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Epidemiology in Disaster Situations – a State Epidemiologist's View

ESF-8 activations in Florida since 2004 -- hurricanes

- Hurricane Charley -- 2004
- Hurricane Ivan -- 2004
- Hurricane Jeanne -- 2004
- Hurricane Frances – 2004
- Hurricane Dennis – 2005
- Hurricane Katrina – 2005
- Hurricane Rita -- 2005
- Hurricane Wilma -- 2005

ESF-8 activations in Florida since 2004 – infectious disease events

- E. coli O157:H7 (60 cases) -- 2006
- Cyclosporiasis (800 cases) – 2006
- Vaccine shortage – 2006
- Avian influenza planning – 2007-2008
- Influenza A/H1N1 – 2009-2010

ESF-8 or DOH activations in Florida since 2004 – other issues

- Chinese dry-wall health effects – 2009
- Deepwater Horizon oil spill – 2010
- Evacuation of critically wounded from Haiti after earthquake -- 2010
- Tropical Storm Fay -- 2007
- Wildfires and smoke -- 2006-2009
- Three Superbowls (Tampa, Miami, JAX)
- Republican National Convention -- 2012

What epidemiologic capabilities do public health agencies have to have normally?

- Surveillance
  - For individual cases
  - For outbreaks/events
- Investigation
  - Cases
  - Outbreaks/events
- Summarize current situation
- Formulation of evidence-based control recommendations
- In everyday practice, most implementation of control recommendations
- Laboratory support for all of the above
- Provider and public communications

What epi capabilities does public health need to have during activations?

- Surveillance
  - For individual cases
  - For outbreaks/events
- Investigation
  - Cases
  - Outbreaks/events
- Summarize current situation
- Formulation of evidence-based control recommendations
- Laboratory support for all of the above
- Ability to function under difficult conditions
  - Healthcare system not functioning normally
  - Infrastructure damage
  - Displaced populations
- Ability to function effectively in complex ICS structures
- Ability to function under high stress

Routine vs emergency

- Most of the epidemiology and disease control skills we need for an emergency are ones we use every day
- It is important for us to be really good at our every day epi work so we are ready to go during an emergency
- Every case and every outbreak could be leading edge of a public health emergency – we triage informally
- Some skills are called for only occasionally in the absence of an emergency – large case-control study, new survey designed on the fly, quarantine orders, etc
- There are some skills needed in a large-scale-scale event that we basically never get to practice except in an exercise or a true emergency.

What's different?

- Epidemiologists have been doing large, complex, high-profile epidemiologic investigations for a long time
- Now we have a structure (ICS) to do them in, which if used right can help us to:
  - direct our efforts effectively
  - not have to deal with most logistics and communications
  - free epidemiologists up to do the work they do best.

The prime directive

- Collection and analysis of epidemiologic data should never be allowed to consume resources if action does not follow.
- This is always true
- In emergency response situation, it means you must have Incident Commander or at least Ops Chief support for any substantial investment of resources into epidemiologic work
  - (e.g. a CASPER survey)

Some specific tools & resources

- ESSENCE-FL
  - ED and urgent care visits (with info about admissions)
    - Hook up DMATs too?
  - Poison Center consultations
  - Death certificates
  - Reportable disease case reports (deidentified)
- County Health Department Hurricane Epidemiology Toolkit
- Regional Epidemiology Strike Teams
- Central office staff trained on CASPER
- Epi Gateway

County Health Department Epi Positions and PHEP

- 34 CHDs receiving PHEP funds for epi staff, accounting for over 17 million people or 90% of FL population
  - In these 34, 78.5 FTE are PHEP-funded, 94.9 FTEs funded in other ways
  - 24 additional CHDs receive support from positions in these 34
- 17 CHDs have more PHEP than non-PHEP staff in epi
- Scores on Epi measure in QI snapshot have been going up over several years

Locating information

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