

Perspectives of Rural Hospitals on Bioterrorism Preparedness Planning

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Study Methods

We first prepared a comprehensive literature review looking at a wide range of issues related to the role of hospitals in preparedness planning and the specific barriers facing rural hospitals. The literature review was conducted using PubMed and other electronic search mechanisms to find published journal articles. Because of the recent and ongoing nature of much of the information, we emphasized Web searches, using search engines such as Google and reviewing websites of organizations—such as the National Association of City and County Health Officials and the American Hospital Association—expected to be involved in preparedness planning. The literature review is available at <http://www.norc.org/issues/health6.asp> or from the Walsh Center upon request.

In the fall of 2003, we convened a half-day panel meeting of seven representatives of rural hospitals

Overview

Even the smallest, most isolated rural hospitals are now required to have bioterrorism preparedness plans. From the perspective of many rural hospitals, however, there is a disparity between Federal expectations and the realities of small hospitals operating in geographically isolated communities. As part of an effort to better understand how to close this gap, the Walsh Center for Rural Health Analysis convened a panel of representatives of rural hospitals who are responsible for bioterrorism preparedness in their hospitals. Perspectives of rural hospitals on various aspects of preparedness were discussed, in terms of workforce and training, physical capacity and supplies, communication, and coordination with other entities. All of the participants noted the tremendous progress that has been made in the past two years, but also the distance they each need to go. Some of the issues raised by the panelists included the dual benefit of efforts to increase capacity at rural hospitals, the inapplicability of many federal guidelines and directives for small hospitals because of size and less sophisticated infrastructure, the burden of geographic isolation relative to obtaining training and information, and the fragmentation of funding and directives at both the state and federal levels.

who played a key role at their hospital in bioterrorism planning. The panelists were selected to represent (i) a broad range of states

across the U.S. (NY, WV, PA, SD, KS, NE, and MN); (ii) hospitals of different sizes (ranging from a 6-bed Critical Access Hospital to a

350-bed hospital); (iii) varying levels of geographic isolation (one hospital is 125 miles from a city of 14,000 while another is near a city of 75,000 residents); and (iv) special features (one hospital is located near the border of two states and the US-Canada border). Within their hospital, representatives had widely varying job positions—in one of the smaller hospitals, the CEO was in charge of preparedness, while other representatives included the infection control nurse or the facilities coordinator in one of the larger hospitals. We also included one representative of a state office of rural health and a HRSA Bioterrorism Hospital Preparedness coordinator. The findings presented here represent a synthesis of the panel discussion.

Key Findings

While the literature review provided some evidence and insights on what rural hospitals have been doing and on their special needs, most of the literature on preparedness planning has focused on urban areas and often more on public health departments than on hospitals. The literature indicates that urban areas, in general, are further along in their planning than rural areas because they have more experience in dealing with public health emergencies and have a wider range of resources to draw upon. Hospitals have historically been less involved in disasters than either public health departments or fire and rescue services, but it is likely that hospital personnel will be among the first responders in a

WMD (weapons of mass destruction) threat. With respect to rural areas, we found some evidence that coordination and communication systems are being addressed more fully than infrastructure and workforce issues, in part because the latter require more resources and involve more long-term efforts. From the literature review, we identified issues that needed to be further addressed; the discussion of these issues with the panel is described here.

Size of the Rural Workforce.

While the panelists were generally excited about their role in bioterrorism preparedness planning, there was a fairly uniform sentiment that this new direction detracted from their other, usual responsibilities. One panelist even commented that it felt like ‘a second job’ and others mentioned 12 and 14 hour days. Participants noted that the historical shortage of health professionals in rural areas has been exacerbated by bioterrorism preparedness needs and available funding is not necessarily making it better. Often, the responsibilities of current personnel are simply expanded to encompass new responsibilities so that the usual health and public health functions are imperiled. One of the panelists spoke of his state—where there were several counties of 60 to 100 square miles with a sole provider hospital and hospital workers who doubled as ambulance attendants, volunteer firefighters, coroners, emergency medical officials, and a host of other first responders. Even from a planning perspective, these

workers can be overwhelmed by competing responsibilities.

The size of the workforce can be extremely limited in rural areas and reserve capacity is a problem. While guidelines recommend that rural hospitals develop a community-wide concept of ‘reserve staff’ including retired health personnel and persons in training, existing shortages make this even more difficult. Many health care workers—particularly nurses—work in rural hospitals but also work part-time in nearby urban areas. Rural administrators worry that these staff will not necessarily be available in a crisis situation. Also, counting on 100 percent workforce attendance may be unrealistic for a number of reasons including inadequate training and personal concerns about danger (*see below under Training*). Less than full participation by workers would have a larger impact in rural areas where the supply of personnel is lower to begin with.

Workforce Training. The panelists also noted that it was difficult to find people with the appropriate experience and that there was a steep learning curve for new employees or persons who hadn’t previously been involved in emergency preparedness activities. While some training programs are available, there appears to be limited access to the training and insufficient support for it. Often training meetings are held in major urban areas that might be five to six hours away. For rural workers, a one-day training session then

becomes three days away from the hospital which can be a burden for the worker and the facility.

Training is also focused primarily on clinical professionals, but these are not necessarily the people in charge of getting the bioterrorism programs to run smoothly. Contract staff who are used extensively in rural areas present a particular problem for training efforts—a large investment is required with no certainty that the worker will still be there when the payoff from that training is expected. It was suggested that there are three tiers of workers in the hospital who need training with the often-ignored third tier including housekeeping, food service, and clerical staff. Panelists felt that these are essential people who need appropriate training to function during an emergency but have not as yet been integrated into existing efforts.

One of the panelists noted that counting on 100 percent workforce attendance in an emergency is unrealistic. He cited an informal poll in a local hospital emergency department in which two-thirds of healthcare workers said they have issues with showing up to work if there is smallpox in their hospital and over half said they might not come to work if a chemical contaminant had been released though, in both cases, more workers said they would show up if they had extensive training and protective gear.

Equipment and Supplies. The panelists generally concurred that guidelines and recommendations for facility preparation and stockpiling

supplies were more geared toward urban areas and often made no sense to small rural communities. One panelist mentioned that the guidelines that his hospital had received indicated that a decontamination unit should be prepared sufficient to put through 500 people a day. In his community of 1,000 persons this didn't make sense. Also with respect to decontamination units, some guidelines suggested using an outdoor decontamination tent (instead of an indoor facility); while this may respond to the difficulty of finding indoor space, having an outdoor unit in Minnesota or South Dakota or upstate New York is simply not practical for a good part of the year.

Recommendations for stockpiling equipment and pharmaceuticals may also be impractical for rural areas, though the AHA Section for Small or Rural Hospitals has developed some separate materials that are more appropriate. Hospital personnel are aware that there are regional stockpiles that could be available to them during an event but they say they are not counting on receiving supplies because they feel that urban areas will take precedence and distribution of supplies to rural areas will be even more difficult during a crisis situation. One of the many difficult issues that face rural hospitals is in setting up distribution channels to obtain needed pharmaceuticals and other medical supplies during a catastrophic event. In one state, there are agreements between many of the counties and private trucking companies to deliver supplies to five

hubs and over 25 small towns in the event of an emergency.

Surge Capacity and Other Resources. The literature provides limited information as to how rural hospitals are prepared with respect to physical capacity but there are some indications that there is a general shortage of ICU beds and isolation rooms. In terms of surge capacity, hospitals may need to have capabilities for off-site triage of patients as well as the provision of off-site acute care. Planners in one state are identifying nursing homes and other buildings that could provide backup hospital beds. However, a hospital representative in another state noted that they have explored the use of churches and schools but that these facilities do not have backup generators so might be less than useful under certain conditions. Even storage of equipment has become a logistical problem for many smaller facilities.

Panelists also noted the lack of proximity of laboratories equipped to analyze biological or chemical specimens that might be used by terrorists, since state labs may be more than 100 miles away. While many states are recommending the implementation of disease surveillance monitoring systems to catch early signs of an outbreak, several of the panelists noted the impracticality of implementing such a surveillance system in a small community. They noted that the limited number of cases likely to occur in a community with a small population mean that a cluster of illness necessary to detect an outbreak will not be recognized

quickly and therefore it is simply not worth implementing such a system. The lack of a trained epidemiologist in a rural community may also limit surveillance capacity.

Coordination. Coordination among different players is critical in an emergency—both horizontal coordination (between the hospital, local public health officials, law enforcement, and others) and vertical coordination (between different levels of government and with larger, regional hospitals). Panelists agreed that coordination among local entities had increased substantially, but there was also a strong sentiment that there was still some way to go. Most felt that hospitals were now considered to play an important role in planning (whereas prior to 9/11 they were often excluded), though in one state it was noted that many local health departments had no contact information for hospitals in their preparedness plans. Most panelists also reported increased communication with local emergency workers and law enforcement personnel. As evidence of increased communications, an infection control nurse noted that, until recently, none of the 15 infection control nurses in her region of the state had ever talked together but they now communicate on a regular basis. It was her belief that some former system-wide weaknesses were being leveraged during preparedness planning to the benefit of rural areas. Another panelist noted that, in his geographic area, progress was being made toward implementation of a plan for sharing

personnel and other resources across counties in order to mobilize activity and quickly provide assistance to the affected local area.

One piece of a hospital preparedness plan should be a strategy for transferring or evacuating patients in case of emergency or when a higher level of care is needed. Several panelists talked about such coordination with other hospitals, but most hospitals did not have plans in place for such efforts. One panelist mentioned the importance of Internet access to avoid patient transfer between facilities, since air transfer from rural hospitals can be so costly.

Many of the panelists indicated that there was more coordination and communication with local entities than with state or regional authorities, though this varied somewhat from state to state. In particular, several panel members felt that they were getting different and sometimes conflicting messages from various state, regional, or federal authorities, making their effort even more difficult.

Communication. Communication among entities—both receiving and getting out information—during a crisis situation is critical. There is currently a vast array of information related to bioterrorism available on state health department websites and there was widespread agreement that the Internet could be a great resource in terms of receiving information and following the development of public health concerns. At the same time, some rural facilities still do not have high speed Internet connections,

making it difficult to benefit from available resources and making them particularly vulnerable to communication problems during a crisis situation.

The number of alternative means of communication is restricted in rural areas; in many rural communities, cell phone coverage is scanty or non-existent. One of the panelists noted that he could not place cell phone calls within 25 miles of his hospital.

Several panelists mentioned the use of ham radio as more efficient and less expensive than other communication methods. In many rural communities, ham radio operators have been written into preparedness plans and they will be used as volunteers to convey information among different parties. In Pennsylvania, HRSA funds are being used to install an 800 MHz radio base station in each hospital emergency department.

Funding. Federal funding for bioterrorism preparedness can be obtained through two separate but related streams—awards from the Centers for Disease Control and Prevention (CDC) are aimed primarily at strengthening public health preparedness (outbreaks of infectious disease and public health emergencies) and funding from the Health Resources and Services Administration (HRSA) targets hospitals and specifically the development of surge capacity to deal with mass casualty events. Both agencies are part of the U.S. Department of Health and Human Services (DHHS). Funds from both sources are generally distributed to

states and territories, though some is earmarked for specific metropolitan areas. States have indicated that approximately three-quarters of fiscal year 2002 funds were provided directly to local governments and hospitals, or were spent on infrastructure and support to benefit localities. In fiscal year 2003, DHHS spent \$3.5 billion for bioterrorism preparedness, including research into potential biological agents and potential treatments and vaccines. CDC distributed approximately \$870 million and HRSA about \$498 million.

Concern about funding cuts across all of the issues of preparedness. While the new streams of funding committed to bioterrorism preparedness planning are indicative of the priority placed on these efforts, rural hospitals often feel as if they are not getting their fair share. Rural communities suggest that they are overlooked relative to metropolitan areas; some states disperse funding giving each facility the same amount or giving larger amounts to the bigger facilities rather than allocating resources based on need. Panelists suggested that, because rural hospitals start with smaller, older, and more isolated facilities, preparedness efforts may, in fact, be more expensive for them rather than less so.

In addition, many hospital representatives noted that public health entities are receiving funding rather than the hospital even though hospitals will be responsible for many public health functions during a bioterrorist incident. According to

panelists, there appeared to be considerable variation across the states, with at least one state channeling close to 90 percent of funds directly to hospitals, while in another only half of funding was reaching hospitals.

Other issues noted with respect to funding were: (i) the many funding streams, each with separate requirements, making it hard to coordinate and prioritize activities; (ii) the level of expense incurred from drills, with one panelist reporting his hospital/community spent \$184,000 on a practice exercise, with overtime pay being one of the biggest costs; and (iii) the lack of information about sustainability of funding since, in order to plan effectively, communities need to know if they can rely on ongoing funding.

Policy Implications

Three main themes emerged from the discussion.

Theme #1: Bioterrorism resources have the potential to improve the rural health care delivery system.

The additional resources made available through bioterrorism funding have the potential to improve the health care delivery system in rural areas. This will work if rural communities emphasize dual use of equipment and facilities and funders promote flexibility in the use of resources. Other aspects of planning efforts—such as increasing communication and linkages—also have the potential to provide a broader benefit to rural health care delivery.

Theme #2: A ‘cookie-cutter’ model does not work for rural hospitals.

Rural hospitals want guidance from state and federal policymakers but they want a model that works for their size and level of resources. Panelists felt that there needs to be a bioterrorism preparedness template that has their type of rural area in mind and they want policymakers to understand the constraints under which rural areas operate, the strengths they bring to the process, and the special needs that they have. For example, concerns about the burden imposed on rural workers by distant training sessions could be addressed through training videos or teleconferences geared toward rural communities.

Theme #3: Strategies for coping with a bioterrorist event need to be practical and dual use.

With fewer resources to fall back on, rural hospitals need to have flexible approaches that fit the size and needs of their community. Thus, they need funding streams that support purchases of equipment and supplies or training but in a way that allows the hospital to make its own decisions—in other words, they say, tell us what types of equipment we might need but not which model to purchase. Resources also need to have multiple benefits, so that the hospital and community can derive some use prior to and after an emergency.

The Panelists

We extend our thanks for their time, expertise, and insights.

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