Florida’s Response to Natural Disasters

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Outline

How the Bureau of Public Health Laboratories prepares

• Comprehensive Laboratory Response Plan (CLRP)
• Memorandum of Understanding (MOU)
• Exercises

Hurricane Irma, 2017

• Preparation
• Response
• Mitigation

How Public Health Laboratories Support Each Other

• Surge capacity (e.g. Zika)
• Technical Expertise
• Assessments
How the Bureau of Public Health Laboratories Prepares

NATURAL DISASTERS
Preparing for Natural Disasters

Natural Disasters and Florida (FL)

- Fires
- Floods
- Tropical storms
- Hurricanes
- Thunderstorms/lightning
- Tornados
- Earthquakes and Sinkholes
Preparing for Natural Disasters

Tools in Place:

Continuity of Operations Plan (COOP)

- FL DOH COOP
- BPHL COOP
  - Overall plan for laboratory
  - Identified & prioritized Mission Essential Functions (MEFs)
  - COOP daily/weekly/monthly
    - Equipment failure
    - Staff shortages
    - Weather problems
Preparing for Natural Disasters

Tools in Place:

Chemical, Biological, Radiological Incident Resources Guide (FKA CLRP):
- Partnerships- State, Private, Hospitals, University
- Partnerships- Civil Support Teams, Law Enforcement

Memoranda of Understanding:
- Department of Agriculture and Consumer Services
- Texas Public Health Laboratory, – Newborn Screening
Preparing for Natural Disasters

Building:
- Generators maintained/tested
- Structural upkeep
- Tree trimming
- Hurricane preparedness plan annual review

Staff:
- Annual exercise-evacuations, shelter in place
- Provide hurricane preparedness guide/information for personal/family preparedness
Preparing for Natural Disasters

Exercises:

• Hurricane exercises
  • Statewide exercises (full scale, tabletop)
  • 2013 – hurricane exercise hit all public health laboratories in FL!
• Shelter in place exercises
  • Tornado drills
• Everbridge notification exercises
  • Quarterly statewide
  • Semi-annual, BPHL specific
Impact of Hurricane Irma - early timeline

August 26
• Tropical wave develops from west Africa

August 30
• Tropical Storm Irma formed

August 31
• Hurricane Irma formed

September 4
• Irma is a category 4 storm
• Governor declares a state of emergency in Florida

September 5
• Irma is a category 5 storm
Impact of Hurricane Irma - predictions

September 4

- Labor Day
- The need to prepare for a hurricane very likely
- Laboratory preparations begin September 5
Impact of Hurricane Irma -predictions, cont.

September 6

• Irma hits Leeward Islands
• Path is predicted to track up the east coast of FL
• **Cone of uncertainty covers the whole state of FL**
• Laboratory preparations continue
Impact of Hurricane Irma - predictions, cont.

September 8

- Irma hits Puerto Rico on Sept 7
- Path is predicted to track up the center of FL
- Cone of uncertainty covers the whole state of FL
- Laboratory preparations completed and labs closed except for volunteer workers
September 9

- Irma hits north coast of Cuba
- Path is now predicted to track up the west coast of FL
- **Cone of uncertainty still covers the whole state of FL**
- BPHLs closed except for volunteer workers
Impact of Hurricane Irma - reality for FL

September 10

- From Cuba, Irma hit Cudjoe Key (Key West) as a category 4 storm
- Made second landfall at Naples as a category 4 storm

Early September 11

- Downgraded to category 1, tracks to the east of Tampa
Hurricane Irma
BPHL Prepares

Building Preparation:
• Completed by COB, September 7
• Generators, security cameras, fire alarms, building security fully operational
• Non-critical equipment, computers unplugged
• Everything moved away from windows and off the floor
• Servers backed up offsite and turned off
• All instrumentation covered
• Sandbags placed at doors on final day
Hurricane Irma

BPHL Prepares, cont.

Emergency Testing Services (labs closed 9/8, 9/11, 9/12)

- Rabies – last day of testing, September 8. All victims after would need treatment
- Newborn screening and Tuberculosis – Volunteers completed testing by Sept 9
- BioWatch and BioThreat testing completed testing September 9
Hurricane Irma
BPHL Prepares, cont.

Notifications:

• Federal agencies (CDC, DHS) and other partners
• Security guard and janitorial services – identify last day/time of operations
• Security alarm company
• Check courier and delivery services
• Ensure staff are aware of building closures and how they will be notified

Staff:

• Ensure staff are adequately preparing themselves
  • Evacuation, family, home preparation
Hurricane Irma Effect on Florida

- Over 6 million ordered to evacuate
- Approximately 73% lost power at some point: 1-7 days
- Storm surge caused significant localized flooding
- Estimated $50 billion in structural damages
- Estimated $2.5 billion damage to agriculture
Hurricane Irma
Effect on BPHL

BPHL-Miami:

• Power outages in grid meant laboratory was on generator power for 17 hours
• Generator powers the whole building
• No loss of samples or supplies
• Minor leaking due to small cracks
• Biggest effect – some staff could not get to work on Sept 13 due to destruction and tree damage in outlying areas
Hurricane Irma
Effect on BPHL, cont.

BPHL-Jacksonville:
• Hogan’s Creek overflowed
  • 8-10 inches of flooding
  • Loss of supplies ($$$)
  • Major clean-up effort
• Leaking roof with water damage to ceiling
• Power outages, on generator power for a few hours
• Fully operational on September 13 even though:
  • Schools were closed
  • Power & water outages throughout the city
Hurricane Irma
Effect on BPHL, cont.

BPHL-Tampa:
• No power loss to building
• No leaking at doors, roof, windows
• Two tiles pushed from ceiling due to wind
• Some tree limbs down
• Retention pond behind lab did not breach its banks
• All staff back to work September 13
  • Schools were closed
  • Power outages throughout the city
Hurricane Irma
Effect on BPHL, cont.

After Action Report Conducted:
1. Were you aware of the hurricane preparedness plans for your department or lab section? -100% YES
2. Did the Tampa lab administration or your supervisor provide good communication about hurricane Irma and what to expect in regard to your job in the lab? -100% YES
3. Were the Everbridge cell phone texts/calls about the lab being open or closed helpful? What would make them better? -100% YES, but notifications can be late and contradictory
4. Are you aware of ICS and COOP? - <50%. Staff training already given on both
How Public Health Laboratories Support Each Other

- Help
- Advice
- Solutions
- Specimens
- Surge Capacity
- Expertise
- Assessments
How Public Health Laboratories Supporting Each Other

Providing Surge Capacity
• E.g. during Zika, H1N1 outbreaks
• In state and using partner labs out of state

Sharing Technical Expertise and Specimens
• Positive specimens for test validations
• Reach out to public health laboratories (PHLs) with experience
  • Texas reached out to Florida for help with urine surveys during Zika outbreak, 2016
  • Florida reached out to Indiana for help with second case of Middle Eastern Respiratory syndrome Coronavirus (MERs), 2014
How Public Health Laboratories Supporting Each Other, cont.

Providing assessments for PHLs:

• Assessment of Puerto Rico public health laboratory system after Hurricane Maria (October 2017)

• APHL organized an assessment team of state PHL directors
  • What happened
  • Current status
  • What's needed
Conclusions

• Florida is subject to natural disasters such as tornadoes, tropical storms and hurricanes
• BPHL must be prepared for these disasters
• 2017 was a historic year for hurricanes; Harvey, Irma, Maria
• While Florida was severely hit by Irma, the BPHL came through relatively unscathed
• Public Health Laboratories are there for each other
Contact Information

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