Major Influences on Hospital Emergency Management and Disaster Preparedness

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ABSTRACT

The role of hospitals in the community response to disasters has received increased attention, particularly since the terrorist attacks of September 11, 2001. Hospitals must be prepared to respond to and recover from all-hazards emergencies and disasters. There have been several initiatives to guide hospitals' role in these events and to assist hospitals in their effort to prepare for them. This article focuses on the efforts of 4 distinct groups: The Joint Commission (TJC), the executive branch of the US government, the US Congress, and the Department of Health and Human Services (DHHS). Despite the different approach each group uses to assist hospitals to improve their emergency management capabilities, the initiatives reinforce one another and have resulted in increased efforts by hospitals to improve their disaster preparedness and response capabilities and community integration. The continued progress of our medical response system in all-hazard emergencies and disasters depends in large part on the future guidance and support of these 4 key institutions. (*Disaster Med Public Health Preparedness.* 2009;3(Suppl 1):S68–S73)

The role of hospitals in community response to disasters has significantly changed in the last decade. The terrorist events and threats in 2001 and 2002 (9/11, anthrax attacks, and smallpox scare) focused the public's attention on emergencies that could generate mass casualties. In addition, the damage to the local health care infrastructure created by hurricanes Katrina and Rita in 2005 illustrated how important health care resiliency is to the overall response effort. Because of the unique role that hospitals play in supporting community requirements during disasters,[1–3] increasing attention has focused on improving their emergency management capabilities so that they can maintain continuity of operations as well as provide medical surge capacity and capability if needed.

During the past decade, numerous initiatives have been developed that have influenced the emergency management capabilities of the US health care system. The majority of these initiatives have affected various components of the health care system including public health, emergency medical services systems, and health care facilities. Although all health care system components are vital to a community response to a disaster, this article focuses exclusively on hospitals. In the event of a disaster, the community expects hospitals to be ready to provide acute care medical services to victims, as well as health care resources and assistance to other facilities and organizations in need. Given these explicit expectations, initiatives directed toward hospitals must be specifically tailored to their needs. Thus, the purpose of this article is to delineate the major initiatives developed, to describe how they have influenced hospitals' emergency management capabilities, and to identify the challenges that lie ahead as our country readies itself against hazards that threaten our health and well-being.

MAJOR HEALTH CARE EMERGENCY MANAGEMENT INITIATIVES

Rather than cover all of the possible initiatives that have influenced hospital emergency management during the past 10 years, we have limited this article to the initiatives of 4 key entities: TJC, the executive branch of the federal government, Congress, and DHHS. This section reviews the major health care–related initiatives of each of these entities and how they have influenced hospital emergency management. Figure 1 provides a timeline of the major initiatives of these 4 agencies during the past decade. For a comprehensive examination of how disasters and acts of terrorism influence federal policies, readers are referred to Rubin et al.[4]

The Joint Commission

TJC is an independent, not-for-profit organization established in 1951 to provide voluntary accreditation to hospitals. TJC is a leader in setting quality and safety standards in the delivery of health care and evaluating health care organization performance

based on these standards. Being accredited by TJC is important to many hospitals because it means they are in compliance with the Medicare conditions for participation of hospitals and can receive payment for their involvement in Medicare and Medicaid programs.[5]

TJC has organized emergency preparedness within a set of standards that provide for a safe "environment of care." In January 2001, TJC made major modifications to this standard. First, there was a broadening of the context from preparedness to comprehensive emergency management (mitigation, preparedness, response, and recovery).[6] Although this all-hazards approach is applicable to any type of emergency, incident-specific guidance is beneficial to hospital planners. TJC incorporated the hazards vulnerability analysis process into its 2001 revision so that hospitals would identify and prioritize locally important hazards and threats.[5] The third major change in the standard was to encourage hospitals to use an incident command system that is consistent with the one used by the local community's public safety agencies.[7]

TJC has made additional changes to its emergency management standards recently. In 2008 the emergency operations plan was introduced to the standards. In addition, 6 critical areas were identified for inclusion in the emergency operations plan to appropriately balance resiliency and surge requirements. These critical areas emphasize the inclusiveness of the planning process, the testing of the emergency operations plan for extended emergencies, and evaluation and corrective action for noted deficiencies. In 2009 the emergency management standards were set outside the environment of care chapter, in their own section, indicating their significance.[8]

In addition to making major changes to the standards during the past decade, TJC has also developed 3 public policy action plans based on roundtable discussions with experts and national symposia.[8–10] The first white paper recommends steps that health care organizations should take to become part of a communitywide preparedness system.[9] The second is a guide that outlines the essential components of community-based emergency management planning.[10] The third describes surge hospitals and who should be involved in planning, establishing, and operating them.[11]

In summary, the major changes to the standards expected of hospitals and the public policy plans TJC has developed reflect the commitment of TJC to improving the emergency management capabilities of US hospitals to safeguard the quality and safety of medical care provided to the public in the event of a disaster.

Executive Branch of the Federal Government

The executive branch of the federal government has significantly influenced hospitals' emergency management capabilities through its health care–related emergency preparedness initiatives. Following the terrorist attacks of September 11, 2001, the Bush administration created the Office of Homeland Security and the Homeland Security Council,[12] and later proposed the creation of the Department of Homeland Security (DHS), which was approved by Congress with the Department of Homeland Security Act in 2002.[13] DHS was established in 2003 and, through the office of the president, it has issued a number of presidential directives related to health care system preparedness (Fig. 1).

In 2003 President George W. Bush issued Homeland Security Presidential Directive (HSPD)-5 with the purpose of establishing a single, comprehensive emergency management system for the country. Before HSPD-5, we did not have a unified approach to domestic incident management. HSPD-5 called for the secretary of the DHS to develop a National Incident Management System that would include "a core set of concepts, principles, terminology, and technologies covering the incident command system; multi-agency coordination systems; unified command; training; identification and management of resources (including systems for classifying types of resources); qualifications and certification; and the collection, tracking, and reporting of incident information and incident resources."[2]

HSPD-5 also assigned DHS to develop a National Response Plan to integrate all federal government domestic prevention, preparedness, response, and recovery plans into a single all-discipline, all-hazards plan. As a result of HSPD-5, hospitals are required to be National Incident Management System–compliant and to develop an all-hazards approach to emergency management.

The president also issued HSPD-7, which identifies and prioritizes critical infrastructure and key resources in the United States that need to be protected from terrorist attacks. "Public health and health care" is listed as one of the infrastructure sectors by DHS and HSPD-7 assigns DHHS to protect this sector by mitigating risk and providing recovery assistance if a disaster occurs.[14]

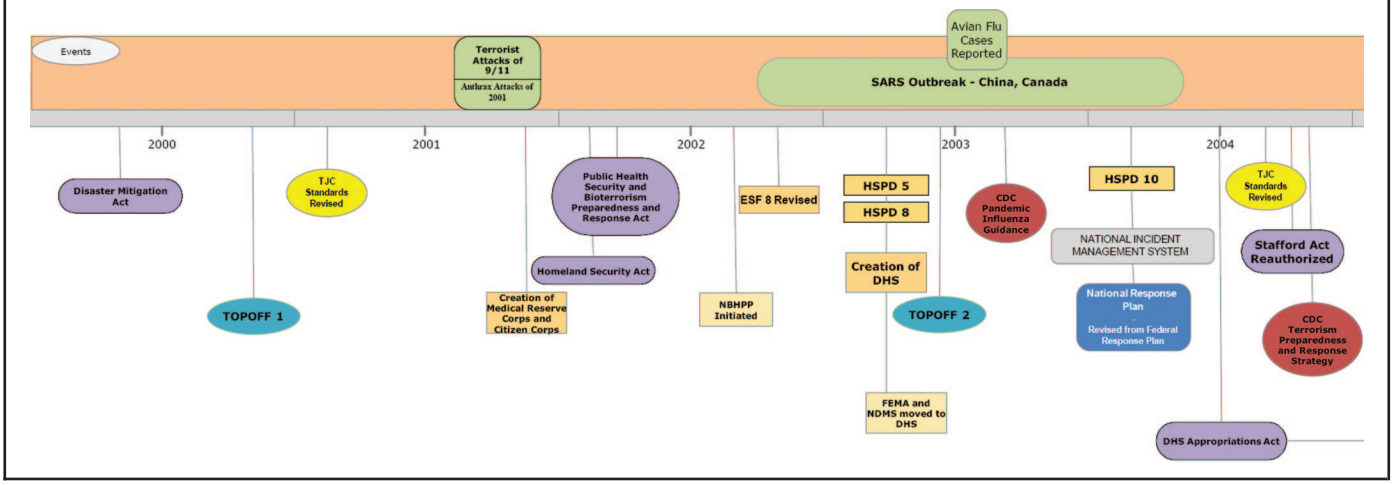
In 2003 the executive branch issued HSPD-8 to further strengthen national preparedness efforts. HSPD-8 calls for a National Preparedness Goal that establishes measurable priorities and targets and an approach to developing needed capabilities. HSPD-8 directs the DHS to provide timely, effective, and efficient delivery of federal assistance to state and local governments, as well as to support the efforts of first responders. This directive was critical to hospitals because it clearly states that hospital emergency medical facilities are considered emergency response providers as defined by the Department of Homeland Security Act of 2002.[3]

In 2004 HSPD-10 was issued in response to the fears of bioterrorism following the anthrax attacks of 2001, the threat of pandemic influenza, and the outbreak of severe acute respiratory syndrome. HSPD-10 serves as the basis for the country's biodefense program and is known as Biodefense for the 21st Century. This directive calls upon hospitals to not only plan for more traditional hazards, such as explosive or

https://doi.org/10.1097/DMP.0b013e3181fe7f61 Published online by Cambridge University Press

FIGURE 1

Timeline of the major initiatives of The Joint Commission, the executive branch of the US government, the US Congress, and the Department of Health and Human Services since 2000.



incendiary threats, but also to be ready to respond to bioterrorism attacks.[15]

In addition to the presidential directives, a number of strategies have resulted from these directives that have also influenced hospitals' emergency management capabilities (Fig. 1). For example, in 2005 President Bush issued the National Strategy for Pandemic Influenza. This strategy established surveillance programs for pandemic influenza outbreaks and calls for best practice measures to be developed for use within hospitals and the health care setting.[16]

As a follow up to Biodefense for the 21st Century, the executive branch issued HSPD-21 in 2007 to establish the National Strategy for Public Health and Medical Preparedness. This directive calls for a system that integrates all of the important functions of public health and medical preparedness and response vertically (through all levels of government) and horizontally (across all sectors in communities) to achieve improved capability.[17] Community-based planning is critical to effective response, and HSPD-21 defines community resilience as 1 of the 4 most critical components of public health and medical preparedness. What still needs to be addressed, however, is the involvement of public health and public safety institutions in the response. A collaborative effort between public and private medical and health organizations is critical for effective community resilience.[18]

In summary, in a little more than 6 years, the executive branch has issued an impressive number of directives and strategies to improve our nation's preparedness for different hazards. Although the majority of these initiatives have not been aimed specifically at the health care system, their influence has been felt by hospitals throughout the nation.

Congress

Another body that has played a major role in shaping hospitals' emergency management capabilities is Congress through its passage of different legislative acts (Fig. 1). The Federal Emergency Management Agency has the primary responsibility for coordination of federal disaster relief efforts.[19] In 2000 Congress passed the Disaster Mitigation Act, which required that all state, local, and tribal governments meet the Federal Emergency Management Agency's standards for disaster mitigation planning to receive grant assistance. Although this act does not directly address hospitals, hospitals are considered part of the local health care infrastructure and therefore are expected to meet the Federal Emergency Management Agency's disaster mitigation standards.[20]

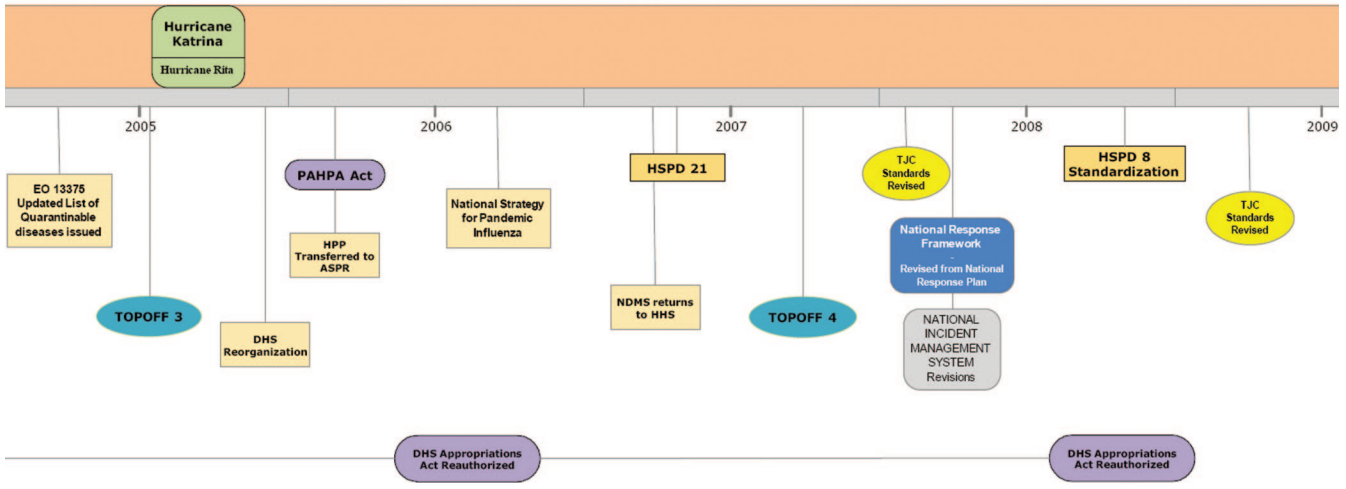
In 2002 Congress passed the Public Health Security and Bioterrorism Preparedness and Response Act, also known as the Bioterrorism Act, which called for the improvement of state, local, and hospital preparedness and response to bioterrorism and other public health emergencies. The act also created the position of the assistant secretary for public health emergency preparedness within DHHS. The assistant secretary was charged with coordinating interagency interfaces and the efforts of the DHHS to bolster state and local emergency preparedness. Congress passed this act after September 11, 2001, to strengthen the medical preparedness infrastructure of the health care system. This act directly influenced hospital emergency management in many ways, including calling for health care personnel to be properly trained and equipped in emergency response, creating an emergency system for the advance registration of health professional volunteers, and establishing the Bioterrorism Hospital Preparedness Program, which awards grants to improve state, local, and hospital preparedness and response to bioterrorism and other public health emergencies.[21]

In 2006 Congress passed the Pandemic and All-Hazards Preparedness Act (PAHPA). PAHPA replaced the former assistant secretary with a new assistant secretary for prepared-

https://doi.org/10.1097/DMP.0b013e3181a76f61 Published online by Cambridge University Press

FIGURE 1

(*Continued*)



ness and response (ASPR) within the DHHS who had an expanded scope of responsibility for all-hazards emergency preparedness. It also called for the development of a National Health Security Strategy by the DHHS. PAHPA amended the Public Health Service Act to require the secretary of Health and Human Services to lead all federal public health and medical responses to public health emergencies and incidents covered by the National Response Plan. This amendment resulted in the National Disaster Medical System moving from the DHS back to DHHS and the National Bioterrorism Hospital Preparedness Program moving from the Health Resources and Services Administration to ASPR.[2] PAPHA also mandates that state and local governments and other eligible entities (including hospitals) develop and implement emergency management plans that are consistent with evidence-based benchmarks and standards developed by DHHS.[22]

In summary, Congress has passed 3 legislative acts related to public health and medical system preparedness and response to disasters during the past decade. These acts have had a larger influence on the public health system than the medical care system, but in addressing the acts jointly and encouraging better integration and coordination between the 2, both have been strengthened.

Department of Health and Human Services

As legislated by PAHPA, the DHHS is the lead agency with primary responsibility for coordinating all public health and medical emergency response activities by the federal government.[2] The DHHS, through ASPR, oversees the Hospital Preparedness Program (HPP), which has substantially influenced hospitals' emergency management capabilities in 2 primary ways. First, DHHS requires that funding for the HPP be administered through state health departments so that community response entities work together to develop community emergency management capabilities. A major goal of the program is to strengthen health care partnerships at the community and substate levels. Hospitals are required to participate in substate regional cooperation to receive funding from this initiative. Hospitals are also encouraged to involve themselves in community coalitions and become part of a community emergency response network.[23]

Second, the HPP program is capability based and requires recipients to develop and demonstrate specific capabilities by the end of their funding cycle. For example, in 2007 one of the capabilities required by the HPP was to develop a National Hospital Available Beds for Emergencies and Disasters (HAvBED) system. To receive HPP funding, states had to develop an operational bed-tracking system that was compatible with the HAvBED system. In addition, as part of the funding, states are expected to participate in a national exercise with the DHHS to evaluate their reporting capability to the HAvBED system.[24] This emphasis by DHHS (and DHS) to support capability-based emergency management has resulted in more objective and reliable ways of measuring hospitals' emergency management capabilities.

The DHHS is also working on the development of a single, national verification system that will coordinate volunteers in the event of a disaster. This system will integrate the Emergency System for Advance Registration of Volunteer Health Professionals and Medical Reserve Corps (MRC).[25] The goal is to integrate the existing registration system and MRC systems, which will give DHHS the means to quickly identify and recruit volunteers for federal emergency response efforts and to potentially increase hospitals' medical surge capacity in the event of a multiple casualty emergency.[15]

In summary, the DHHS' initiatives are aimed at increasing health care resources and improving the coordination of those health care resources during a disaster. In addition to

coordinating the public health and medical emergency preparedness and response efforts of all federal agencies, the DHHS works closely with state and local entities to encourage community integration. The HPP is a good example of the DHHS working with local communities to improve their medical preparedness and response efforts for disasters.

THE CHALLENGES THAT LIE AHEAD

As the previous section illustrates, there has been enormous progress in health care emergency management capabilities during the past decade. Leaders at health care facilities, and particularly hospitals, realize that the public and the federal government are relying on their institutions to be a major provider of medical care if a disaster occurs. TJC, the DHS, the executive branch, Congress, and the DHHS have undertaken a number of initiatives to help guide hospitals in this important area. To a large extent, the various initiatives are different but at the same time mutually reinforcing. These 4 groups have taken greatly different approaches to meet common goals of community integration and resiliency. It is our hope that the progress continues and that we are able to meet the challenges that lie ahead that threaten to erode these efforts.

Funding

The federal government has recently provided substantial funding to hospitals and other health care organizations for emergency management activities. This has enabled many hospitals to direct resources to improve their emergency management capabilities. If this funding is reduced or eliminated, then it will be a major challenge for hospitals and other health care organizations to procure all of the necessary financial resources.

There are potential strategies to address the future of funding and sustainability of health care emergency management activities. First, funding could be appropriated based upon need and probability of response. A second approach would be to give funding to specific health care organizations with the expectation that they would be the first responders for disasters. A subset of hospitals and health care organizations would be selected for funding and in return would demonstrate adequate emergency management capabilities as defined by the DHHS.

A third possibility is to require match funding. If hospitals or other health care organizations match funds, then funding can reach more organizations and those that participate are likely more vested in the efforts. Finally, if the standards for emergency management set by the Centers for Medicare and Medicaid were more comprehensive and capability based, then it would encourage hospitals to put more effort into their preparedness activities to ensure federal reimbursement.

Data Systems and Measurement Tools

Because disasters, especially those that require medical response, are relatively rare in the United States, it is important that every time a disaster occurs, we collect data. We need to develop a system that allows us to rigorously study the response efforts and the impact of disasters on the health and well-being of our citizens. Were there a system with standardized tools and a team ready to respond, it would allow for more comprehensive and valid data to be collected. In addition, the development of a national database would facilitate the creation of standardized after-action reports from health care facilities following incidents of any scale. If all health care facilities were guaranteed confidentiality, and in return, were required to report disaster incidents, their response, and outcomes, then we could analyze these incidents, identify patterns, and promulgate best practices.

In addition to better data, we also need more reliable and valid methods of measuring health care emergency management capabilities. The DHHS should develop a comprehensive and prioritized set of health care emergency management capabilities that hospitals and other health care organizations are expected to meet. The DHHS should continue its efforts to develop objective, performance-based measures to evaluate hospitals' emergency management capabilities. The federal government should also fund research to identify cost-effective ways of educating and training health care personnel and improving the organizational performance of health care facilities' emergency management capabilities.

Legal Issues

There are numerous legal obstacles that hinder hospitals' disaster preparedness and response capabilities.[26] First, health care organizations are not guaranteed reimbursement for the medical care they provide during a disaster if their documentation and accounting is incomplete. Second, to maintain continuity of services or to create surge capacity, hospitals and other health care organizations need effective memorandums of understanding to provide assistance in the event of an emergency.

Third, there is a need to address disaster or situational standards of care. During an incident, the environment and resources may become austere and patients requiring attention may overwhelm a hospital's assets. Decisions regarding the allocation of scarce resources and the appropriateness of conserving resources need to be addressed by the health care community and policymakers.

Finally, health care worker liability during disasters has not been resolved. Steps have been taken to identify, credential, and protect volunteers; however, this umbrella of protection needs further strengthening. For example, there is a patchwork of protections for the MRC. Some MRC members receive legal protections from the local jurisdiction for all activities, whereas others only have protections through state legislation during declared disasters. MRC encourages advanced identification of volunteers and provides guidance to their units for credentialing.[27] There are many other nonprofit organizations that do not perform advanced identifica-

https://doi.org/10.1097/DMP.0b013e3181a76e61 Published online by Cambridge University Press

tion and credentialing of volunteers and do not have legal coverage for volunteers' safety and protection.

In summary, although the issues that lie ahead are challenging, they are not insurmountable, especially in light of what has already been accomplished during the past decade. The United States has shown determination and commitment to tackling and solving complex issues related to health care emergency management. If the key agencies identified in this article continue to focus and guide the health care system's preparedness and response efforts for all-hazard disasters and emergencies, hospitals' emergency management capabilities will continue to improve and they will ready themselves to meet the expectations of their community and our country.

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Authors' Disclosures

The authors report no conflicts of interest.

ISSN: 1935-7893 © 2009 by the American Medical Association and Lippincott Williams & Wilkins.

DOI: 10.1097/DMP.0b013e31819ef060

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