



County Health Department Epidemiology Hurricane Response Toolkit

Overview by: Carrie Cerini

Objectives

- Roles and functions of Epidemiology units in hurricane response
- Active surveillance
- Passive surveillance
- Outbreak investigation and management
- Infection control in group settings
- The Incident Command System/Strike Teams
- Surveillance systems available to survey community health post-storm



Pre Event Roles

- Establish communication with TB, STD, HIV/AIDS units
- Verify “Epi-Go Kit” contents
 - Should include essential items needed to carry out duties away from the office
- Identify support equipment and files
 - Laptop or thumbdrive with necessary computer applications
 - Copy of CHD contacts, BOE contacts



Epi-Go Kit

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7. Epidemiology Field Gear Checklist

BASIC FIELD GEAR CHECKLIST-OUTBREAK INVESTIGATION

Description	Quantity
<i>Personal Protective Equipment</i>	
Gloves(Small, medium, large, and latex free)	1 each
Gowns	
Face Masks (N95 Respirators)	1 box
Safety Goggles	2 pairs
Shoe Booties	1 box
Wader Boots	4 pairs
Bottle of Sunscreen	1-2 bottles
Insect Repellant	1-2 cans
Hand Sanitizer	4
First Aid Kit	1
<i>Office Supplies</i>	
Clipboards	4
Pens/Pencils	2 boxes of each
Paper	1 ream
Graph Paper	1- (12 pack)
Black Permanent Marker	4 markers
Scissors	2 pairs of scissors
Binder Clips	1- (box 24 ct)
Phone Message Pads	1 message book
White Out	2 white out
Push Pins	1 box (100ct)
Index Cards	2 (250 ct)
Tape Dispenser	1
Tape	2 rolls of tape
Post-It Posts	1 pack
Pocket Folders	1-box 100 ct
<i>Office Supplies</i>	
Notebooks	2
Stapler	2
Paper Clips	1 box (100 ct)
Rubber Bands	1 box
Calculator and batteries	1
Portable locking file cabinet	2
File folders	1 box
Hanging File Folders	1 box
Trash Bags	1 box
Jump Drive/Thumb Drive	1
<i>Resources</i>	
Control of Communicable Disease Manual	2
Red Book	1

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CDC Acute Diarrhea Management Guidelines	1
<i>Investigations Worksheets</i>	
Enteric Investigation	
Hepatitis A	
Hepatitis B and C	
Meningitis/ Encephalitis	
Rash Illness	
General Investigations	
Rabies	
Respiratory Disease	
Environmental Health: Foodborne Illness/Survey Complaint Form	
Line List	
Phone Log	
<i>Laboratory</i>	
Bacterial Specimen Kit	
Viral Specimen Kit	
Ova and Parasite Kit	
Transport Media	
Laboratory specimen collection guidelines	
Ice Pack	
Laboratory Submission Form	
Biohazard Bags	
Shipping and Packaging	
Cooler for Lab Specimens	
Specimen Collection Log	
<i>Medical Supplies</i>	
Thermometer	
Stethoscope	
<i>Other</i>	
Car Power Source for Laptops	1
Laptop computers	
Cell phones/Blackberries	

Pre Event Roles

- Implement post-disaster surveillance for illness/injury at key facilities
 - Evaluate the normal census data at local hospitals
 - Identify contacts at each facility
 - Determine when to distribute surveillance materials, how data will be collected, and how it will be disseminated back to reporting facilities



Post-event Roles

- Re-establish contact with key disease control partners such as: hospitals, urgent care centers, DMATS (if deployed), Red Cross
 - Determine the extent to which these community partners are able to continue their usual communicable disease reporting responsibilities.
 - Electrical and/or telephone disruptions may occur, be prepared to establish alternative approaches to receiving this information as soon as possible.

Post-event Roles

The major epidemiological activities post-event will include:

- Maintaining reportable disease surveillance activities with local public health partners
- Establishing increased communicable disease surveillance and syndromic surveillance within particular hospitals, clinics, and DMATS
- Investigating disease outbreaks or increased incidence in community health events (such as communicable disease or injury)



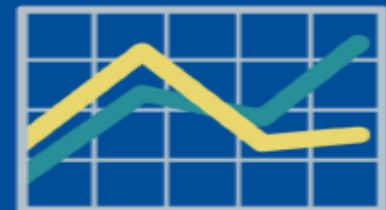
Post-event Roles

- Prepare descriptive reports of syndromic/enhanced surveillance data daily. Provide to the ICS, EOC, and CHD leadership
- Assess need for epidemiology strike team



Passive Surveillance

- Defined as the regular, non-active collection of health data from institutions, health care providers, and laboratories for public health concern
- Includes daily monitoring of reportable/notifiable diseases
- Can provide quantitative estimates of the magnitude of post-disaster health problems, detect outbreaks, allow monitoring of disease patterns post-disaster
- Regular notifiable disease surveillance should **NEVER** be disregarded in lieu of other responsibilities following a public health disaster





Active Surveillance

- Only occurs when there is ample reason to actively pursue “case finding”
- After hurricanes, involves “dropping in” on DMATS, shelters, correctional facilities, nursing homes, etc
- Emphasizes injuries, carbon monoxide poisoning, falls, gastrointestinal illnesses and complications of chronic conditions



Active Surveillance

- Facility visits should occur daily
- Initial visit should include introduction to charge nurse/medical director and review of the surveillance form
- Coordinate with EH
- Telephone contact may be sufficient if prior contact has been established, the staff is competent, and the phones are working



Post-event Syndromic Surveillance

- Conducted with broad syndrome categories
- Aimed at identifying general groupings of health events (Ex: GI symptoms)
- Data can answer questions about current and recent health status of a community, detect potential outbreaks, assess increases in specific syndromes, or dispel rumors of disease outbreaks
- Usually utilized in counties directly hit by a hurricane with infrastructural damage that comprises the availability or delivery of healthcare in the community

Data Collection Forms

- Individual level data collection forms
 - Used for electronic data collection
 - Collects specific demographic and “syndrome” information
- Tally-based data entry form
 - Used for data recorded by hand
 - Collects data by broad demographic and chief complaint “categories”



Outbreak Investigation and Management

- Prepare for fieldwork
 - Utilize typical items (go-kit) for field work, new considerations include staff safety, staff shortages
- Confirm existence of outbreak
 - Does the number of reported cases exceed the expected number for a given area or time period?
 - Do all the reported cases have similar manifestation/presentation of illness?

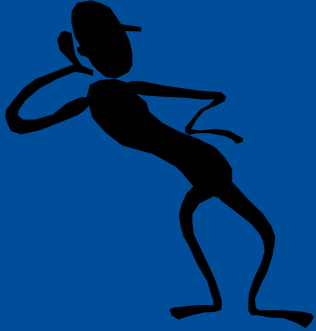


Outbreak Investigation and Management

- Define a case
 - Give a broad case definition, it can be narrowed later as more information is available
- Tabulate data in terms of person, place, and time
 - Establish a line list
- Take immediate control measures
 - No need to wait for lab results

Outbreak Investigation and Management

- Evaluate control measures
- Communicate findings
 - Report findings to event incident commander, agencies operating shelters, hospitals, DMATS, etc.
 - Will aid in implementing control measures, prevent future cases, and avert similar outbreaks in the future



Rumor Control



Considerations to address concerns:

- Is anybody sick?
- Who is reporting the outbreak/case? Is it medical personnel? Shelter staff? Staff from another public health agency? A community member?
- Is the reported situation an event that is already under investigation by the epi staff?
- Is the reported outbreak of an etiology that can be expected in the community?
- Is the purported exposure to illness plausible? Is the purported outbreak plausible?



Infection Control in Group Settings

- Use disease specific tools
 - Gastrointestinal illness
 - Respiratory Illness
 - Food and waterborne illness
- Ex: Norovirus is one of the most common causes of GI outbreaks in shelters. Useful materials include:
 - Educational fact sheet
 - Prevention and control guidelines
 - Disinfection procedures



The Incident Command System & Strike Teams

With ICS:

- Epidemiology personnel may be assigned to a team that has a specific task to carry out and report on
- The person you report to under the ICS system may not be your regular supervisor
- Non-local personnel may be assigned to perform local tasks

ICS and Strike Teams

Strike teams can be requested through the ICS structure under three conditions:

- The local CHD has sustained significant structural damage and staff shortages and the epi unit can not fulfill its public health role
- CHD is functional but experiencing staff shortages, resource shortages, or other conditions that limit the ability of the local epi department
- CHD is functional and fully staffed yet there is perceived need for limited technical assistance in carrying out some surveillance/disease control functions

Resource Type: Epidemiology Strike Team

Category: Health & Medical (ESF #8)

Kind: Epidemiology Strike Team

Mission: Provide disease surveillance, investigation and controls during assessment or recovery phases of a disaster. May be combined with and Environmental Strike team to create Environmental Epi Task Force.

Minimum Capabilities	Type I	Type II	Type III
Overall Function (local area requests expertise)	Full versatile and experienced epi team to conduct surveillance and investigation efforts in a defined geographic area. Includes Epi branch director for ICS structure and 2 support personnel	Team capable of addressing limited subject areas	Personnel Only with varying skills <ul style="list-style-type: none">• Epi team Augmentation• Field data collection
Team Member Subject Area Composition	All Subject areas represented Disease surveillance Outbreak investigation Quarantine and Isolation Data Analysis Phlebotomist	One or two subject areas represented as specified by requesting locale.	Specialized staff request for single task or team augmentation
Personnel Standard	8 (+2*) member team 1 Type I team leader 1 clerk 6 field epi (3 Type III, 3 Type II) personnel with expertise specific to request +2* when requesting multiple type I teams only one per event 1 data manager 1 branch director	6 Member team 1 Type II team leader 1 clerk 4 Type III specific to subject area request	4 member team 1 type IV leader 3 Type IV staff for augmentation specific to a single need and subject area request.

Resource Type: Epidemiology Strike Team**Category:** Health & Medical (ESF #8)**Kind:** Epidemiology Strike Team**Mission:** Provide disease surveillance, investigation and controls during assessment or recovery phases of a disaster. May be combined with and Environmental Strike team to create Environmental Epi Task Force.

Minimum Capabilities	Type I	Type II	Type III
Equipment and Supplies (all vehicles SUVs for field work)	5 vehicles plus 8 epi kits Each member will have electronic equipment for collection of field data. Leadership will have laptop equipped with epi info and standard Microsoft applications	3 vehicles plus epi kits 1 laptop equipped with epi info and standard Microsoft applications	2 vehicles

Note for Equipment and Supplies: all vehicles must be SUVs for field work. Personnel will be supplied either individual lodging or basecamp space, including food and water rations. All logistical support for personnel will be provided through FL DOH ESF8 Logistics. Personnel should bring a laptop (win2000/XP), thumb drive and agency issued phone with them when deployed (if possible) All teams have a single point of contact and deploy through the FL-ESF 8

All personnel should have current influenza, tetanus/diphtheria immunizations, Hepatitis A & B series immunizations.

Resource: Epi Strike Team

Minimum Capabilities	Type I	Type II	Type III
<u>Readiness</u> Personnel and equipment	Upon alert, full roster within 2 hours. After activation, deployment ready within 12 hours. **	Upon alert, full roster within 4 hours. After activation deployment ready within 24 hours. **	Upon alert, full roster within 4 hours. After activation, deployment ready within 24 hours.
Demonstrated	Team leader and Branch Director, plus 50% of the team have a history of satisfactorily rated prior deployment within ICS structure for public health response.	Team leader and 50% of the team have a history of satisfactorily rated prior deployment within an ICS structure.	History of satisfactory rated prior experience with ICS structure.
<u>Training</u> * Didactic	Has trained as a team to meet 9 BT and Emergency Readiness Competencies for All Public Health Workers and Preparedness and Planning competencies for Public Health Communicable Disease Staff	Has trained as a team to meet 9 BT and Emergency Readiness Competencies for All Public Health Workers and some of those for Public Health Communicable Disease Staff	Has trained as a team to meets 6 out of 9 of the BT and Emergency Readiness Competencies for All Public Health Workers
Experience	Field exercise or annual deployment	Field or tabletop exercise annually	Semi annually field, tabletop or classroom training

- *Specific levels of didactic training requirements by position and Type are found in the epidemiology personnel asset typing matrix.
- * Team training to competencies found in training appendix of Standard Operating Guideline (SOG)
- Bioterrorism and Emergency Readiness Competencies for All Public Health Workers, CDC, November 2002
- ** Epi go kits lists are part of the Standard Operating Guidelines (SOG). These kits must be prepared ahead of time, then during the time between alert and activation customized for specific geographical response area and anticipated duties.

Epi Strike Teams

- Hold meetings at beginning and end of day (shift) to review work assignments and account for all members. Local CHD staff should be invited
- If possible, strike team members should bring laptops. Go-Kits should include enough standard office supplies to begin working
- Follow the protocols and procedures of the host county
- Provide an exit interview to host county to notify them of any pending cases or investigations at conclusion of deployment

Surveillance Systems Post-storm



- Poison Control Surveillance
 - Self-reported complaints
 - Not investigated in the field



- National Retail Data Monitoring
 - Analyzes daily over-the-counter sales of health-care products



- ESSENCE
 - Hospital ER visit data categorized by syndrome

In Conclusion...