Public Health and Emergency Response – An Immediate Challenge for Public Health Practice

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This white paper provides a perspective on the state of the nation's public health system as it pertains to the challenges associated with emergency pubic health preparedness and response. Substantial federal funding in the wake of the tragic events of September 11, 2001, offer a tremendous opportunity to improve public health systems. However, time is of the essence. Failure to make the needed changes to the public health system to prepare for and respond to emergencies could result in significant reductions in future funding. Time and performance are critical!

For more than twenty years, our Nation's public health system has continually struggled to do more with less. As a result, the "system" has become a fragmented hodge-podge of activities with no clear vision of a future that will ensure positive health outcomes. At the same time, new and deadly threats have emerged. Notable among these threats are HIV infections having catastrophic consequences nationally and abroad, Hantavirus in the Southwest, West Nile Virus on the Eastern Seaboard, and most recently, the bioterrorism anthrax events of October 2001 in Florida, New York City, Washington, D.C., Maryland, Virginia, New Jersey, and Connecticut. The criminal investigation into these anthrax events continues and as of this writing, no suspects have been apprehended.

As a result of these most recent threats, the President and Congress have acted swiftly to appropriate significant funds to improve the national public health system. On January 10, 2002, approximately $2.5 billion was awarded to the Department of Health and Human Services (DHHS) to improve these systems. The immediate goals are to build capacities to detect, respond to, and recover rapidly and effectively from acts of biological or chemical terrorism. Long-term goals of these funds are focused on developing and institutionalizing sound public health practices.

What is the Public Health System?

The nation's public health system is a complex network of people, processes, and organizations working at local, state, and national levels to improve population health outcomes. This system is unique in that its primary emphasis is on preventing disease and disability, and focuses on the health of the entire population, rather that the health of the individual.

Within DHHS, approximately $2.3B has gone to the CDC to develop bioterrorism preparedness and response programs. Approximately $130 million has been appropriated to HRSA to support hospital preparedness efforts and approximately $14 million has gone to the Office of Emergency Preparedness (OEP) to continue to build Metropolitan Medical Response Systems (MMRS) in cities across the country. Based on the intent of Congress and the President, a significant portion of these funds must go to support state and local public health agencies where actual response to public health emergencies occurs.

In future years, it is anticipated that funding levels supporting state and local health agencies will remain at or above the levels established in FY 2002 – as long as progress is effectively made and communicated. Congress will be aggressively monitoring how these funds are used and audits and reviews to be conducted by the General Accounting Office and the Office of the Inspector are already in the making. To ensure that funding levels remain at the appropriate levels needed to support public health efforts, state and local public health agencies must expend these funds effectively and efficiently to improve their systems. Failure to make progress or expend funds within the next 18 to 24 months will likely result in reductions in funding in subsequent years.

The overall fiscal amount supporting state and local public health, (approximately $1 billion), presents a tremendous opportunity for public health officials to do work they could have only dreamed of one year ago. The billion-dollar question then is "How can a system that has

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been slowly pulled apart for the past twenty years rapidly repair itself? This is our challenge!

What's Driving the Public Health System?

Prior to attacking the problem, it's important to become familiar with the forces currently driving public health. In addition to the large amount of federal funding mentioned above, the following forces are to be considered:

- Ongoing federal funding provided to state and local health agencies that support categorical programs (i.e., childhood immunization, HIV, STD, TB prevention programs, chronic disease prevention programs, lead poisoning prevention and other Environmental Programs, maternal and child health programs). Each of these funding efforts is driven by specifications and requirements that are unique to their particular activity.
- Drive toward improving public health outcomes (i.e., National Public Health Performance Standards Program, Ten Essential Services of Public Health and Healthy People 2010 Goals). This has been established within DHHS but is not tied directly to funding.

Ten Essential Services of Public Health

1. **Monitor health status to identify community health problems.**
2. **Diagnose and investigate health problems and health hazards in the community.**
3. **Inform, educate, and empower people about health needs.**
4. **Mobilize community partnerships to identify and solve health problems.**
5. **Develop policies and plans that support individual and community health efforts.**
6. **Enforce laws and regulations that protect health and ensure safety.**
7. **Link people to needed personal health services and assure the provision of healthcare when otherwise unavailable.**
8. **Assure competent public health and personal healthcare workforce.**
9. **Evaluate effectiveness, accessibility, and quality of personal and population-based services.**
10. **Conduct research for new insights and innovative solutions to health problems.**

- State and local municipal budgets continue to shrink, putting more pressure on the public health system to share their new wealth.
- Higher expectations are now placed on public health officials to demonstrate the public health system will perform since the events of September 11.

In addition to the forces driving public health systems, there are a number of other challenges to consider:

- Gaps exist between public health, hospitals, the health care provider community, traditional emergency responders, and political leaders. Communication among these groups is often non-existent.
- A standard vision for state and local public health systems is lacking.
- Public Health Leadership needs to be strengthened at all levels of the system.
- Difficulties remain in recruiting, hiring, and retaining competent staff.
- Public health leaders lack the tools and resources needed to solve public health problems in new and innovative ways.
- State and local health officials are drowning in bureaucracies that impose hiring restrictions, make it difficult to outsource for needed services, and are risk averse in making decisions.

These challenges seem insurmountable and it's hard to imagine that public health systems have been able to provide any of the essential services mentioned above. Now the difficulties come from having to balance the need to provide ongoing public health services while at the same time begin to establish a much more robust and stable public health infrastructure – with an immediate view on bioterrorism preparedness and response.

Background on Bioterrorism Preparedness and Response

On February 19, 2002, the CDC issued supplemental funding guidance to state and local public health agencies focused on building capacities to respond to bioterrorism and other public health emergencies (CDC has been funding state and select local public health agencies to support bioterrorism preparedness and response efforts since 1999). These capacities are intended to not only enhance the public health system's ability to respond to a bioterrorist event (or other public health emergency) but to simultaneously improve public health infrastructure for long-term benefit. The guidance is divided into 6 focus areas and is designed to support the development of the following capacities:

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1. Preparedness Planning and Readiness Assessment

- Develop overarching infrastructure to support public health response
- Construct an ongoing assessment strategy to aid in monitoring progress
- Develop response plans to include plans to receive, distribute, and manage the contents of the National Pharmaceutical Stockpile (NPS).

2. Surveillance and Epidemiology Capacity

- Enable state and local health departments to enhance, design, and/or develop systems for rapid detection of unusual outbreaks of illness that may be the result of bioterrorism, other outbreaks of infectious disease, and other public health threats and emergencies.
- Assist state and local health departments in establishing expanded epidemiologic capacity to investigate and mitigate such outbreaks of illness.

3. Laboratory Capacity—Biologic Agents

- Ensure that core diagnostic capabilities for bioterrorist agents are available at all state and major city/county public health laboratories.
- Improve relationships between state public health laboratories and clinical laboratories.

4. Health Alert Network/Communications and Information Technology

- Enable state and local public health agencies to establish and maintain a network that will:
- support exchange of key information and training over the Internet by linking public health and private partners on a 24/7 basis;
- provide for rapid dissemination of public health advisories to the news media and the public at large;
- ensure secure electronic data exchange between public health partners' computer systems; and
- ensure protection of data, information, and systems, with adequate backup, organizational, and surge capacity to respond to bioterrorism and other public health threats and emergencies.

5. Communicating Health Risks and Health Information Dissemination

- Ensure that state and local public health organizations develop an effective risk communications capacity that provides for timely information dissemination to citizens during a bioterrorist attack, outbreak of infectious disease, or other public health threat or emergency. Such a capacity should include training for key individuals in communication skills, the identification of key spokespersons (particularly those who can deal with infectious diseases), printed materials, timely reporting of critical information, and effective interaction with the media.

6. Education and Training

- Ensure that state and local health agencies have the capacity to:
- assess the training needs of key public health professionals, infectious disease specialists, emergency department personnel, and other healthcare providers related to preparedness for and response to bioterrorism, other outbreaks of infectious disease, and other public health threats and emergencies, and
- ensure effective provision of needed education and training to key target audiences through multiple channels, including academic institutions, healthcare professionals, CDC, HRSA, and other sources.

In addition to the CDC guidance to support bioterrorism preparedness and response, the Health Resources Services Administration (HRSA) also issued guidance to state and select local health officers to support hospital preparedness and response. Their guidance requires the following:

Phase 1 (Needs Assessment/Plan and Initial Implementation)

This will consist of a state/territorial/regional level effort to involve appropriate entities (such as hospital associations, individual hospitals, emergency management agencies, emergency medical systems, primary care associations, rural health offices and VA and military hospitals) in a needs assessment of preparedness to respond to a bioterrorist incident, and to develop a plan of action in response to the identified needs. Twenty percent of a grantee's total award will be made available in Phase 1, with up to half of this amount allowed for planning and development of the implementation plan.

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Funds from this initial award should also be used for addressing critical benchmarks. To the extent state or local health agencies have already completed portions of their plan, a higher proportion may be used for implementation.

Phase 2 (Implementation)

The remaining 80 percent of the allocation will be released as soon as the implementation plans for addressing the program guidance and critical benchmarks are approved by the Department of Health and Human Services. State and local health agencies will be given the flexibility to prioritize funding for specific activities based upon their needs assessment. This implementation phase should result in improvements to the hospitals and other health care entities ability to respond to
biological events, to develop a multi-tiered system in which local health care entities are prepared to triage, treat, stabilize and refer multiple casualties of a bioterrorist event to identified centers of excellence, or to develop multi-state or regional consortia to pool limited funding to accomplish these goals. Grantees will be required to allocate at least 80% of the Phase 2 funds to hospitals through written contractual agreements. To the extent justified, a portion of these funds could be made available to collaborating entities that improve hospital preparedness.

The challenge for many state and local public health agencies is to develop action plans that will allow them to rapidly build capacity to respond to the next public health emergency. This is a daunting task for many public health officials who for too long have had to embrace the concept of doing more with less. Now the challenge is how to effectively demonstrate that public health is able to do more with more in a very short time period.

Approaching Solutions

The organizational elements and critical activities for success need to be prioritized - sound and comprehensive strategic planning strategies lay the groundwork to develop priority action items for federal, state, and local public health officials.

There are three key organizational elements to consider in any public health system when determining a strategy to prepare for and respond to bioterrorism. These include: (1.) Basic ***Systems***; (2.) Recognized ***Capacities*** needed to respond to public health emergencies; and (3.) Political ***influence***. Each element is further defined by a set of critical activities, which are described as follows:

1. Basic **Systems:**
    a. Managing resources,
    b. Recruiting, hiring, and retaining staff,
    c. Communicating,
    d. Training,
    e. Planning,
    f. Assessing,
    g. Applying Standards of Practice,
    h. Evaluating Performance, and
    i. Partnering.

2. Recognized **Capacities:**
    a. Detecting disease or event,
    b. Investigating outbreaks,
    c. Communicating risk,
    d. Assuring provision of medical treatment,
    e. Identifying causative agents,
    f. Developing response plans,
    g. Collecting and exchanging data,
    h. Distributing medical material,
    i. Demonstrating response proficiency.

3. Political **Influence:**
    a. Creating legislation,
    b. Enforcing laws,
    c. Regulating practice,
    d. Informing leadership,
    e. Developing policies and rules,
    f. Developing constituencies,
    g. Appropriating funds,
    h. Creating support systems,
    i. Recognizing cross-jurisdictional boundaries.

Federal, state, and local public health officials must remain constantly aware of each of these co-dependent components in the strategic development of their bioterrorism preparedness and response plans. Failure to recognize, and integrate, any one of the organizational elements will result in numerous opportunity-costs that will impede the development of quality public health systems.

To ensure each of the above-mentioned action items are addressed, priorities must be made and acted upon. The following list provides a summary of priority public health practice action items for federal, state, and local public health officials:

- Sound and comprehensive strategic planning is vital to this effort. Federal, state, and local public health officials must:
    - Create a vision of a future state for their public health system,
    - Establish realistic goals and objectives,

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- o Engage all stakeholders from their communities in the planning process,
- o Understand alternative approaches and resource demands associated with each, and
- o Develop and utilize new and innovative tools to achieve success that can be clearly measured and demonstrated.

- Budgeting and project management systems are needed to track costs and determine long-term funding needs.

- Evaluation strategies must be institutionalized within the public health system. These systems must be based on established performance standards (i.e., National Public Health Performance Standards), identify and document progress (i.e., best practices), and communicate in a time effective manner to key leaders and decisions makers (e.g., health officials, DHHS, CDC, Governors, State Legislators, U.S. Congress).

- Use of information technology must be applied within an environment that adheres to nationally recognized standards (i.e., NEDSS, Health Alert Network).

Acting on each of these priorities requires federal, state, and local health officials to seek assistance from traditional and non-traditional public health partners. Key partners such as the business community, emergency first responders, hospitals, state legislators, public health and clinical laboratorians, and academic institutions must be involved in all aspects of improving public health practice.
In addition, new approaches to acquiring out-sourced services need to be reviewed and thoroughly evaluated. The use of direct assistance funding mechanisms in lieu of financial assistance through the federal funding agencies needs to be explored. Use of contract mechanisms managed in part by federal agencies (CDC) may overcome obstacles associated with securing resources via state and local processes.

Due to the events of the fall of 2001 and the insurgence of federal funding, expectations from Congress, Governors, the media, and citizens are high. For public health officials, these are both exciting and trying times. Emphasis has shifted from improvements in the public's health to demonstrated improvements in the public health system. If progress is made and public health systems improve, we all stand to gain. However, if systems are not improved and public health practice goes unchanged, we as a nation have much – too much – to lose.

Summary

This paper provides a general summary of the challenges facing the nation's public health system in light of the catastrophic events following the September 11, 2001 terrorist attacks. The United States is currently in a war to root out and destroy terrorism where it exists across the globe. As a new partner in national emergency response, the public health system must become an active and vital component of the national security infrastructure. This new challenge requires new thinking, new tools, new approaches and new partnerships, but most importantly it requires immediate and thoughtful action. Rebuilding the nation's failing public health system can't be completed overnight. However, time is critical and must be used wisely to assure funds are available to continue to support evolving public health preparedness.

Additional Resources/References

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