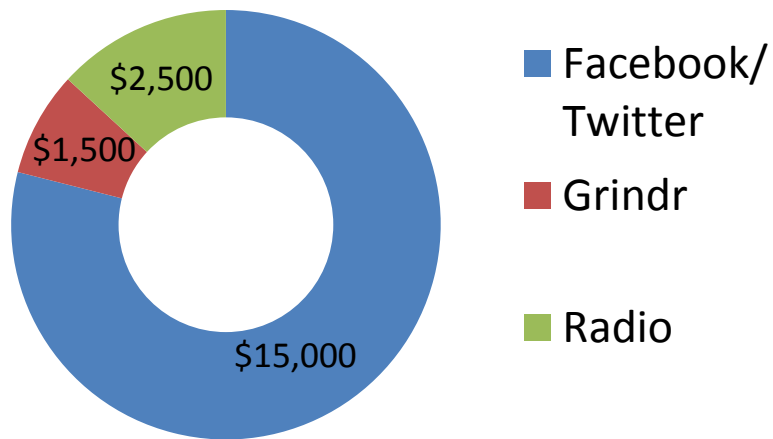
\*Does not include vaccine cost.

# Number of Vaccinations By Event Type



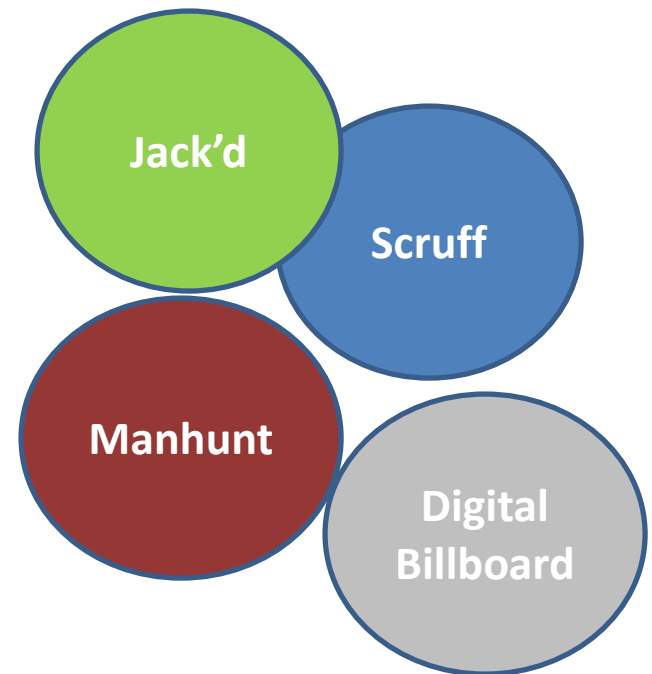
# Media Costs

## 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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312.747.9884



[HealthyChicago@CityofChicago.org](mailto:HealthyChicago@CityofChicago.org)

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