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TECHNICAL REPORT

Organizing State and Local Health Departments for Public Health Preparedness

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Prepared for the U.S. Department of Health and Human Services



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SUMMARY

The organization of the United States' governmental public health system varies dramatically across federal, state, and local levels. The federal government provides funding and support, but it delegates authority to the states to organize and deliver public health services (in accordance with the Constitution). Every state has an agency that is responsible for public health, but the structures of those agencies vary. In some states, the public health agency is a freestanding agency, functioning on its own; in other states, public health is part of a health and human services department, known as an umbrella organization.

Relationships between the state agency and local health departments also vary. Some states have a centralized organizational structure, in which the state agency has direct control over local public health services. Other states are decentralized, giving local health departments considerable discretion over decisionmaking and service delivery. Still others have mixed, or shared, authority. A 1998 National Association of County and City Health Officials (NACCHO) survey found that 13 states are centralized, 26 states are decentralized, and 11 states are mixed (NACCHO, 1998). Local health departments, again, vary widely in terms of their jurisdictional size and responsibilities. Some local health departments have jurisdiction over a city or individual county; others are more regionalized, with jurisdiction over multicounty blocs (ASTHO, 2004; Wall, 1998).

The menus of services provided by public health are equally diverse. Services are both population-based (e.g., environmental health services, screening, disease surveillance, health promotion, health education, and emergency response), and individualized (e.g., clinics for uninsured patients and maternal and child health care).

Since September 11, 2001 (9/11), bioterrorism preparedness has been a key focus of public health. Following the terrorist attacks and subsequent anthrax attacks, Congress passed an emergency supplemental appropriation that included \$900 million for

bioterrorism preparedness. The funding for preparedness has continued from 2002 through fiscal year 2006, with approximately \$1 billion per year allocated to state and local health departments—an unprecedented infusion of federal money into public health infrastructure development.

This study assesses whether there is a link between how state and local public health departments are organized and the level of their emergency preparedness. In particular, we examine organizational variations (i.e., differences in structure and function) of state and local public health departments and the relationships between state and local agencies. Additionally, we identify alternative governance structures and strategies from other sectors that could be applied to meeting public health preparedness goals and improving preparedness outcomes.

WORK INCLUDED STATISTICAL ANALYSES, CASE STUDIES, AND CROSS-INDUSTRY COMPARISONS

Our study methodology consists of three integrated tasks. First, we used multivariate statistical techniques to model the effects of various organizational structural characteristics on public health preparedness. Second, we conducted a series of comparative case studies to investigate how the structure of public health systems affects public health preparedness. Third, we conducted a comparison of current governance structures used in other sectors (such as port authorities) and strategies (such as regionalization) that may offer ways to improve the delivery of public health.

In addition to the three tasks outlined above, we interviewed key national, state, and local policymakers and stakeholders (both public and private) to ascertain participants' views of how the public health system can best meet preparedness goals.

FINDINGS

Statistical Analysis Found Relatively Little Relationship between Structure and Preparedness

Our analyses indicated that organizational structure, as measured by the degree of centralization, had little effect on states' levels of public health preparedness. In fact, analyses of variance models suggest that whether a state is centralized, decentralized, or mixed explains almost none of the observed state-to-state variation in the preparedness indices used in our analysis.

The analysis yielded similar findings for whether the state health department is freestanding or part of a larger umbrella agency. States with umbrella agencies reported slightly higher task-completion rates. However, once again, the differences are small relative to the amount of overall state-to-state variation.

Finally, regionalization does not explain the variations in self-reported preparedness among the states (and any differences across the groups were dwarfed by within-group variation).

We also considered the possibility that the effect of any one element of public structure might depend on other elements. For example, is centralization an effective organizational structure if it is accompanied by formal regionalization arrangements? Tentatively, the answer is yes. We found that centralized systems are associated with the lowest preparedness levels in nonregionalized states but the highest preparedness levels in regionalized states.

The Case Studies Revealed Some Common Themes

Public health's changing role in emergency preparedness has required reorganization. The national focus on bioterrorism and emergency preparedness since 9/11 and the subsequent influx of emergency preparedness funds have dramatically affected state and local public health departments. Although the increased funds were welcome, many health departments found themselves without the organizational infrastructure or constrained by overarching government policies (such as hiring freezes and bureaucratic barriers, etc.) to adequately manage and disburse the funds to both “traditional” public health functions, such as responding to infectious disease outbreaks, enforcing sanitary codes, and monitoring public water supplies, as well as “new” public health functions, such as bioterrorism preparedness. In all of the health departments we visited, some degree of restructuring was necessary, including creation of new positions, new programs, and/or new departments. However, tension between the traditional and new public health functions is widespread. Many feel that the focus on preparedness has diverted needed staff and other resources away from traditional public health activities.

Conflicts between state and local health departments are common.

Regardless of whether a state is centralized or decentralized, there are often conflicts over the respective roles of state and local departments. While there is general agreement that “all health is local in terms of immediate response” and that local health officials must have the basic skills to screen and triage, many state officials feel that certain types of expertise (such as outbreak management) reside at the state level. In some cases, these differences have impeded the ability to agree on an appropriate course of action.

Public health is a newcomer to emergency management. The influx of federal funds and new public health preparedness mandates has thrust public health into a more central role in statewide emergency response efforts. Respondents generally agreed that, since the events of 9/11 and the anthrax attacks, there is far greater involvement of public health at the local level as well. Some reported that, in the past, public health typically did not interact with law enforcement, firefighters, or other first responders. With the

funding influx and its associated requirements for building community-level relationships, interagency cooperation is growing. However, the quest for an equal seat at the table continues to be a difficult process.

Coordination with hospitals is improving. Hospitals are major stakeholders in local emergency preparedness activities. The relationship between hospitals and public health departments varies tremendously, but, generally, the relationships have been strengthened significantly by the Centers for Disease Control and Prevention (CDC) and the Health Resources and Services Administration (HRSA) requirements that public health departments and hospitals work with other members of the community on emergency preparedness activities. These activities have taken various forms. State and regional hospital associations and regional steering committees have proven successful in integrating hospital and public health preparedness activities (see Davis et al., 2006).

Barriers to improving preparedness. Common themes across many sites included the following:

- **Staff shortages.** Staffing for preparedness can “rob” needed staff of performing more-traditional public health activities. In addition, some staffing issues were due to turnover: Some state agencies’ inability to hire staff or fill vacancies is a result of state-level hiring freezes and overly burdensome bureaucratic processes that contribute to delays in disbursing federal grant monies for preparedness.
- **Inadequate training.** For some, the concept of Incident Command Structure and the new reality of public health’s first-responder role are foreign. Institutionalizing these concepts requires ongoing training.
- **Poor communication** within health departments, as well as between local and state health departments, is a barrier to organizational change. In some cases, communication problems were primarily the result of poor leadership; in others, they were due to lack of adequate funding.
- **Bureaucratic impediments**, especially at the state level, and politics at both the local and state levels can retard organizational change. In one decentralized state,

limited financial resources at the local level were a major barrier to state-wide change. Limited staff time and turf issues -“who’s in charge?”- can present additional barriers.

Facilitators of organizational change.

- **Funding** was most often identified as the main facilitator of organizational change at the state level. Without the increases in funding to state health departments, organizational change necessary to meet the requirements of the CDC Cooperative Agreements would not be possible. One of these requirements is that states show that they have a regional response structure in place. For some highly decentralized states, creating a regionalized structure is challenging. However, control over the funding allows the state health department to require local health departments to implement changes as a condition of receiving state funds.
- **Skilled leadership and good communication** facilitate organizational change, especially within health departments. Good leadership often takes the form of aggressive training programs for employees.
- **Regional alliances**, community work groups, or coalitions that were originally formed to achieve other goals (such as economies of scale, coordination of activities within a region, and sharing of information) can facilitate organizational change by encouraging both formal and informal communication and coordination.

Applicability to Public Health of Formal Organizational Structures Used in Other Sectors

Our review of organizational structures used in other sectors also yielded information on some of the formal structural characteristics that we examined in the quantitative analysis and in the case studies: degree of centralization and the regionalization of services.

Centralization-Decentralization. Our cross-sectoral analysis cannot speak specifically to the level of centralization or decentralization that is desirable for public health, but it is clear that the optimal level of centralization will be contingent upon the nature of the particular public health function or task. Our review of the public health literature did not reveal any extant criteria about which public health preparedness tasks might be centralized as opposed to those that should be decentralized and, as indicated previously, our empirical analysis did not provide any guidance in this regard.

Consistent with the case-study interviews, the cross-sectoral analysis suggests that decentralized structures are feasible for those activities based on community-specific needs that might not benefit from economies of scale. But centralization remains salient for certain functions. In education, centralized authority is required for developing standards that all students must meet to fulfill education's function of providing societal benefits. In public health, laboratories or epidemiological services that are specialized and applicable across a state should have centralized control because of their wide benefits. Even so, the risk-communication function in public health preparedness contains elements of both structures.

Regionalization. Regionalization of public health services is an idea generating considerable attention. Researchers have proposed that public health services might be more effectively and efficiently delivered on a regional basis, merging counties or states into geographic regions linked by similar health status, economic, or geographic characteristics. For example, the Mississippi Delta region might be more effectively served through a regional public health authority, rather than by county-level or state-level agencies (Mays and Halverson, 2005). Our cross-sectoral analysis suggests that regionalization of public health services might be incorporated, but that this approach must be directly linked to the public health objectives. Both Michigan and Wisconsin have imposed regional bioterrorism preparedness structures on existing local functions. Because the case studies were not designed to evaluate regionalization, our results are only suggestive that regionalization might be a useful structural mechanism.

Private-Sector Approaches. Local health departments frequently contract out public health services to for-profit companies in efforts to meet public health goals (Keane, Marx, and Ricci, 2001). Each of the four systems in our cross-sectoral analysis has been trying to determine the “right” degree of public versus private responsibility over ownership, service delivery, monitoring, and policy development. This approach requires the governmental partner to conduct smart, aggressive management.

In education, contracting out services that do not have a direct relationship to public education’s mission or values (such as cafeteria, janitorial, and transportation services) is relatively uncontroversial. But privatization of services related to education’s core function, such as vouchers and for-profit management, is much more controversial. The analogous challenge for public health is to articulate what the basic functions are that the public sector must maintain, either for ethical or pragmatic reasons, and what services might be contracted to private organizations.

Limitations

Our analyses are subject to a number of important limitations, which should be kept in mind when interpreting our findings and considering our policy recommendations. With respect to the multivariate analysis, the measures of preparedness employed are limited for a variety of reasons, not the least of which is that there is no agreed-upon definition of *preparedness*. Moreover, there are serious questions about the extent to which the self-reported data used to construct the preparedness indices represent valid indicators of capacity to actually mount a successful response.

A second limitation is that our measures of public health structure include only *formal* and institutional manifestations of structure. It is well known that the actual operation of institutions depends on a host of informal norms, relationships, and practices that are not represented in our analysis. As noted above, we speculate that regionalization might be a proxy for informal networks, but this speculation is just that.

Another important limitation is that structure may be endogenous. That is, it is possible that a given state may have adopted a more centralized organizational structure if it had reason to doubt the ability of local health departments to mount an effective response or because of the political history of the state (which may be unrelated to the historical development of public health within a given state).

The case-study analysis is also subject to a number of important limitations. First, although we attempted to select sites for study that are broadly representative of all CDC public health preparedness grantees (or awardees), we have no way of knowing whether we were successful in this regard. As a result, we cannot claim in any rigorous sense that our findings and policy implications are applicable to all grantees. Second, in conducting the site visits, we attempted to obtain multiple points of views and to synthesize what we heard to arrive at a reasonable portrait of how events unfolded, strategies were considered, and solutions implemented. But we have not subjected our syntheses to any formal validity and reliability testing, mainly for practical purposes. Finally, our case-study results are driven largely by the degree to which interviewees were candid in their responses to our questions.

Our review of alternative governance structures and strategies contains many of the limitations found in other studies. For instance, despite our efforts and intentions, we cannot claim that we have captured and analyzed all of the relevant literature. Second, it is entirely possible that other sectors may have provided important insights for public health, but budget and other constraints precluded us from casting too wide a net. Finally, we chose to organize our review by sector, as opposed to by practice (e.g., privatization), reasoning that doing so would provide a preferred context for analyzing our results. This decision, however, compromised our ability to use more formal analytic techniques, such as meta-analysis, for presenting the lessons learned from the relevant literature.

FINAL THOUGHTS

Overall, we are optimistic about the prospects for meaningful organizational reform of the public health system. The increased funding that public health has experienced as a result of 9/11 and the anthrax scares, coupled with a widespread recognition at the state and local levels of the importance of mounting an effective public health response to a wide range of emergencies, presents significant opportunities for change.

Our analyses, however, failed to reveal any panaceas or magic bullets. But, taken together, they tell us that the time is right for an extended dialogue that includes federal, state, and local public health officials regarding, essentially, *who* should do *what*. Our case-study results demonstrate convincingly that policymakers should refrain from imposing a one-size-fits-all approach and recognize that risks, infrastructure, and capabilities vary, and will continue to vary, among and within states. At the same time, efforts must be made to determine how public health systems can provide equal levels of protection to their jurisdictions' populations. Finally, policymakers need to harmonize public health preparedness measures across federal agencies, including CDC, HRSA, and the Department of Homeland Security (DHS), and arrive at a consensus regarding which governmental entities will be held accountable for developing and maintaining relevant public health preparedness capabilities, and at what level.