

2014 CSTE Disaster Epidemiology Workshop
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Keynote Presentation

OHA's Role in Health Disasters – Improving Response and Strengthening Health Resilience Through Partnership

Sally Phillips, RN, PhD

Principal Deputy Assistant Secretary/Deputy Chief Medical Officer (Acting)

Office of Health Affairs

U.S. Department of Homeland Security

- Overview of Homeland Security:
 - 2012 brought together 22 partnerships
 - Vision Ensure Homeland Security for the US
 - Security Resilience
- Office of Health Affairs (OHA): Health aspect within DHS
- OHA Initiatives: Active shootings are happening more often i.e. Aurora, CO shooting, LAX shooting, etc. We are applying lessons learned from Iraq (trauma treatment). How do we think about educating civilians in that situation as well? Chemical releases are also of concern- how do we plan for the immediate response etc. Risk communication is important during chemical release situations. Beyond the borders initiative works on shared approach between Canada and US. Trade facilitation, shared critical infrastructure, threats etc. Lessons learned from war situations example tourniquet use in field
- Partnerships: Strong network that encourages sharing of information. National Biosurveillance Integration Center (NBIC) is the main coordination with biosurveillance. Chemical Defense Program is very collaborative. Science and technology works very closely with that group. Partners with CDC are crucial.
- Biowatch: in more than 30 metro areas, operated at local level. Each area has their own use as trigger for exercises which stimulates communication.
- EMS: Work very closely with fire service and non fire service provider. EMS Safety Techniques and Applications. Guide to Developing and Managing an Emergency Service Infection Control Program (2002). We work very closely with EMS Suspicious Activity Reporting System.
- Fusion Centers: Health Security information sharing: interface with public health, DHHS, and fusion centers. Technical assistance, peer to peer training, etc.
- Current Issues: H7N9- DHS has components to make sure they are prepared and able to protect themselves at airports and borders. They also work on workforce protection plans, vaccinations, outbreaks, and food contamination issues. DHS looks at health consequences, economic impacts, and gives advice to FEMA during an event. In crisis operations, DHS leads look at emerging infectious disease ongoing case monitoring, reports, and HSIN portal. Recent collaboration events include MERS, Fukushima, and hurricane health effects and advice from SME.
- Beyond the Borders shared approach with Canada, security and protect from threats
- Foot and Mouth Disease: DHS looks for new cases and look at worst case scenario to develop exercises to prepare staff. They look at international food contamination issues and give advice to FEMA regarding storage and contamination issues.

Discussion:

- Information sharing is a severe challenge: Trust interagency issues are critical. It is crucial to not having the wrong information getting out ahead with the wrong message flow, partners meet on regular basis.
- Is there a module to deliver information/standard procedures for local and state governments? There are 4 types of data that come into NBIC: 1) open source data, 2) info from federal partners, 3) contacts information, 4) health and health-relevant data.
- Can you expand on what the Suspicious Activity Reporting System is? See Something, Say Something campaign. Basically we are asking the public if you see something that is suspicious, report it.
- What is a fusion center? (http://en.wikipedia.org/wiki/Fusion_center)
- Communication has changed immensely over the past 10 years with SARS in 2003, then H1N1, and now MERS. Fusion centers come from crime, terrorism unit vs – How do we declassify some of this information to get out? Fusion centers should be communicating with public health department.
- How would someone go about beginning a relationship with OHA? Easiest way to go with NACCHO and ASTHO- come directly to OHA.
- What kind of relationship do you have with NIOSH? We have occupational division with OHA. NIOSH is pivotal with any guidelines we prepare.

Session 1: Surveillance during Disasters: Innovations in the use of Technology and Tools

e-Surveillance

Scott McNabb, PhD, MS

Research Professor

Emory University, Rollins School of Public Health

- Demo on tools to collect data during disaster, allowing for systematic collection and analysis of data. Group entering case reports from iPhone and Androids: Case Study on Haiti Cholera
- Mers covb major issue now: focus should be on information sharing
- Disaster Epi: assess human health impacts of a calamitous event, evaluate planning and prevention approaches and action
- Objectives of Disaster Epi: estimate magnitude of adverse health outcomes, identify groups at risk, detect future public health threats, evaluate public health interventions, identify research priority, generate hypotheses.
- Conceptual framework of public health surveillance: National Notifiable Death System (NNDS). indicator based surveillance, Event-based surveillance, IHR (individual health records) surveillance, Syndromic Surveillance, Participatory surveillance, predictive surveillance (using past occurrences to predict) - ecology surveillance, climate patterns, major socio culture events.
- Challenges: Urgency- need to get info quickly, Multiple players- not coordinated, adverse conditions- physical conditions, accuracy of data, timeliness of reports, limited resources, lack of communication in Emergency Operation Centers (EOC)
- There should be a public health app to see the number of cases of whatever disease in China. It should be a right to access public health information. There should be sharing between countries. Data sharing is important.

Global best practices for Emergency Operation Centers

- e-surveillance: merge the power of information and communication technology and its analytic capabilities with the core functions of public health surveillance. Core functions of public health surveillance can be enabled, enhanced, and empowered by new information and communication technology (ICT) opportunities to be better, faster and cheaper, but public health not taking advantage of it right now. Call to action! Communicate risk appropriately is key to success of e-surveillance.
- Opportunities:
 - Infrastructure – establish portable and temporary base stations and satellite terminals
 - BRCK: portable internet
 - Serval Projects: voice over IP technology (VoIP) combined with Wi-Fi to form a daisy chain form of communication; modern 2-way radio
 - OpenBTS: open source cell phone network allowing for VoIP and device to device connection
 - DARPA Spectrum Challenge: build a “more robust, resilient, and reliable radio communications” system
 - Risk Communication - early warning systems and mobile applications
 - For example, Outbreaks Near Me and Fluview, Google Person Finder, and Mass Messaging
 - Participatory surveillance - crowd sourced epidemiologic intelligence –
 - Tools- Ushahidi, CrowdMap, OpenGIS, ProMED; social media- Twitter, but accuracy of whether it is actually a case is an issue.
 - Benefits: low cost, easy implementation
 - Challenges: specificity i.e. fever vs Bieber fever
 - Surveillance Specialist- empower field epidemiologists with e-Surveillance and real-time analytic capabilities
 - Mobile or tablet-based tools for data entry, decision support, real-time data analysis, and 2-way communication
- Published EOC guidelines report this past December
- Discussed options for open source options for sharing information and collecting data real time

Epi-Info Applications for Disaster Epidemiology

Leslyn McNabb

Epi Info Project Manager

- Epi Info: Product is free, easy to use, flexible, and no IT support needed.
- Usually start with Epi Info form and can transfer to Epi Info Mobile app. Epi Info Mobile available for Android and one for iPhone is being developed.
- Can collect data offline and then synchronize data with the cloud. Epi Info allows analysis of data on your mobile device as well. Multiple people can be entering data at the same time on multiple devices.
- Epi Info web analysis and visualization is another new free tool that receives mobile data, sends it to the cloud and enables you to visualize it on a customizable dashboard.
- Epi Info is FedRAMP certified meaning the government has deemed it secure. The only time limitation in a disaster setting would be the creation of the form.

Utilization of Android Tablets for Data Entry in the Field

Joseph Roth Jr, MPH

CDR, US Public Health Service

CDC Career Epidemiology Field Officer

Tennessee Department of Health

- TN RAPID (Risk Assessment of Populations Impacted by Disasters) Team – Goals: compile all products necessary prior to disasters to enable immediate deployment of assessment teams, facilitate regional use of CASPER methods
- RAPID Toolkit: Census data, Premade CASPER
- CASPER Requirements- Pre-deployment: census data, maps, training materials, planning forms, survey; Fieldwork: data collection system, tracking forms, navigation support, communications, Post-fieldwork: database, demobilization plan, report
- Allows teams to come in from the field and immediately plug in to dashboard and able to immediately graphically display results.
- Advantages: reduces data entry time, integrate CASPER processes, transmit data remotely, flexibility to add innumerable applications, increases field team independence and flexibility
- Disadvantages: Some people don't like tablets and would rather use paper.
- Formed RAPID teams based on CASPER model to do a risk assessment of populations impacted by disasters in TN.
- Shared technical considerations from their experience.

Discussion:

- Security of Data during transfer of data process using Epi Info – Lock tablet by password, data is stored on device, wdap2, FedRamp
- State and local IT infrastructure often limits access to utilization and incorporation of these tools in many health agencies.
- There was some debate about how CDC can provide technical assistance to a state that utilizes open source software.
- There should be more evaluation of each of these tools.
- It was suggested that we shift our concept from cloud services to a platform on the cloud of cloud services where all disaster epidemiology apps and tools can be located and made available. It is a competitive environment; there are many different apps and devices that can be used. States are independent and make their individual decisions.
- How do we reduce inefficient use of this technology and eliminate “noise”? Think in advance about what information you need to collect and what you would like to report on in order to determine what information you need to ask. Think about how and why you are using any technology up front rather than on the backend.
- Data.gov is a site with great resources.

Session 2: Social Media and Disaster Epidemiology: Innovative Approaches to Surveillance and Situational Awareness

Hurricane Sandy: Changing the Landscape of Social Media Strategies

Jay Dempsey

Acting Team Lead

Health Communications Science Office
Centers for Disease Control and Prevention

- NCEH/ATSDR Mission: protect people's health from threats found in air, water, and the world; CDC provides content when, where, and how users want- info looks the same from social media, web, and mobile access.
- Why use social media for environmental health? It complements traditional health communication, adds environmental health to social media conversations, and increases trust/credibility of NCEH/ATSDR.
- Twitter handle: @CDCEnvironment
- When a disaster occurs, NCEH has primary responsibility of response. If EOC is activated, then CDC will take over some of that responsibility.
- In Tuscaloosa, AL and Joplin, MO tornadoes, social media was the public's first source of disaster information. Twitter played a major role in generating photos. Hurricane Sandy affected 24 states. Facebook, Twitter, and Instagram were key venues for information sharing. Skype received a 122% spike in traffic after storm.
- Social media can also lead to misinformation like a photo that went viral around Hurricane Sandy.
- Many people ask what do I need to do to be ready for disastrous events so CDC tweets messages on how to be prepared for certain disastrous events. Other CDC channels retweet content, which results in an increased reach of the messages. Using a tool called Radian 6, CDC was able to see the potential reach of the messages to an adjusted estimate of over 8 million.
- There was a great increase in web traffic of the certain pages of the links that were included in the tweets. Twitter also allows for engagement between followers and the CDC channel so CDC is able to respond to a question about how to clean up mold.
- In late 2013, CDC developed a specific CDC Emergency profile that tweets timely alerts.

Operation Dragon Fire

Angela Schwartz

Associate Director for Policy, Strategic Planning & Evaluation

CDC Office of Public Health

Preparedness and Response

- Vision: Humanitarian effort to use innovation surveillance data collection and collective assessment techniques to enhance public health interactions, improve timeliness of responses and reduce morbidity and mortality.
- Goals:
 - Create a cloud based info sharing system to support the aggregation, analysis and validation of traditional, social media and crowd data
 - Social media data needs to be validated
 - Unified, timely, and reliable single source of trusted info
 - Empower individuals to report and analyze
 - Ensure government non-profits and other response entities to have info necessary to make informed decisions
- Social Media Ecosystem: Some instances where social media has been instrumental in helping in a disaster situation, but other times like in New York with Sandy, some people tweet about unnecessary/inaccurate information that can lead to more chaos or confusion.

- Under a CDC coop agreement, National VOAD is initiating Operation Dragon Fire (ODF) development.
- Between now and September, the goals are to establish the process, work groups, and to develop the functional and technical considerations for proposed technology solution

Tracking Deaths during Hurricane Sandy

Rebecca Noe MN, MPH, FNP-BC

CDR, US Public Health Service

National Center for Environmental Health

Centers for Disease Control and Prevention

- Currently, there is no national level active surveillance system that exists for disaster related fatalities. There is a time lag in reporting by state vital statistics and often death certificates are missing disaster relatedness.
- From Oct 29 to Nov 5, 2012, CDC tracked Hurricane Sandy related deaths using key words in Google search engine such as death, disaster, drowning, hurricane, memorial, and sandy. They were able to identify 115 media reported deaths through Google search. 5 states and NYC participated in the evaluation study. CDC requested vital statistics (VS) records from those 5 states and NYC and used ICD-10 codes. They determined percent agreement between media death data and VS data and found that NYC was the only one able to identify these deaths using the codes alone. In NYC, 75 deaths were matched. There was very high agreement among name, sex, and age.
- Of course, the key word searches are not exhaustive. Generally, the media-reported deaths provided timely info to CDC on Hurricane Sandy related deaths. If deaths are not actively tracked during a disaster it can be difficult to identify deaths that are associated with the incident.
- Lessons Learned: Determine key search terms and websites such as: Using key search terms- name of natural disaster, causes of death, etc.
- NY Times had geocoded map of deaths from Sandy. CNN had a similar list. Legacy.com has a list of fatalities and memorial sites for mass fatality events

Discussion:

- Want to encourage use by states with Electronic Death Reporting System (EDRS) because it is really easy to track. You would utilize this method to present preliminary numbers for reporting as well as to inform communications so that you can tailor public health messages and other response efforts.
- Public health community platform (ASTHO group) is another initiative potentially similar to ODF. These groups may collaborate or inform one another if given the opportunity.
- How does Legacy.com identify disaster related deaths? CDC has emailed them to clarify, however no response was received. It seems like they have the ability to link to newspaper obituary information.
- How do we get information on how our social media efforts are consumed or used by the public? CDC can look at who is following twitter handles/profiles. CDC has noticed a lot of parents who are interested in EH information like asthma and lead poisoning.

- Any research on the best resources for social media? Not sure, but CDC has started its effort in social media because the public considers CDC as a trusted brand, so it was important to use social media as a platform for information dissemination.
- Did you use Twitter to find issues of concern? If a wildfire is happening in certain area, CDC will tailor tweets to that situation as it is happening. CDC can also look at what state or local health departments in a specific area are tweeting about. Red Cross has a digi-doc of where the need is
- Why weren't other states besides NY able to capture storm related deaths? The information on the death certificates doesn't indicate Sandy or a storm so you can't identify it. NY was able to identify these deaths because they had a pop up that asked if this death was related to Sandy.
- There can be many tweets that come through so how do you sort through those or know where to look if you know a significant event that may occur? The CDC Emergency profile allows users to sign up to receive notifications on their phone in case of emergencies.
- Operation Dragon Fire (ODF) is a national platform that locals would use and local information would be put into it.

Innovating Disaster Epidemiology: Updates from the CSTE Disaster Epidemiology Subcommittee

Ashley Conley, MS, CPH
 Chair, CSTE Disaster Epidemiology Subcommittee
 City of Nashua, Division of Public Health and Community Services

Michael Heumann, MPH, MA
 HeumannHealth Consulting LLC

- If you use PHEP capabilities in Disaster Epi, let Ashley know. Capability 7 – Mass Care: Shelter surveillance in disaster epi. Capability 14 – Responder Safety and Health; These capabilities could be useful with fatality management.
- Epidemiologic studies → evaluation studies (about relief programs, interventions) → surveillance → tracking registries
- Goals of DE subcommittee: Strengthen capacity to respond by integrating DE into the emergency management cycle; Helps public health and emergency management leadership understand essential role of DE; Identify common set of capabilities to support collection and use of epidemiologic info during emergency response situations.
- Monthly calls: 15 min guest lectures on hot topics in DE, networking opportunities with colleagues, ability to share info and resources with colleagues.
- CSTE DE Workgroups
 - 1) Disaster Mental Health Surveillance: In 2013, CSTE conducted National Assessment Report- on how local and state public health and mental health agencies work together/collaborate before and during disasters. Since then, have conducted outreach to partner organizations and proposed mini-summit with various organizations and talk about what it is that each does, so we can find where the overlap is and where there are gaps. If you are interested, contact Erin Simms (esimms@cste.org)
 - 2) DE Toolkit: Gather examples of DE tools that have been developed by states or localities. The idea is to share tools and make them available to others in advance of an emergency via the CSTE website. Coordinate with the CDC's Disaster Epi Community of Practice (DECOP).

- Regional DE Training Course: capacity building in CASPER, ERHMS, ACE: partnership with NCEH & NIOSH. This two-day DE training course has been held in 6 regions and we have trained over 350 people. ERHMS has two online self study modules: one for leadership in emergency management positions (on the FEMA Training website); and the full training module (3 hour) on the CDC training website. The CASPER self-study training should be available online within the year.
- PHEP Summit 2014:
 - A. DE Townhall forum with 65 attendees; 66% PHEP staff, 29% epis, 5% med directors
 - Some attendees did not know about CSTE or that CSTE was working with DE. A number of people thought that epi was only communicable/acute diseases and had no idea there was disaster epi, occupational epi etc. Many people thought they could improve their PH response by building DE into PHEP Emergency operation plan, and the tools and training that were discussed during the summit. People wanted to learn more about training, tools, how to make DE relevant to partners, collaboration and integration, information and dissemination.
 - Attendees also wanted guidance to share with the media, examples of handouts and tools, Epi101 training online?,
 - We will be sharing the results of the evaluations from summit in written form.
 - B. Ashley and Michael presented a breakout session on Disaster Epidemiology 101 at the Summit with 90+ attendees. The focus of this presentation was to provide an overview and orientation on DE for PHEP emergency managers.
- DE Manuscript called “The Role of Applied Epidemiology Methods in the Disaster Management Cycle” was accepted for publication in AJPH.
- Webinar with CSTE Epi Methods on May 1, 2014. Want to put together a document that crosswalks these capabilities to DE and DE tools
- DE has really taken off over the past 5 years...Super Storm Sandy, Ammonia plant explosion in Texas, 2013 Tornadoes in Oklahoma, Coal ash release in West Virginia – all included a DE response by state or local public health staff that contributed to the overall response efforts.
- New developments in DE: NIEHS/NIH pilot program: develop disaster research system consisting of coordinated environmental health disaster research response teams based in university settings that would be capable of initiating timely efforts to generate DE data for emergency incidents.
- Institute of Medicine/NIH/CDC workshop on medical and public health research in disasters-interest in enabling and executing research during disasters is to be held in June in Bethesda, MD. This will bring together experts to discuss research opportunities for both clinically-oriented research (through IOM) and field response research (through NIEHS). CSTE and NCEH will present on related DE efforts, methods and partnerships.

Discussion

- How can we use this to improve prevention or outreach during PH response to emergencies? It helps just to implement DE to gather information to understand what happened, what are immediate needs and the outcomes in larger emergencies, to understand how to improve responses in the future. Gather data – share with others – learn from what we do so that we can improve next time.

- Capacity - how have other jurisdictions dealt with the fact that in many states, acute and communicable disease epidemiologists respond to outbreaks and focus on those communicable disease issues? In some states, they are recognizing that they have a role, responsibility, and an opportunity to have a more multi-disciplinary epidemiology staff deal with the response (injury, occupational, environmental and chronic disease epidemiologists) and expand the focus outside of a single area or discipline. Our CSTE approach has been to educate to expand states viewpoints and to expand skills and capabilities to respond.
- Shelter surveillance seems like a perfect use case to provide standardization on as well as develop a cloud based app platform.
- In KS – they have the mid-America Representation Council – and one of the things that they have done is to create videos on food safety in shelters and created EH response teams (along with Go Kits) that have teams of trained staff ready to respond during emergencies to expand the reach of health department staff.
 - Other states have reached out to medical reserve teams to train them for surge during emergencies.
- CSTE should create the vision for what we would like to see for epi response to emergencies and define the core functions
- Leverage with other organizations (i.e., ASPR) to understand what other organizations are doing and what tools are available.
- Strive for standardization of the data that we do collect during emergencies through the promotion of best practices.
- Continue to emphasize and educate the preparedness community the need for disaster epidemiology
- With the increased focus on information technology, we should think about how to make data and surveillance more efficient as we think about information technology.
- Re-visit shelter surveillance because there are new kinds developing. Miguel Cruz has been working on this as his dissertation topic.
- We need to build local/state capacity to handle these innovative technologies. We can show them apps and dashboards, but providing guidance on how and what to incorporate this information is important.
- Early identification of emergencies is needed. Better communication and better relationships with other stakeholders, including healthcare providers.
- After recent events, bring together states/affected regions together to present lessons learned.
 - We should incorporate this into future DE Workshops

Session 3: Innovative Approaches for Disaster Response to Recent Events

Blast Injuries from Massive Explosion in Residential Area-Texas, 2013

David Zane, MS

Epidemiologist

Texas Department of State Health Services

- In the city of West, Texas, there is a population of approximately 3,000 people.

- Fertilizer plant exploded April 17, 2013 and could be felt over 30 miles away. The magnitude of the explosion was 3x the magnitude of the OK city bombing.
- There was a major impact on homes and apartments in the neighborhood- 142 destroyed, 51 sustained major damage, and 27 had minor damage.
- Epi Team: 1) Waco-McLennan County Public Health District; 2) Texas DSHS Region 7; 3) Texas DSHS Central Office
- They found that there were 15 fatal injuries (characterized as persons who died in McLennan County as result of injuries sustained in blast within one week) and 262 non-fatal injuries (characterized as persons who sought medical treatment for injuries related to the explosion, identified through medical records).
- They performed survivor interviews to find out where they were, what happened, where care was provided, how survivors received situation updates etc.
- Challenges include: submission of study to IRB, communication of case definitions to data sources, limitations of medical records
- Innovative approaches: access to FEMA and American Red Cross (ARC) data, built relationships with new partners (State Fire Marshall), provided PTSD training/awareness to team, increased use of GIS capabilities, set up communication framework (weekly 1 hour conference calls, weekly updates to leadership)
- Epi Takeaways: Successful because of existing epi capacity at local, region, and state levels, leadership support, communication, and established working relationships with hospitals and urgent care facilities

Acute Health Effects Associated with the Elk River Chemical Spill – West Virginia, 2014

Erica Thomasson, MPH, PhD

LT, United States Public Health Service

Epidemic Intelligence Service Officer

Division of Infectious Disease Epidemiology West Virginia Bureau for Public Health

Approximately 10,000 gallons of 4-Methylcyclohexanemethanol (MCHM) entered into the Elk River in Charleston, WV affecting water supply of 300,000 people in West Virginia. Propylene Glycol Phenyl Ethers (PPH) was also found in the water. Some of the known health effects of MCMH include eye, skin and respiratory irritation. A descriptive analysis was done with medical chart review of the spill related emergency department visits. They looked at patient demographics, prior medical history, and exposures. Common exposures include taking a shower, brushing teeth, and flushing of water lines. 369 charts were used for data analysis. Nearly all patients were treated and released and there were no deaths. Gastrointestinal, skin, respiratory, neurological, ocular symptoms were reported. Nausea was the most common symptom. Limitations included there was no standard case definition, no way to verify or quantify exposures, and there were non-specific clinical symptoms.

Joy Hsu, MD, MS

LCDR, United States Public Health Service Epidemic Intelligence Service Officer

Centers for Disease Control and Prevention National Center for Environmental Health Division of Environmental Hazards and Health Effects Air Pollution and Respiratory Health Branch

- Gathered background information from two hospital systems. 60% of hospitals were in urbanized areas and 70% of hospitals were acute care. 80% of EDs reported increased ED visits.

Patient volume increased between 13-58%. 6 hospitals received a “Do not use water” order. All hospitals cancelled non essential surgeries. Hospitals needed to find disposable linens and other housekeeping items that were affected for the “Do not use water order.”

- 2 hospitals were affected by the chemical spill even though they did not receive a “Do Not Use Water” order: 1 hospital relied on processed linens from a hospital that received a “Do Not Use Water” order and another hospital sterilized surgical equipment for a hospital that received a “Do Not Use Water” order
- Recommendations:
 - Clear case definitions for chemical exposures could improve uniformity of case reporting
 - Hospital preparedness planning for disasters affecting water supply would be strengthened by: contingency planning for hemodialysis patients, accounting for water needed for hospital processing (in addition to drinking water), identifying alternative sources of potable water
- Limitations: Recall bias, economic impact not assessed, lack of data on patient outcomes or quality of life

Ethan Fechter-Leggett, DVM, MPVM

Centers for Disease Control and Prevention National Center for Environmental Health Division of Environmental Hazards and Health Effects Environmental Health Tracking Branch

- CASPER (Community Assessment for Public Health Emergency Response): Assess a community’s need in a simple format;
- First request for Casper Jan 15 not immediately after spill. Casper was conducted the week of April 7. The objectives of CASPER were to assess perceived impact of the chemical spill on households and assess communications. Six main topics were addressed in questionnaire: demographics; communications; alternative sources of water; household impact; health; and public water supply behaviors and beliefs.
- CDC’s next steps including additional cleaning and analyses of data and conduct a written report.

Discussion

- Why was the decision made to not do a CASPER for the TX explosion? Leadership didn’t think it was valuable given other surveys that were ongoing as well as other activities.
- Information for hospitals and surge are really important from today’s presentation. It should be shared with healthcare providers and the hospital preparedness programs. If anyone has ideas about how to disseminate information effectively to hospitals, that should be shared. As a result of the WV event, they will be developing Go Kits, which would help for a subsequent event.
- There is a website that houses additional information that some may find useful called LLIS.
- How did you get access to the FEMA applicant database and has it been used before? FEMA now has the ability to share resources with health agencies for preparedness events. It was easy to obtain and useful for the TX study. States were encouraged to get access to this database, especially in areas where evacuation orders are imposed.
- Were you able to compare rates of illness (GI event) with what is available through BIOSENSE or other syndromic surveillance? WV does not have syndromic surveillance so they were not able to compare.
- How was epi data used to inform the decision to give the ok to drink the water order? CDC was involved very early on to help provide guidance on how to interpret chemical levels in humans

as extrapolated from animal studies. They also helped to provide additional information for the public. Data on the two chemicals were very limited.

Session 4: Emergency Management and Disaster Epidemiology – An Innovative Partnership from One State’s Perspective

Teresa Porter
Emergency Preparedness Coordinator
Public Health Area 9
Alabama Department of Public Health

Mitchell Sims
Director
Baldwin County Emergency Management Agency

- Alabama local history: There have been many major hurricanes that have impacted Alabama that are category 3 or higher. Hurricane Ivan was the beginning of emergency preparedness in Alabama. Post Ivan, we had a pre-Casper like request from CDC. We did a survey of hospitals and surveys about what injuries occurred.
- EMA does recognize importance of public health. Relationship building is key. You should know your contacts before the disaster occurs. How is Public Health Area 9 involved with Baldwin EMA? EOC, Shelters for mass care and medical needs, health related press releases – chainsaw safety, mosquitoes, exercises- mass vaccinations, SNS planning, ESF 8 Partners, LEPC, Hazard mitigation, town hall meetings,
- Type of Disaster Epi Provided – shelter data, AIMS, POD (point of dispensing) numbers, HVA health related issues, CASPER
- Uses of CASPER: Preparedness phase, response phase (2-14 days after event), recovery phase (3 weeks-1 year following disaster)
- CASPER in Baldwin County
 - 1) August 2010- Deepwater Horizon Oil Spill
 - 2) August 2011- Assess same communities one year after initial assessment- evacuation and communication questions
- What forms of communication do you have currently available to communicate with family/friends? Cell phone, email, land lines, social media. 20 years ago everyone had a land line. The county used to have a system called reverse 911 to alert people of disasters, but the dynamics of that has changed because only 60% of people have land lines. People can sign up online, but getting them to sign up is the hard part.
- What would be your main method or way of getting info from authorities in a hurricane? 68% say television.
- If public authorities announced a mandatory evacuation from your community due to a large scale disaster or emergency, would you evacuate? Aug 2011- 90% yes, Oct 2012 77% Yes
- What would be the main reason you might not evacuate if asked to do so? Lack of trust in public officials, leaving property or pets, family safety, traffic jams. In 2012, there was a great increase in lack of trust and traffic jams. Fuel costs could also be concern.
- If you had to evacuate for a hurricane, where would you go to stay until you return home? Most say friends or family home.

Discussion

- How can CSTE build relationships with emergency managers and promote public health? The key is to build relationships with emergency managers. They are often 1 man shops, so they are pulled in many directions. Unless a relationship is made, they may not understand the significance. Preparedness offices have to reach out. Go find where their office is and show them your value.
- Joint planning/exercising? They do plan together – work on HVA together and public health has a seat at EMA planning meetings. Have worked on at least one exercise together.
- Shelter surveillance – passed out a form, which is completed only when a sick person is seen by a nurse or other medical provider. PH staff work 24 hrs for the first 72 hours in shelters to provide medical oversight. In Baldwin County, the county runs shelters for the first 24 hrs, then Red Cross come in to staff the shelters, so their shelters are already designated for all events.
- Should disaster epidemiology be more formulized? It seems like it already is because of their planning protocols and the incident command process. AL is trying to create a disaster epi team as well as student response team with local schools of public health and medicine. This is especially helpful for CASPERS in order to have the capacity of getting folks out into the field to do the needs assessment immediately after a storm.
- In Baldwin County, they also have a tool developed by the army corps of engineers to understand the mechanical and electrical status of healthcare facilities, and this is utilized by EMA.

Session 5: Establishing Innovative Partnerships for Conducting Disaster Epidemiology

Operational Biosurveillance in the National Biosurveillance Integration Center

Steve Bennett, Ph.D.

Director

National Biosurveillance Integration Center

Office of Health Affairs

U.S. Department of Homeland Security

National Biosurveillance Integration Center: Operations and Development

- Sign up for the free stuff with Steve Bennett at nbicoha@hq.dhs.gov.
- NBIC was implemented from 9/11 Commission.
- NBIC is working to develop a system that can provide social media data and analytics useful for health
- Pilot study with North and South Carolina to provide real time data on EMS run poisoning injuries
- NBIS=National Biosurveillance Integration System (biosurveillance community)- HHS, Defense, USDA, Department of Labor, Education = 14 agencies total
- NBIC Strategic Goals – 4 core disciplines
 - Build and maintain enduring processes to support interagency collaboration and operations through the NBIS and other partnerships
 - Enhance federal government's ability to rapidly identify, characterize, localize and track a biological event of national concern
 - Enhance federal government's ability to disseminate alerts and other information to partners and stakeholders

- Mature and strengthen NBIC into a world class biosurveillance analysis and integration organization
- The Role of NBIC as an Integrator: Connection, Correlation, Contextualization
- NBIC Reporting
 - 4 types of data: open source, partner info, context info (explanatory contextual information), medical data
 - Monitoring list – summary of issues we are monitoring i.e. flu season
 - If one of those issues is of important concern, then a biosurveillance report is sent out that is more detailed. (Ex/ new disease, irregular public/media attention,
 - NBIS weekly biosurveillance calls- facilitate interagency discussion on significant worldwide biosurveillance issues.
 - Specialized, expedited reports- provide situational awareness for event type products (ex/ NJ for superbowl, Boston marathon)
- NBIC Products: external requests
 - Super Bowl Health Security report
 - Little League World Series Report
- Email: nbicoha@hq.dhs.gov

Partnering with the American Red Cross in the Disaster Cycle

Anne Palmer

Director

Division of Disaster State Relations

American Red Cross

Jeanne Spears, RN

Disaster Health Services

Divisional Representative, Southeast and Caribbean Division

American Red Cross

- Feedback from customers, volunteers and partners consistently told us that Red Cross needs to be reliable and deliver consistent and high quality services.
- Shift from linear structure to a one disaster cycle (prepare→respond→recover)
 - Three core processes in disaster cycle (prepare→ respond→ recover)
 - Five pillar processes support the three core processes (engage volunteers and employees, mobilize community, align with government, info management and situational awareness, display material resources and technology)
- Red Cross Partnership with CDC since 1987
- Collect morbidity and mortality data at shelters, outreach, emergency aid stations to identify potential threats to clients requiring immediate public health action; to promote awareness of nursing practice in relationship to epidemiology in relationship with disasters
- When is data collected? Level 1- Chapter disaster response (single or small multifamily house fire or flood)
- Red Cross looks at all deaths associated with a disaster-all single and multifamily fires deaths

Discussion

- Will the Red Cross be moving to electronic records? They are looking into it, but it is not in the planning for the national Red Cross. They are trying to do more and more things electronically, but not their surveillance at this point.
- Is the service standardized across the Red Cross divisions? Yes, surveillance, reporting mechanisms etc are standardized.
- Who does NBIC work with in states to exchange information? Don't have a process now, but have relationships with CDC and would like to utilize this relationship to broker engagement with states. CSTE can be another broker to this relationship.
- With ASPR there is going to be the ability to send patient care assistance through functional needs, so how will ARC integrate this? They are in the process of developing training now for personal assistance.

Discussion for Next DE Workshop

- West Texas and IRB process is an important issue that we need to start talking about together. There is a fine line whether local/state people know about what you can use info for after event. We can show examples of where data was collected and where people could have had problems or not.
 - National Institute of Medicine is having a forum on IRB. We can look at data that has been gathered for decision making for response, and examples of where IRB needs to come in or not or where that data is being used again or reused
- How are responsibilities delegated between federal/state/local epis? Normally starts with local and as soon as local is overwhelmed, state level will send out response coordinators. Sometimes local is asked to move up to state level to help if state is overwhelmed. We could look more into this at next meeting.
- At next meeting, we should look at Epi issues with multistate foodborne outbreaks – generally complex and need for cross border collaboration and they are sustained events- prolong need for cooperation and collaboration.
- Examine epidemiology issues of multi-state food borne events and the prolonged need for collaboration and coordination.
- Vital statistics should be a partner to engage this group.
- National weather service should be invited to discuss their tools.
- Look at health studies from Super Storm Sandy and bring in PIs to discuss their projects
- Integrating EPHT and biosurveillance (we discussed this in the DE white paper), but maybe we can engage them more (it would help if CDC/NCEH came up with some examples of those opportunities and if states who have utilized EPHT during an emergency were to identify themselves).
- Invite fusion center and poison center to discuss collaborations during emergencies.
- Bring someone from CIFOR!