2012 Disaster Epidemiology Baseline Assessment

Findings and Lessons Learned

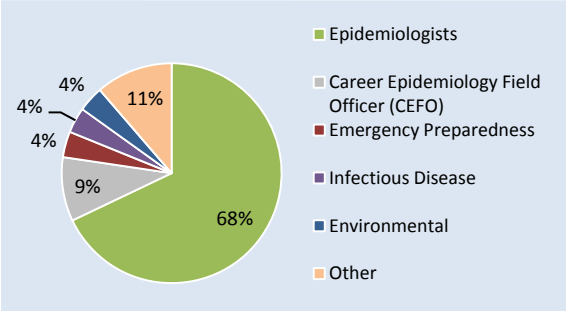
SUMMARY

In 2012 the Council of State and Territorial Epidemiologists (CSTE) Disaster Epidemiology Subcommittee conducted an assessment to obtain information from states regarding experiences with epidemiologic surveillance after actual disasters and plans for disaster epidemiologic surveillance for future disasters.

Questions focused on four main elements:

- Organizational responsibility for disaster surveillance
- Past experiences in disaster surveillance
- Elements in the department's plan for disaster surveillance
- Tools/lessons learned.

The results from this assessment identified strengths and needs in state-based disaster surveillance response capabilities, which will be used to improve state-based disaster epidemiology capacity.



A total of 53 respondents from all 50 U.S. states, Washington D.C., Guam, and American Samoa completed the assessment. The majority of respondents were epidemiologists (68%). The remaining respondents identified themselves as administrators or managers (Figure 1). Among the 36 epidemiologists who responded, 27 of them were State Epidemiologists.

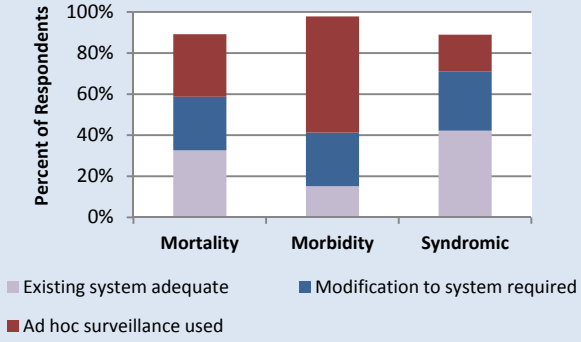
ORGANIZATION OF DISASTER SURVEILLANCE RESPONSE

Fifty-three percent of respondents indicated that a specific team or unit within the health agency had been designated responsibilities for disaster surveillance, The organizational unit most often specified was epidemiology (46%), followed by preparedness (29%) and environmental (14%). Departments that had a designated unit for disaster surveillance were more likely to have performed surveillance activities in the past.

SURVEILLANCE ACTIVITIES IN THE PAST

Forty-six (87%) of the respondents indicated that their agency had implemented disaster surveillance activities in the past ten years. Flood, hurricane, and winter storms were the most common disasters for which surveillance activities had been implemented. Most reported that mortality (89%), morbidity (98%) and syndromic (87%) surveillance was conducted during or after a disaster; just over half reported that the surveillance system for morbidity was ad hoc, and 42% reported using an existing syndromic surveillance system (Figure 2). When analyzing their surveillance data, 59% reported using baseline data for comparison; these typically included non-disaster syndromic surveillance data, hospital records, and poison control center data. Furthermore, 26% reported that surveillance included tracking behavioral and mental health outcomes. Survey methods noted included a Community Assessment for Public Health Emergency Response (CASPER); a Behavioral Risk Factor Surveillance System (BRFSS) survey already underway in a county; tracking crisis hotline calls; and ad hoc surveys conducted at shelters and hospitals and among healthcare providers.

Figure 2. Types of Surveillance Systems Used



Eighty-nine percent reported that the information collected from their disaster surveillance activities was useful. It was used for situational awareness; guiding public health messaging, education, and information dissemination; informing policy and procedures; and to determine effectiveness of the response. Surveillance data were shared with the Emergency Operations Center (87% of respondents), State Epidemiologists (89%), local public health (85%), the public (54%), CDC (59%), and other federal partners (46%).

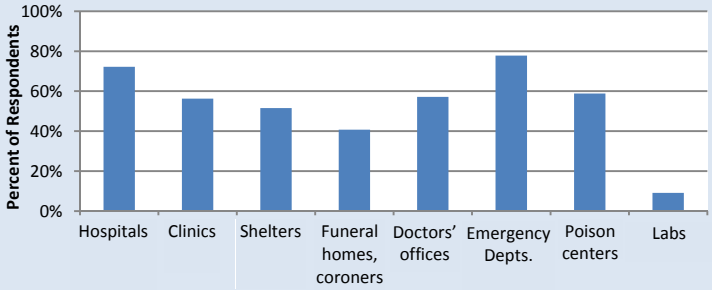
Findings and Lessons Learned

SURVEILLANCE ACTIVITIES IN THE AGENCIES'EMERGENCY RESPONSE PLANS

Seventy-two percent of the respondents indicated that their agency's emergency response plans described surveillance activities. Specific disaster-related surveillance case definitions were defined in 22% of plans. These plans were typically written for response to all hazards (68%), and most included morbidity (89%), mortality (79%), and syndromic (79%) surveillance. Respondents' plans indicated that illness and injury data would be collected from a variety of sites of health care encounters (Figure 3).

While 59% of respondents reported using baseline data for comparison in past disaster experiences, only 22% of emergency response plans were noted to explicitly specify the use of baseline data for comparison. Evaluation of surveillance activities were written into 16% of plans. Plans also included some public health assessment activities in addition to surveillance, including: conducting rapid needs assessments (50%), maintaining a line listing or roster of impacted people (54%), or a long-term registry (35%). Only 28% of respondents had conducted exercises of their agency's disaster surveillance plans.

Figure 3. Sources of Disaster Surveillance Data in State Plans



CONCLUSIONS

Considerable surveillance activity has been conducted and planned in states and territories in disaster situations. Most respondents found surveillance data useful in disaster response, especially syndromic surveillance; however 72% of respondents had never exercised their disaster surveillance plans. Thirty-eight (73%) of respondents were willing to share tools for disaster epidemiology.

RECOMMENDATIONS AND LESSIONS LEARNED, PROVIDED BY RESPONDENTS

- Informal disaster surveillance plans should be formalized and exercised.
- Disaster surveillance can be labor intensive and time consuming; keep it as short and simple as possible.
- Establish clear goals for disaster surveillance data.
- Additional resources for disaster epidemiology and trained personnel are needed.
- Leverage existing systems; adapt "normal" structure for disaster; be flexible (adapt and modify).
- Establish partnerships, data agreements, tools, and procedures pre-event rather than during disasters.
- Be mindful of the challenges to explaining surveillance data to the public and policy makers.

ABOUT CSTE

CSTE is an organization of member states and territories and represents the perspective of epidemiologists working in state and local levels of government in matters related to the practice of public health.

CSTE is also a professional association of over 1150 public health epidemiologists working in states, local health agencies and territories. The organization was founded in 1951 to develop a systematic method to identify and define communicable diseases to be reported and included as nationally notifiable diseases. CSTE expanded in the 1980s to include activities in non-infectious disease applied epidemiology

CSTE members have surveillance and epidemiology expertise in a broad range of subject areas. Projects, consultations and assessments are undertaken to increase workforce capacity, and improve public health practice.

Please visit www.cste.org for more information about CSTE.

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