Enhancing Public Health Preparedness: Exercises, Exemplary Practices, and Lessons Learned

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Overview

• Five interrelated activities whose goals are to better understand and enhance preparedness
  – Each uses a different approach to understanding public health emergency preparedness

• Builds on prior work in California

• Funded by DHHS
Activities

• Continued work on developing performance measures
• Case studies
• Tools
  – Methods to test 24/7 response capabilities
  – Development of table-top exercises
  – Exercise evaluations
  – Exemplary practices
Case Studies

• Determine what public health agencies can do now that they may not have been able to do before the CDC investment
  – Relate to critical benchmarks and CDC guidance
• Identify remaining gaps and challenges
• Use naturally occurring outbreaks as ‘proxy events’
  – West Nile Virus, SARS, Monkeypox
Case Studies (2)

- Site visits to CA, CO, IL, WI, NY, LA
  - Variability in health department types and organizational arrangements, geographic areas, and populations served
  - Include state health agency and local health departments in state capital, largest city, and rural area
  - Focus on outbreak characteristics and public health response
Case Studies (3)

• Lessons learned regarding:
  – Surveillance, epidemiologic investigation
  – Population-based disease control activities
  – Direct and indirect assurance of care
  – Communication and coordination
  – Planning and exercises
  – Workforce development
  – Infrastructure development
24/7 Response Capabilities and Exercise Development

• Develop tools to measure a public health department’s ability to receive and respond to emergency case reports 24/7
  – ‘Calls’ to test 24/7 ‘receipt’
  – Scripts to test ‘first response’
  – Attention to methodology (statistical issues, vulnerable periods, unannounced testing)

• Exercises to test response after the first phone call—expand outward from internal processes
Exercise Evaluation

- Develop criteria for exercise evaluation; address both design and implementation
- Identify, compile and evaluate extant public health emergency exercises
- Develop tools for use by DHHS, state, and local officials to choose and evaluate current and future exercises
- Provide menu of vetted exercises
Exemplary Practices

• Identify “practices” to serve as potential exemplars in several aspects of public health preparedness
  – CDC focus areas and HRSA hospital priority areas

• Develop website with selected “exemplary practices”
  – Resource for public health departments
Findings

- CDC funds have helped close significant gaps in PH capabilities
  - Significant progress in communications, surveillance, disease investigation, and relationship building all contributed to mounting reasonably effective responses to WNV, SARS, and Monkeypox.
  - Infrastructure in place pre-9/11 was also instrumental

- Skepticism about emphasis on preparedness was moderated by outbreaks
  - “SARS is the best thing that ever happened to us.”
Findings (2)

• Limited “surge capacity” for virtually all PH functions and services
  – Relatively small outbreaks studies stressed disease investigation capacity; larger outbreaks likely to be problematic
  – Needs of vulnerable and minority populations not adequately considered

• Jurisdictional arrangements are complex and may thwart standardized efforts at testing and emergency response
  – Call handling processes variable
  – Responsibility for key functions are inconsistent and unclear
Findings (3)

• Unrealistic expectations regarding CDC delayed and/or reduced the effectiveness of the response to MP, WNV

• Significant uncertainty over who does what, both within states and with CDC
  – Local-state –CDC handoffs are not well worked out
  – Need to clarify responsibilities, including for basic functions such as restocking reagents and for investigation in a crisis
  – Findings confirmed in exercises and 24/7 calls

• No formal processes for incorporating lessons learned from outbreaks or exercises
  – Continued cycles of missed opportunities
  – Much learning resides with individuals rather than ‘systems’
Findings (4)

• Unannounced testing was practical in assessing 24/7 response
  – Cell phones with local area codes
  – Placed 3-8 calls to health departments 3-18 week period
  – IRB approval

• Large variation in response to 24/7 tests
  – Processes vary by jurisdiction, date and time
  – We terminated 3/19 tests prematurely
  – All health departments had at least one warm transfer
  – Some calls did not receive any callbacks
  – Response time varied from < 1 minute to 17 hours (when callback was received)
  – 11/19 health departments responded to all calls within 30 minutes
Findings (5)

• Health Departments’ 24/7 systems have vulnerable periods and processes
  – Vulnerable periods after hours, lunch time and end of the work day
  – Vulnerable processes include cell phones, answering machines

• Other considerations
  – Widespread availability of a single, accurate number?
  – Does respondent ask appropriate questions or provide appropriate advice?
Findings (6)

- Exercise evaluation criteria are effective
  - Reproducible among raters
  - Appropriate scaling
- State officials and contractors are doing things that make exercises successful
  - Specifying objectives
  - Including relevant participants
- State officials receptive to idea of “consumer report”
- Sharing exercises is sometimes a problem
Findings (7)

• Examples of Exemplary Practices include:
  – Medical Operations Center (TX)
  – Increased BSL-3 capacity (NY and SD)
  – Connectivity with Sentinel Labs (MN)
  – Citywatch 24/7 Emergency Testing System (IL)

• Few practices tested; many in need of evaluation
There are miles to go before we sleep…

• Remaining gaps
  – Early internal processes
  – Local-state handoffs
  – Health department/health care system interactions
  – Community involvement and trust
  – Early media/public communication
  – Ambivalence and lack of clarity about state and federal role
  – Need for continuous quality improvement

• Cuts to other public health functions are nearly universal
  – Scale and scope of unintended consequences not clear
Ongoing Activities

- Review state reports of CDC and HRSA activities
- Continue feedback on measures development
- Identify and pilot test models for quality improvement
- Identify exemplary practices at health system/health care system interface
- Assess how state-local relationships impact on preparedness
- Review federal pandemic influenza plan
- Develop tools to help states improve pandemic influenza preparedness
Many thanks to the health departments and their staff who participated in these activities