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EMERGENCY PREPAREDNESS

State Efforts to Plan for Medical Surge Could Benefit from Shared Guidance for Allocating Scarce Medical Resources

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Highlights of [GAO-10-381T](#), a testimony before the Subcommittee on Management, Investigations, and Oversight, Committee on Homeland Security, House of Representatives

Why GAO Did This Study

Potential terrorist attacks and the possibility of naturally occurring disease outbreaks have raised concerns about the “surge capacity” of the nation’s health care systems to respond to mass casualty events. The statement GAO is issuing today summarizes a June 2008 report, *Emergency Preparedness: States Are Planning for Medical Surge, but Could Benefit from Shared Guidance for Allocating Scarce Medical Resources* ([GAO-08-668](#)). In that report, GAO was asked to examine the assistance the federal government had provided to help states prepare for medical surge and what states had done to prepare for medical surge. To do this GAO reviewed documents from the 50 states and federal agencies and interviewed officials from a judgmental sample of 20 states and from federal agencies, as well as emergency preparedness experts.

What GAO Recommends

In the June 2008 report GAO recommended that the Secretary of the Department of Health and Human Services (HHS) ensure that the department serves as a clearinghouse for sharing among the states altered standards of care guidelines developed by individual states or medical experts. HHS was silent on GAO’s recommendation but has since reported taking steps to design such a clearinghouse. HHS and the departments of Homeland Security, Defense, and Veterans Affairs concurred with GAO’s findings.

View [GAO-10-381T](#) or [key components](#). For more information, contact Cynthia A. Bascetta at (202) 512-7114 or bascettac@gao.gov.

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What GAO Found

In its June 2008 report, which is summarized in this statement, GAO found that following a mass casualty event that could involve thousands, or even tens of thousands, of injured or ill victims, health care systems would need the ability to “surge,” that is, to adequately care for a large number of patients or patients with unusual medical needs. The federal government has provided funding, guidance, and other assistance to help states prepare for medical surge in a mass casualty event. From fiscal years 2002 to 2007, the federal government awarded the states about \$2.2 billion through HHS’s Office of the Assistant Secretary for Preparedness and Response’s Hospital Preparedness Program to support activities to meet their preparedness priorities and goals, including medical surge. Further, the federal government provided guidance for states to use when preparing for medical surge, including *Reopening Shuttered Hospitals to Expand Surge Capacity*, which contains a checklist that states can use to identify entities that could provide more resources during a medical surge.

Based on a review of state emergency preparedness documents and interviews with 20 state emergency preparedness officials, GAO found that many states had made efforts related to three of the four key components of medical surge that GAO had identified—increasing hospital capacity, identifying alternate care sites, and registering medical volunteers. But fewer had implemented the fourth: planning for altering established standards of care. More than half of the 50 states had met or were close to meeting the criteria for the five medical-surge-related sentinel indicators for hospital capacity reported in the Hospital Preparedness Program’s 2006 midyear progress reports. In a 20-state review, GAO found that

- all 20 were developing bed reporting systems and most were coordinating with military and veterans hospitals to expand hospital capacity,
- 18 were selecting various facilities for alternate care sites,
- 15 had begun electronic registering of medical volunteers, and
- fewer of the states—7 of the 20—were planning for altered standards of medical care to be used in response to a mass casualty event.

State officials in GAO’s 20-state review reported that they faced challenges relating to all four key components in preparing for medical surge. For example, some states reported concerns related to maintaining adequate staffing levels to increase hospital capacity. According to some state officials, volunteers were concerned that if state registries became part of a national database they might be required to provide services outside their own state. Some states reported that they had not begun work on or completed altered standards of care guidelines due to the difficulty of addressing the medical, ethical, and legal issues involved in making life-or-death decisions about which patients would get access to scarce resources. While most of the states that had adopted or were drafting altered standards of care guidelines reported using federal guidance as they developed these guidelines, some states also reported that they needed additional assistance.

Mr. Chairman and Members of the Subcommittee:

I am pleased to be here today to discuss our work examining both the federal assistance provided to states and the states' own efforts to help build the "surge capacity" of the nation's health care system to respond to mass casualty events. The September 11, 2001, terrorist attacks on the World Trade Center and the Pentagon, the anthrax incidents during the fall of 2001, and the H1N1 influenza pandemic of 2009 have raised public awareness and concern about the ability of the nation's health care systems¹ to respond to bioterrorism² and other mass casualty events.³ In a mass casualty event the ability of local or regional health care systems to deliver services consistent with established standards of care⁴ could be compromised, at least in the short term, because the volume of patients would far exceed the available hospital beds, medical personnel, pharmaceuticals, equipment, and supplies. The nation's health care system was tested by last year's H1N1 pandemic and may be challenged to respond to a large-scale public health emergency if there is a resurgence of the H1N1 influenza virus or some other strain of influenza in 2010.

Following a mass casualty event, health care systems would need the ability to "surge," that is, to adequately care for a large number of patients or patients with unusual or highly specialized medical needs. Providing such care would require the allocation of scarce resources and could occur outside of hospitals and other normal health care delivery sites. Through literature reviews and interviews with experts and professional associations, we identified four key components related to preparing for medical surge in a mass casualty event: (1) increasing hospital capacity,

¹By health care systems, we mean both public health and medical systems, including hospitals.

²A bioterrorism attack is the deliberate release of viruses, bacteria, or other germs (agents) used to cause illness or death in people, animals, or plants. These agents are typically found in nature, but it is possible that they could be changed to increase their ability to cause disease, to make them resistant to current medicines, or to increase their ability to be spread into the environment. Biological agents can be spread through the air, through water, or in food.

³A mass casualty event is a public health or medical emergency that could involve thousands, or even tens of thousands, of injured or ill victims.

⁴A standard of care is the diagnostic and treatment process that a provider should follow for a certain type of patient or illness, or certain clinical circumstances. It is how similarly qualified health care providers would manage the patient's care under the same or similar circumstances.

including beds, workforce, equipment, and supplies; (2) identifying and operating alternate care sites⁵ when hospital capacity is overwhelmed; (3) registering and credentialing volunteer medical professionals; and (4) planning for appropriate altered standards of care⁶ in order to save the most lives in a mass casualty event.

Federal and state entities both play roles in preparing for emergency preparedness. The Department of Homeland Security (DHS) has the overall federal responsibility under the Homeland Security Act of 2002 for managing national emergency preparedness.⁷ In December 2006, the Congress passed the Pandemic and All-Hazards Preparedness Act (PAHPA). PAHPA designated the Secretary of Health and Human Services as the lead official for all federal public health and medical responses to public health emergencies, including medical surge.⁸ Under the federal plan for responding to emergencies,⁹ states have responsibility for producing emergency preparedness plans in coordination with regional and local entities, and both DHS and the Department of Health and Human Services (HHS) are responsible for supporting their efforts. In addition, the Department of Defense (DOD) and the Department of Veterans Affairs (VA) are expected to assist state and local entities in emergencies. A DOD directive authorizes local military hospitals to coordinate with state and local entities to plan for emergency preparedness, and DOD hospitals are authorized to accept civilian patients in a mass casualty event.¹⁰ VA policies and procedures allow VA hospitals to participate in state and local

⁵Alternate care sites deliver medical care outside of hospital settings for patients who would normally be treated as inpatients.

⁶The term “altered standards” generally means a shift to providing care and allocating scarce equipment, supplies, and personnel in a way that saves the largest number of lives, in contrast to the traditional focus of treating the sickest or most injured patients first. For example, it could mean applying principles of field triage to determine who gets what kind of care, changing infection control standards to permit group isolation rather than single-person isolation units, changing who provides various kinds of care, or changing privacy and confidentiality protections temporarily.

⁷See Pub. L. No. 107-296, 116 Stat. 2135 (2002).

⁸Pub. L. No. 109-417, §101, 120 Stat. 2831, 2832 (2006) (codified at 42 U.S.C. § 300hh).

⁹The National Response Framework details the missions, policies, structures, and responsibilities of federal agencies for coordinating resource and programmatic support to states, tribes, and other federal agencies.

¹⁰DOD Directive 3025.1, *Military Support to Civil Authorities* §§ 4.6.1.2 and 4.5.1 (Jan. 15, 1993).

emergency planning, and by statute VA may provide medical care to nonveterans in a mass casualty event.

My statement today is based largely on our June 2008 report entitled *Emergency Preparedness: States Are Planning for Medical Surge, but Could Benefit from Shared Guidance for Allocating Scarce Medical Resources*¹¹ and includes some updated information. In the June 2008 report, we examined the following questions: (1) What assistance has the federal government provided to help states prepare their regional and local health care systems for medical surge in a mass casualty event? (2) What have states done to prepare for medical surge in a mass casualty event? (3) What concerns have states identified as they prepare for medical surge in a mass casualty event?

In carrying out the work for our June 2008 report examining what assistance the federal government provided to states to help them prepare their regional and local health care systems for medical surge in a mass casualty event, we reviewed and analyzed national strategic planning documents. We also analyzed reports related to medical surge capacity issued by various entities, including the Agency for Healthcare Research and Quality (AHRQ), Centers for Disease Control and Prevention (CDC), Office of the Assistant Secretary for Preparedness and Response (ASPR), and the Joint Commission.¹² In addition, we obtained and reviewed documents from ASPR to determine the amount of funds awarded to states through its Hospital Preparedness Program's cooperative agreements. We also interviewed officials from ASPR, CDC, and DHS to identify and document criteria and guidance given to states to plan for medical surge. To determine what states had done to prepare for medical surge in a mass casualty event, we obtained and analyzed the 2006 and 2007 ASPR Hospital Preparedness Program cooperative agreement applications and 2006 midyear progress reports (the most current

¹¹GAO, *Emergency Preparedness: States Are Planning for Medical Surge, but Could Benefit from Shared Guidance for Allocating Scarce Medical Resources*, [GAO-08-668](#) (Washington, D.C.: June 13, 2008).

¹²The Joint Commission is an independent, nonprofit organization that evaluates and accredits more than 15,000 U.S. health care organizations and programs, including DOD and VA hospitals.

available information at the time of our data collection for the June 2008 report¹³) for the 50 states.¹⁴ We also reviewed the 15 sentinel indicators from these reports.¹⁵ Although ASPR's 2006 guidance for these midyear progress reports did not provide specific criteria with which to evaluate recipients' performance on these sentinel indicators, we identified criteria to analyze the data provided for 5 of the indicators related to one of four key components—hospital capacity—from either ASPR's previous program guidance or DHS guidance.¹⁶ In addition, we obtained and reviewed 20 states' emergency preparedness planning documents relating to medical surge and interviewed officials from these states responsible for planning for medical surge. We selected the 20 states by identifying 2 states from each of the 10 HHS geographic regions—one with the most ASPR Hospital Preparedness Program funding and one with the least funding. These selection criteria allowed us to take into account population (program funding was awarded using a formula including, in part, population), geographic dispersion, and different geographic risk factors, such as the potential for hurricanes, tornadoes, or earthquakes. We obtained and reviewed DOD and VA policies and interviewed officials regarding their participation with state and local entities in emergency preparedness planning and response. To determine what concerns states identified as they prepared for medical surge, we interviewed emergency preparedness officials from the 20 states on their efforts related to four key components. We also asked what further assistance states might need from the federal government to help prepare their health care systems for medical surge. The information from these interviews is intended to provide a general description of what the 20 states have done to prepare for medical surge and is not generalizable to all 50 states. We conducted the performance audit for the June 2008 report from May 2007 through

¹³The 2006 program year for the Hospital Preparedness Program was September 1, 2006, to August 31, 2007. The 2007 program year was September 1, 2007, to August 8, 2008.

¹⁴While the Hospital Preparedness Program awards funds annually to 62 entities—the 50 states; 4 municipalities, including the District of Columbia; 5 U.S. territories; and 3 Freely Associated States of the Pacific—we limited our review to the 50 states.

¹⁵Sentinel indicators are smaller component tasks of critical benchmarks, which measure program capacity-building efforts such as purchasing equipment and supplies and acquiring personnel. For example, for the benchmark "Surge Capacity; Beds," one of the sentinel indicators is the number of additional hospital beds for which a recipient could make patient care available within 24 hours. ASPR requires that states report on 15 sentinel indicators.

¹⁶Two of the 15 indicators—total number of hospitals statewide and total population statewide—were used as denominators to analyze the 5 indicators.

May 2008, and updated certain information on the status of HHS's actions to respond to our recommendations by interviewing an HHS official, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. A detailed explanation of our methodology is included in our June 2008 report.

In brief, we found that the federal government provided funding, guidance, and other assistance to help states prepare for medical surge in a mass casualty event. From fiscal years 2002 to 2007, the federal government awarded the states about \$2.2 billion through ASPR's Hospital Preparedness Program to support activities to meet their preparedness priorities and goals, including medical surge. Further, we reported that the federal government developed, or contracted with experts to develop, guidance that was provided for states to use when preparing for medical surge and that ASPR project officers and CDC subject matter experts were available to provide assistance to states on issues related to medical surge. In reporting on state activities, we found that many states had made efforts related to three of the key components of medical surge, that is, increasing hospital capacity, planning for alternate care sites, and developing electronic medical volunteer registries, but fewer had addressed the fourth component, planning for altered standards of care. For example, in our 20-state review, we found that all were developing bed reporting systems to increase hospital capacity and 18 reported that they were in the process of selecting alternate care sites that used either fixed or mobile medical facilities. However, fewer of the states—7 of the 20—had adopted or were drafting altered standards of medical care to be used in response to a mass casualty event. In reporting on concerns states identified as they prepared for medical surge, we found that state officials in the 20 states we surveyed reported that they continued to face challenges related to all four key components of medical surge. For example, some states reported that although they could increase numbers of hospital beds in a mass casualty event, they were concerned about staffing those beds because of current shortages in medical professionals, and some states reported that they had not begun work on altered standards of care guidelines, or had not completed drafting guidelines, because of the difficulty of addressing the medical, ethical, and legal issues involved in making life-or-death decisions in advance of a disaster about which patients would get or lose access to scarce resources.

To further assist states in determining how they will allocate scarce medical resources in a mass casualty event, we recommended that the Secretary of HHS ensure that the department serve as a clearinghouse for sharing among the states altered standards of care guidelines that have been developed by individual states or medical experts. In commenting on a draft of our report in May 2008, HHS, DHS, DOD, and VA concurred with our findings. HHS was silent regarding our recommendation. However, in October 2009, an HHS official reported that the agency was designing a Web portal to serve as a clearinghouse on preparedness and response, with an emphasis on the allocation of scarce medical resources, in part as a result of GAO's recommendation. In January 2010, an HHS official reported that efforts to design and develop the Web portal were continuing.

The Federal Government Has Provided States with Funding, Guidance, and Other Assistance to Prepare for Medical Surge

In June 2008, we reported that from fiscal years 2002 through 2007, HHS awarded states about \$2.2 billion through ASPR's Hospital Preparedness Program¹⁷ to support activities to strengthen their hospital emergency preparedness capabilities, including medical surge goals and priorities.¹⁸ ASPR's 2007 Hospital Preparedness Program guidance specifically authorized states to use funds on activities such as the development of a fully operational electronic medical volunteer registry and the establishment of alternate care sites. We cannot report state-specific funding for the four key components of medical surge because state expenditure reports did not disaggregate the dollar amount spent on specific activities related to these components. During fiscal years 2003 through 2007, DHS's Homeland Security Grant Program also awarded the states funds that were used for a broad variety of emergency preparedness activities and may have included medical surge activities. However, most of these DHS grant funds were not targeted to medical surge activities, and states do not report the dollar amounts spent on these activities.

¹⁷An additional \$218 million was provided to four large municipalities, five U.S. territories, and three Freely Associated States of the Pacific for a total of approximately \$2.5 billion. Over the 2-year period, fiscal years 2004 and 2005, HHS also awarded an additional \$200,000 to 48 states for electronic medical volunteer registries development through this program.

¹⁸Since January 2006, HHS also had awarded the 62 recipients an additional \$400 million in two phases and a supplement to prepare for a pandemic influenza outbreak. The funds were awarded to accelerate their current planning efforts for an influenza pandemic and to exercise their plans. These funds included \$75 million in August 2007 that could be used, in part, to develop pandemic alternate care sites and to conduct medical surge exercises.

The federal government developed, or contracted with experts to develop, guidance for states to use in preparing for medical surge. DHS developed overarching guidance, including the *National Preparedness Guidelines* and the *Target Capabilities List*. The *National Preparedness Guidelines* describes the tasks needed to prepare for a medical surge response to a mass casualty event, such as a bioterrorist event or natural disaster, and establishes readiness priorities, targets, and metrics to align the efforts of federal, state, local, tribal, private-sector, and nongovernmental entities. The *Target Capabilities List* provides guidance on building and maintaining capabilities, such as medical surge, that support the *National Preparedness Guidelines*. The medical surge capability includes activities and critical tasks needed to rapidly and appropriately care for the injured and ill from mass casualty events and to ensure that continuity of care is maintained for non-incident-related injuries or illnesses.¹⁹ In addition, ASPR provided states with specific guidance related to preparing for medical surge in a mass casualty event, such as annual guidance for its Hospital Preparedness Program cooperative agreements, guidance for developing electronic medical volunteer registries, and guidance to develop a hospital bed tracking system. For example, ASPR's electronic medical volunteer registries guidelines provide states with common definitions, standards, and protocols, which can aid in forming a national network to facilitate the deployment of medical volunteers for any emergency among states.

Additionally, we reported that HHS worked through AHRQ and contracted with nonfederal entities to develop publications for states to use when preparing for medical surge. For example, AHRQ published the document *Mass Medical Care with Scarce Resources: A Community Planning Guide* to provide states with information that would help them in their efforts to prepare for medical surge, such as specific circumstances they may face in a mass casualty event. This publication notes that a state may be faced with allocating medical resources during a mass casualty event, such as determining which patients will have access to mechanical ventilation. The publication recommends that the states develop decision-making guidelines on how to allocate these medical resources. To support states' efforts to prepare for medical surge, the federal government also provided other assistance, such as conferences and electronic bulletin

¹⁹For example, one of the activities is to receive and treat surge casualties. One of the critical tasks associated with this activity is to ensure adequacy of medical equipment and supplies in support of immediate medical response operations and for restocking requested supplies and equipment.

boards for states to use in preparing for medical surge. For example, states were required to attend annual conferences for Hospital Preparedness Program cooperative agreement recipients, where ASPR provided forums for discussion of medical surge issues. Furthermore, ASPR project officers and CDC subject matter experts were available to provide assistance to states on issues related to medical surge. For example, CDC's Division of Healthcare Quality Promotion developed cross-sector workshops for local communities to bring their emergency management, medical, and public health officials together to focus on emergency planning issues, such as developing alternate care sites. A detailed list of federal guidance and conferences is included in our June 2008 report.

Many States Have Made Efforts to Increase Hospital Capacity, Plan for Alternate Care Sites, and Develop Electronic Medical Volunteer Registries, but Fewer Have Planned for Altered Standards of Care

In June 2008 we reported that states were making efforts to expand hospital capacity. We found that more than half of the states met or were close to meeting the criteria for the five surge-related sentinel indicators for hospital capacity that we reviewed from the Hospital Preparedness Program 2006 midyear progress reports,²⁰ the most recent available data at the time of our analysis for the June 2008 report.²¹ Twenty-four of the states reported that all of their hospitals were participating in the state's program funded by the ASPR Hospital Preparedness Program, with another 14 states reporting that 90 percent or more of their hospitals were participating. Forty-three of the 50 states had increased their hospital capacity by ensuring that at least one health care facility in each defined region could support initial evaluation and treatment of at least 10 patients at a time (adult and pediatric) in negative pressure isolation²² within 3 hours of an event. Regarding individual hospitals' isolation capabilities, 32 of the 50 states met the requirement that all hospitals in the state that participate in the Hospital Preparedness Program be able to maintain at least one suspected highly infectious disease case in negative pressure isolation; another 10 states had that capability in 90 to 99 percent of their participating hospitals. Thirty-seven of the 50 states reported meeting the criteria that within 24 hours of a mass casualty event, their hospitals

²⁰The 2006 program year was from September 1, 2006, to August 31, 2007; therefore, information provided in the midyear progress reports was reported as of March 2007.

²¹Four of the states we reviewed provided sentinel indicator information as of April 2007, one state as of August 2007, and another state as of September 2007.

²²Negative pressure isolation rooms maintain a flow of air into the room to ensure that contaminants and pathogens cannot escape from the room to other parts of the facility and to protect the health of workers and other patients.

would be able to add enough beds to provide triage treatment and stabilization for another 500 patients per million population; another 4 states reported that their hospitals could add enough beds for from 400 to 499 patients per million population. Finally, 20 of the 50 states reported that all their participating hospitals had access to pharmaceutical caches that were sufficient to cover hospital personnel (medical and ancillary), hospital-based emergency first responders, and family members associated with their facilities for a 72-hour period; another 6 states reported that from 90 to 99 percent of their participating hospitals had sufficient pharmaceutical caches.

We also reported in 2008 that in a further review of 20 states, all 20 states reported that they had developed or were developing bed reporting systems to track their hospital capacity—the first of four key components related to preparing for medical surge. Eighteen of the 20 states reported that they had systems in place that could report the number of available hospital beds within the state. All 18 of these states reported that their systems met ASPR Hospital Available Beds for Emergencies and Disasters (HAvBED) standards.²³ The 2 states that reported that they did not have a system that could meet HAvBED requirements said that they would meet the requirements by August 8, 2008.²⁴ We also reported that of the 10 states with DOD hospitals, 9 reported coordinating with DOD hospitals to plan for emergency preparedness and increase hospital capacity and 8 reported that DOD hospitals in their state would accept civilian patients in the event of a mass casualty event if resources were available.²⁵ Additionally, of the 19 states that have VA hospitals, all reported that at least some of the VA hospitals took part in the states' hospital preparedness programs or were included in planning and exercises for

²³ Among other standards, HAvBED systems are required to report on seven categories of staffed available beds. The seven bed categories are intensive care, medical and surgical, burn, pediatric intensive care, pediatric, psychiatric, and negative pressure isolation. HAvBED systems are also required to report on emergency department diversions, decontamination facilities available, and ventilators available. ASPR allows each state to use Hospital Preparedness Program funds to develop its own bed tracking system as long as the system meets HAvBED requirements.

²⁴ ASPR required all recipients to complete the development of their bed tracking system by August 8, 2008.

²⁵ DOD Directive 3025.1, section 4.5.1 authorizes military officials to take necessary actions to respond to civilian requests for assistance in emergencies, which may include accepting civilian patients. This decision can be authorized by DOD or, in cases of urgent need, by the commander of the local military hospital.

medical surge.²⁶ VA officials stated that individual hospitals cannot precommit resources—specific numbers of beds and assets—for planning purposes, but can accept nonveteran patients and provide personnel, equipment, and supplies on a case-by-case basis during a mass casualty event.²⁷ Twelve of the 19 states reported that VA hospitals would accept or were likely to accept nonveteran patients in the event of a medical surge if space were available and veterans’ needs had been met, and 1 state reported that some of its VA hospitals would take nonveteran patients and others would not.

We further reported in June 2008 that 18 of the 20 states reported that they were in the process of selecting alternate care sites, and the 2 remaining states reported that they were in the early planning stages in determining how to select sites. Of the 18 states, 10 reported that they had also developed plans for equipping and staffing some of the sites. For example, one state had developed standards and guidance for counties to use when implementing fixed alternate care sites and had stockpiled supplies and equipment for these sites. Another state, which expects significant transportation difficulties during a natural disaster, had acquired six mobile medical tent facilities of either 20 or 50 beds that were stored at hospital facilities across the state. One of the 2 states that were in the early planning stages was helping local communities formalize site selection agreements, and the second state had drafted guidance for alternate care sites.

Our June 2008 report also noted that 15 of the 20 states reported that they had begun registering medical volunteers and identifying their medical professions in an electronic registry, and the remaining 5 states were

²⁶VA is authorized to furnish hospital care or medical services as a humanitarian service to non-VA beneficiaries in emergency cases. See 38 U.S.C. § 1784; 38 C.F.R. §§ 17.37, 17.43, 17.95, 17.102. VA is also authorized to provide care and services during certain disasters and emergencies. See 38 U.S.C. § 1785; 38 C.F.R. § 17.86.

²⁷According to a VA General Counsel memorandum (Guidance on Entering into Mutual Aid Agreements, July 23, 2003), hospitals can also enter into mutual aid agreements in which VA hospitals and local entities agree to assist each other during disasters and emergencies. These agreements often include provisions to accept patients from other hospitals if the transferring hospital has an overwhelming number of patients or if the transferring facility does not have the resources for patients who require specialized medical treatment. However, these mutual aid agreements must state that the agreement is limited by certain VA obligations that may take precedence over the agreement to assist local hospitals during an emergency, such as VA’s obligations under the National Disaster Medical System and its obligations to assist DOD during a time of war or national emergency.

developing their electronic registries and had not registered any volunteers. Officials from 4 of the 5 remaining states that had not begun registering volunteers reported that they anticipated registering them. An official from the other state reported that state officials did not know when they would begin to register volunteers. Of the 15 states that reported they were registering volunteers, 12 reported they had begun to verify the volunteers' medical qualifications, though few had conducted the verification to assign volunteers to the highest level, Level 1. At Level 1, all of a volunteer's medical qualifications, which identify his or her skills and capabilities, have been verified and the volunteer is ready to provide care in any setting, including a hospital.

In our 20-state review of efforts related to the fourth key component, we reported that 7 states had adopted or were drafting altered standards of care for specific medical issues. Three of the 7 states had adopted some altered standards of care guidelines. For example, one state had prepared a standard of care for the allocation of ventilators in an avian influenza pandemic, which one state official reported would also be applicable during other types of emergencies.²⁸ Another state issued guidelines in February 2008 for allocating scarce medical resources in a mass casualty event that call for suspending or relaxing state laws covering medical care and for explicit rationing of health care to save the most lives, and required that the same allocation guidelines be used across the state. Of the 13 states that had not adopted or drafted altered standards of care, 11 states were beginning discussions with state stakeholders, such as medical professionals and lawyers, related to altered standards of care, and 2 states had not addressed the issue. One state reported that its state health department planned to establish an ethics advisory board to begin discussion on altered standards of care guidelines. Another state had developed a "white paper" discussing the need for an altered standards of care initiative and planned to fund a symposium to discuss this initiative.

²⁸A ventilator mechanically moves oxygen into and out of the lungs of a patient who is physically unable to breathe on his or her own, or whose breathing is insufficient to maintain life.

States Reported Concerns Related to All Four Key Components When Preparing for Medical Surge

In June 2008, we reported that even though states had made efforts to increase hospital capacity, provide care at alternate care sites, identify and use medical volunteers, and develop appropriate altered standards of care, they expressed concerns related to all four of these key components of medical surge.

Hospital capacity concerns. We reported that state officials raised several concerns related to their ability to increase hospital capacity, including maintaining adequate staffing levels during mass casualty events, a problem that was more acute in rural communities. While 19 of 20 states we surveyed reported that they could increase numbers of hospital beds in a mass casualty event,²⁹ some state officials were concerned about staffing these beds because of current shortages in medical professionals, including nurses and physicians. Some state officials reported that their states faced problems in increasing hospital capacity because many of their rural areas had no hospital or small numbers of medical providers. For example, officials from a largely rural state reported that in many of the state's medically underserved areas hospitals currently have vacant beds because they cannot hire medical professionals to staff them.

Alternate care site concerns. Some state officials reported that it was difficult to identify appropriate fixed facilities for alternate care sites. Officials from two states reported that some small, rural communities had few facilities that would be large enough to house an alternate care site. Officials from some states also reported that some of the facilities that could be used as alternate care sites had already been allocated for other emergency uses, such as emergency shelters. Some state officials also reported concerns about reimbursement for medical services provided at alternate care sites, which are not accredited health care facilities, and concerns regarding how certain federal laws and regulations that relate to medical care would apply during a mass casualty event for care provided at alternative care sites.

Electronic medical volunteer registry concerns. We reported that some states reported that medical volunteers might be reluctant to join a state electronic medical volunteer registry if it is used to create a national medical volunteer registry. PAHPA requires ASPR to use the state-based registries to create a national database. According to state officials, some

²⁹Officials from the remaining state reported that they did not know how many beds were available statewide above the current daily staffed bed capacity.

volunteers do not want to be part of a national database because they are concerned that they might be required to provide services outside their own state. Officials from one state reported that since PAHPA was enacted, recruiting of medical volunteers was more difficult and that the federal government should clarify whether national deployment is a possibility. ASPR officials said that they would not deploy medical volunteers nationally without working through the states. Additionally, some states expressed concerns about coordination among programs that recruit medical volunteers for emergency response. Officials from one state reported that federal volunteer registration requirements for the Medical Reserve Corps (MRC)³⁰ and the electronic medical volunteer registry programs had not been coordinated, resulting in duplication of effort for volunteers. Officials from a second state reported that a volunteer for one program that recruits medical volunteers is often a potential volunteer for another such program, which could result in volunteers being double-counted. This may cause staffing problems in the event of an emergency when more than one volunteer program is activated.

Altered standards of care concerns. Some state officials reported that they had not begun work on altered standards of care guidelines, or had not completed drafting guidelines, because of the difficulty of addressing the medical, ethical, and legal issues involved. For example, in 2005 HHS estimated that in a severe influenza pandemic almost 10 million people would require hospitalization,³¹ which would exceed the current capacity of U.S. hospitals and necessitate difficult choices regarding rationing of resources.³² HHS also estimated that almost 1.5 million of these people would require care in an intensive care unit and about 740,000 people would require mechanical ventilation. Even with additional stockpiles of ventilators, there would likely not be a sufficient supply to meet the need. Since some patients could not be put on ventilators, and others would be removed from ventilators, standards of care would have to be altered and

³⁰MRC is a federal program within the U.S. Surgeon General's Office, which is in HHS. MRC units are community-based and organize and utilize volunteers to, among other things, prepare for and respond to emergencies. MRC volunteers include medical and public health professionals as well as other community members, such as interpreters and legal advisers.

³¹By comparison, seasonal influenza in the United States generally results in 200,000 hospitalizations annually.

³²Department of Health and Human Services, *HHS Pandemic Influenza Plan* (Washington, D.C., November 2005).

providers would need to determine which patients would receive them. In addition, some state officials reported that medical volunteers are concerned about liability issues in a mass casualty event. Specifically, state officials reported that hospitals and medical providers might be reluctant to provide care during a mass casualty event, when resources would be scarce and not all patients would be able to receive care consistent with established standards. According to these officials, these providers could be subject to liability if decisions they made about altering standards of care resulted in negative outcomes. For example, allowing staff to work outside the scope of their practice, such as allowing nurses to diagnose and write medical orders, could place these individuals at risk of liability.

While some states reported using AHRQ's *Mass Medical Care with Scarce Resources: A Community Planning Guide* to assist them as they developed altered standards of care guidelines, some states also reported that they needed additional assistance. States said that to develop altered standards of care guidelines they must conduct activities such as collecting and reviewing published guidance and convening experts to discuss how to address the medical, ethical, and legal issues that could arise during a mass casualty event. Four states reported that, when developing their own guidelines on the allocation of ventilators, they were using guidance from another state, which had estimated that a severe influenza pandemic would require nearly nine times the state's current capacity for intensive care beds and almost three times its current ventilator capacity, requiring the state to address the rationing of ventilators. In March 2006 the state convened a work group to consider clinical and ethical issues in the allocation of mechanical ventilators in an influenza pandemic.³³ The state issued guidelines on the rationing of ventilators that include both a process and an evaluation tool to determine which patients should receive mechanical ventilation. The guidelines note that the application of this process and evaluation tool could result in withdrawing a ventilator from one patient to give it to another who is more likely to survive—a scenario that does not explicitly exist under established standards of care. Additionally, some states suggested that the federal government could help their efforts in several ways, such as by convening medical, public health, and legal experts to address the complex issues associated with allocating scarce resources during a mass

³³The group brought together experts in law, medicine, policy making, and ethics with representatives from medical facilities and city, county, and state government.

casualty event, or by developing demonstration projects to reveal best practices employed by the various states.

In May 2008, the Task Force for Mass Critical Care, consisting of medical experts from both the public and the private sectors, provided guidelines for allocating scarce critical care resources in a mass casualty event that have the potential to assist states in drafting their own guidelines. The task force's guidelines, which were published in a medical journal,³⁴ provide a process for triaging patients that includes three components—inclusion criteria, exclusion criteria, and prioritization of care. The exclusion criteria include patients with a high risk of death, little likelihood of long-term survival, and a corresponding low likelihood of benefit from critical care resources. When patients meet the exclusion criteria, critical care resources may be reallocated to patients more likely to survive.

Concluding Observations

In our June 2008 report, we noted that though states had begun planning for medical surge in a mass casualty event, only 3 of the 20 states in our review had developed and adopted guidelines for using altered standards of care. HHS has provided broad guidance that establishes a framework and principles for states to use when developing their specific guidelines for altered standards of care. However, because of the difficulty in addressing the related medical, ethical, and legal issues, many states were only beginning to develop such guidelines for use when there are not enough resources, such as ventilators, to care for all affected patients. In a mass casualty event, such guidelines would be a critical resource for medical providers who may have to make repeated life-or-death decisions about which patients get or lose access to these resources—decisions that are not typically made in routine circumstances. Additionally, these guidelines could help address medical providers' concerns about ethics and liability that may ensue when negative outcomes are associated with their decisions. In its role of assisting states' efforts to plan for medical surge, HHS has not collected altered standards of care guidelines that some states and medical experts have developed and made them available to other states. Once a mass casualty event occurs, difficult choices will have to be made, and the more fully the issues raised by such choices are

³⁴The task force included officials from DHS, HHS, ASPR, CDC, DOD, and VA. See Asha V. Devereaux et al., "Definitive Care for the Critically Ill During a Disaster: A Framework for Allocation of Scarce Resources in Mass Critical Care: From a Task Force for Mass Critical Care Summit Meeting, January 26 to 27, 2007, Chicago, IL," *Chest* (2008): 133, 51-66.

discussed prior to making them, the greater the potential for the choices to be ethically sound and generally accepted.

Mr. Chairman, this concludes my prepared statement. I would be happy to answer any questions you or other members of the subcommittee may have.

Contacts and Acknowledgments

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