

Protecting the Vaccine Supply: Response to Hurricane Sandy



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Presenter Disclosure Information

- No relevant conflicts of interest to declare or relevant conflict
- No recommendations of off label use of medications or diagnostic devices.

Presentation Outline

- New York City (NYC) Immunization Program background
- Link with Providers
- Hurricane Sandy
- Vaccine issues that were addressed
- Lessons learned and future planning

NYC Immunization Program

- Responsible for the 5 boroughs of NYC, independent from New York State
- Population of >8 million
 - Birth cohort of 125,000 births annually
- Maintains an immunization information system called the Citywide Immunization Registry (CIR)
 - Mandatory reporting of immunizations administered to individuals 0-18 years
 - All reporting is via electronic methods

CIR: Link with Providers

- CIR is pediatric focused
 - 1,813 pediatric provider sites that vaccinate
 - 85% (1,535) participate in the Vaccines for Children (VFC) program
 - 93% of pediatric providers report regularly
- Adult providers were required to register with the CIR to receive H1N1 vaccine
- Over 6,000 providers are in the CIR database
- Regularly used to disseminate health alerts and immunization information to providers

Preparations for Hurricane Sandy

- In anticipation of Hurricane Sandy, all providers listed in the CIR database were sent a notice on October 26th reminding them of steps to take to secure their vaccine supply in the event of a power outage
- Follow up letter sent on November 1st
 - After 4 days, providers told that vaccine was not longer viable
- VFC vaccine shipments were suspended



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October 26, 2012

Dear Colleague:

Hurricane Sandy is expected to reach our area in the next couple of days. We want to remind you of the procedures to ensure the safety of your vaccine supply in the event of the loss of electricity.

Should you experience a loss of power to your vaccine storage unit, we recommend that you take the following steps:

1. Keep all refrigerators and freezers closed during the power outage. **DO NOT OPEN THE UNITS TO CHECK THE TEMPERATURE** until power is restored.
2. If possible continue to monitor temperatures of the refrigerator or freezer, but **DO NOT OPEN THE UNITS** to do this. If this is not possible, then record the temperature as soon as possible after power is restored. In addition, document the duration of the power outage. This will provide information about the maximum temperature the vaccine was exposed to and the duration of such exposure.
3. Do not discard any vaccine.
4. When power has been restored, clearly mark these vaccines and do not use them until you are able to consult with the vaccine manufacturers or the Bureau of Immunization (BOI). Continue to store the vaccines at recommended temperatures in the event that they may still be viable.
5. Call the vaccine manufacturers at their toll-free numbers for guidance about vaccine use: GSK 888-825-5249; Merck 800-672-6372; Sanofi Pasteur 800-822-2463; Pfizer 800-438-1985; Novartis 800-244-7668; and MedImmune 877-633-4411. For vaccine supplied by the BOI, you should also notify the Vaccines for Children Program at 347-396-2405.
6. If vaccine is determined to not be potent, instructions will be provided about how to return the vaccine.

Super Storm Sandy

Impact of Super Storm Sandy

- Changing forecast of storm surge
- 14 foot surge
- Storm inundation area affected census tracts with ~10% of NYC population
- Low lying areas of Brooklyn, Queens and Staten Island most affected



NASA image via Getty image

More Impact of Hurricane Sandy

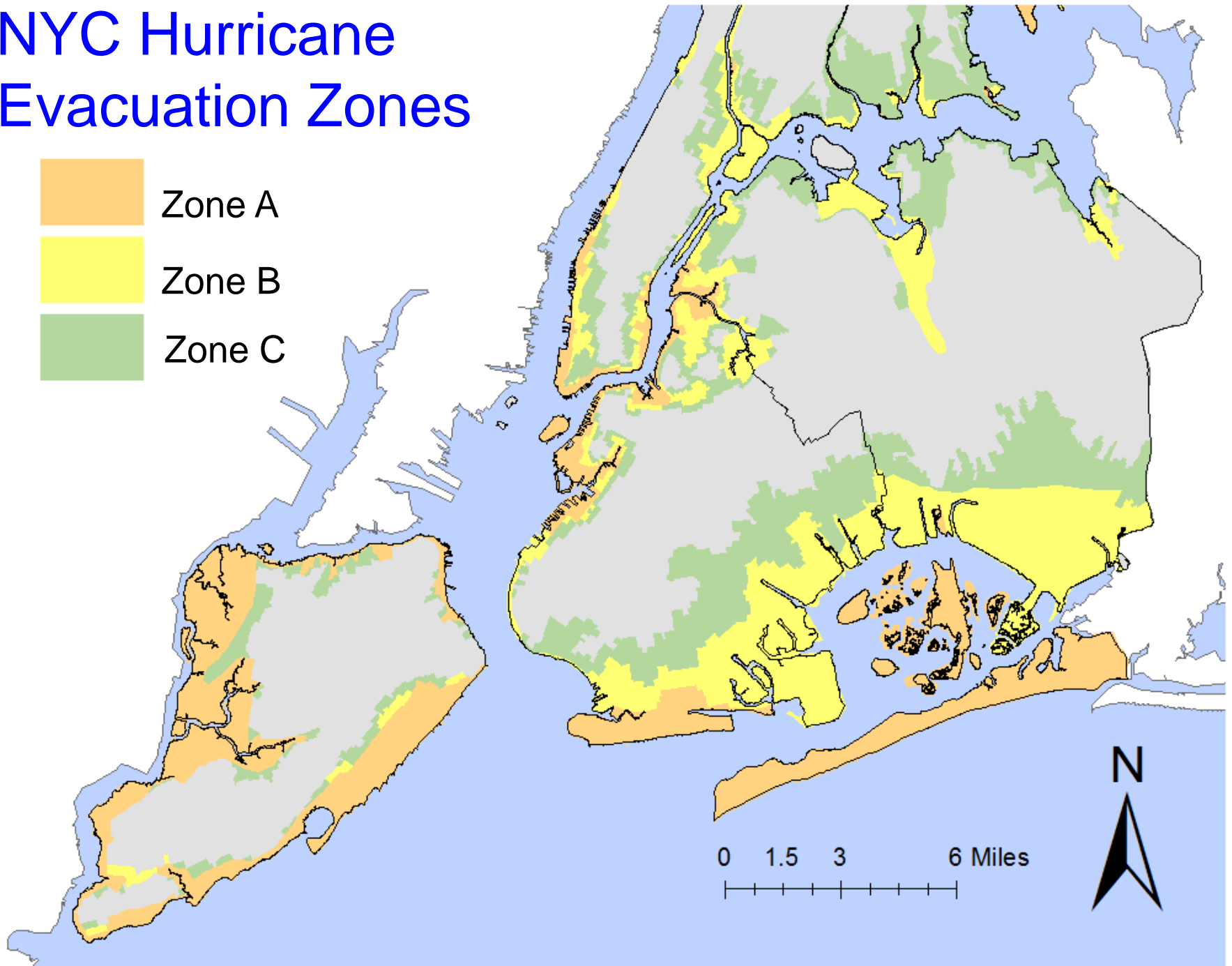
- > 700,000 affected
- Power outage in Manhattan
- Flooding caused extended outages of power, heat, elevators, water in high rise buildings



Associated Press

NYC Hurricane Evacuation Zones

- Zone A
- Zone B
- Zone C



Impact on Healthcare Facilities

- Oct 29, 8 health care facilities and NYU Langone Medical Center and NY Downtown Hospital evacuated
- On Oct 30, power loss , flooding, and storm related damage contributed to evacuation of Bellevue, Coney Island Hospital and 4 other facilities
- Many pharmacies, clinics and private medical facilities were closed

Post-Hurricane and Vaccination

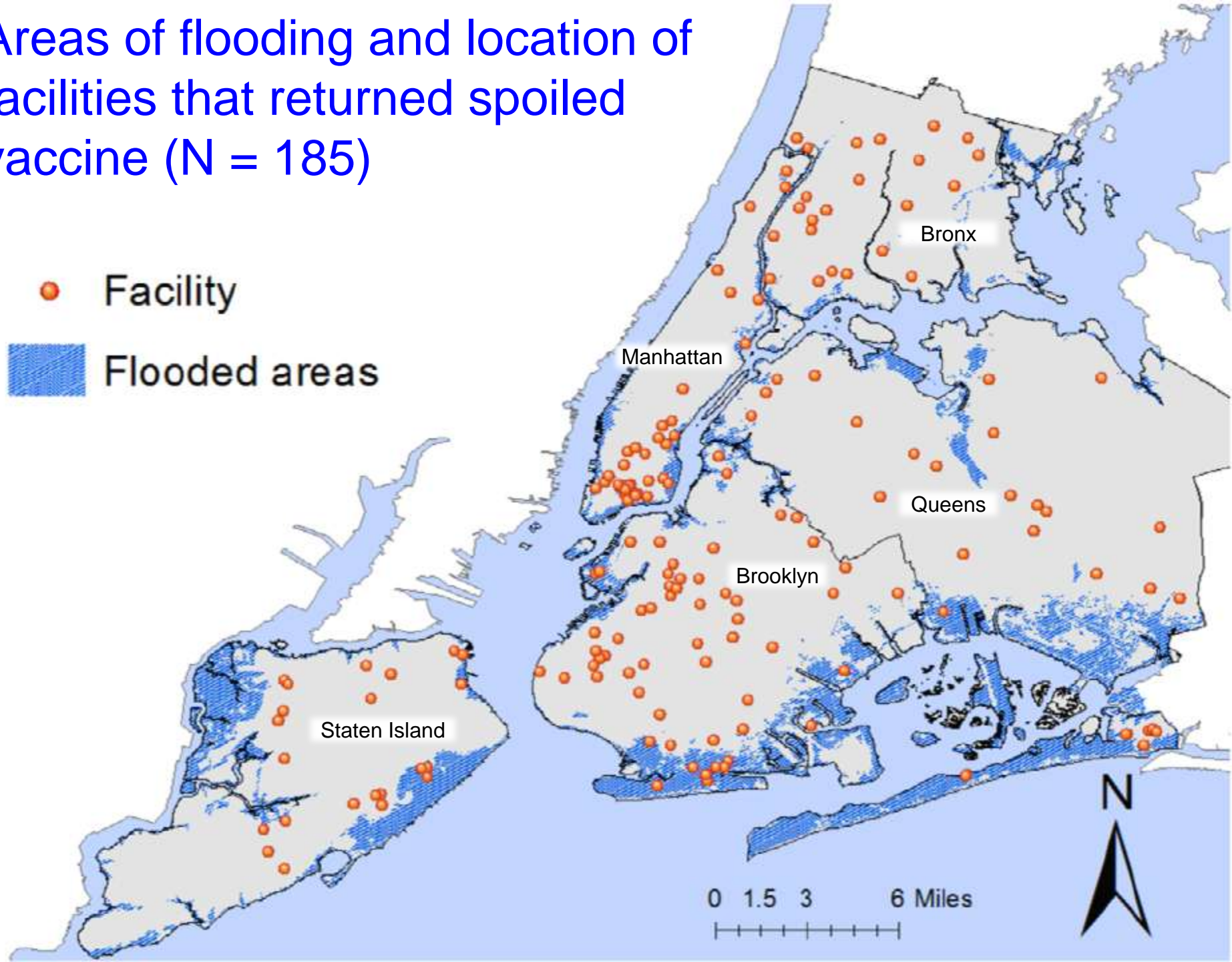
- Questions about whether vaccine was viable and how to obtain replacement vaccine
- Risk of tetanus from exposure and access to vaccine
- Was hepatitis A vaccine recommended?
- Should we vaccinate at shelters?
 - 80 general population and 8 special medical needs shelters opened for ~ 23 days

Replacing Pediatric Vaccine

- Contacted facilities in inundation areas, areas where there widespread power outages, and those that were evacuated
 - Reached out to large sites to move ('save') vaccine
 - Determined if sites were open
 - Obtained the status of their vaccine supply
 - Facilitated the return of spoiled vaccine and reordering of new supply

Areas of flooding and location of facilities that returned spoiled vaccine (N = 185)

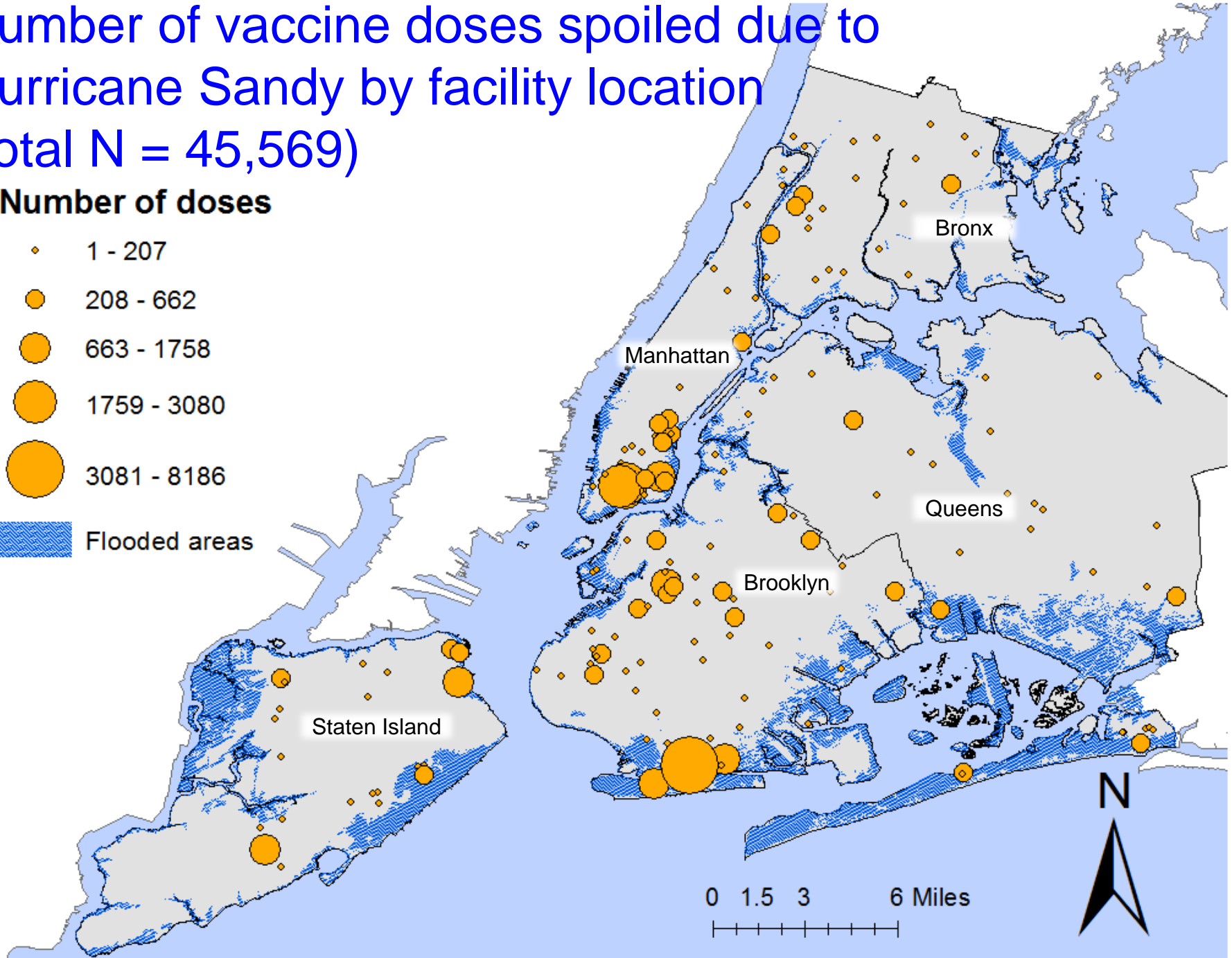
- Facility
- Flooded areas



Number of vaccine doses spoiled due to Hurricane Sandy by facility location (total N = 45,569)

Number of doses

- 1 - 207
- 208 - 662
- 663 - 1758
- 1759 - 3080
- 3081 - 8186
- Flooded areas



Replacing Pediatric Vaccine

- 185 VFC providers reported spoiled vaccine
- 45,569 doses, worth ~\$1,481,382
- One large public hospital that was evacuated and flooded lost 8,186 doses
- In addition, 4 private practices, 2 FQHCs and 1 additional public hospital lost between 1,202 to 3,080 each

Adult Provider Sites

- Partial list of adult vaccination sites
- Made it known through alerts and health department communication that we would help replace tetanus and influenza vaccine
- Vaccine donation received from GSK
 - 1,000 doses each of influenza vaccine and Tdap
- Worked through medical societies
- Two facilities took us up on the offer

Expanded Access to Tetanus Vaccine

- Emergency order allowing pharmacists to provide tetanus-containing vaccine to adults
 - Revised standing orders
- Health care services were being provided by mobile vans operated by several providers
 - Distributed tetanus and influenza vaccines
- Visiting Nurse Service conducted home visits in the affected areas and were given influenza vaccine

NYC Department of Health (DOH) Vaccination Services

- DOH opened emergency vaccine clinics in Far Rockaway and Gravesend
 - 10 clinic days
 - 179 influenza and 169 tetanus vaccines administered
 - Demand was lower than expected
- Maintained clinic operations
 - Moved vaccine for safety to central pharmacy
 - Public Health Laboratory lost power
 - Vaccine returned to the clinics Wednesday

Availability of Primary Care Services

- DOHMH monitored availability and restoration of primary care services in affected areas
- Provided information regarding available providers, pharmacies and mental health services to the public
- Distributed throughout affected areas and at Restoration Centers

Lessons Learned

- Importance of provider lists and communication
 - Facilitated rapid communication
- Need for vaccine management plans
 - Required for VFC providers
- Role of pharmacies
 - Many up and running quickly
 - Expanded access to vaccines

Next Steps and Future Planning

- Review After Action Report
- Expand relationships with adult providers
- Launching online vaccine spoiled/wasted vaccine module to make reporting this information easier
- Enforce vaccine management plan requirements
 - Extend to other sites (Gratis program)
- Legislative initiative to expand vaccines that pharmacists can administer

Thank You

- Questions?
- Contact information:
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