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Increasing Emergency Preparedness

Examining the issues faced by U.S. health care organizations—and the policies to address them.

Despite years of preparation, multiple presidential directives, and billions of dollars in federal funding, the outcomes of recent disasters suggest that many health care institutions are not prepared to handle unanticipated patient surges or other sudden operational challenges. The consequences of this are frightening: it means that the United States isn't prepared to protect its citizens from natural disasters, outbreaks of infectious diseases, or acts of bioterrorism.[1-3] What is being done to change that? This article will present an overview of the current issues in disaster and public health preparedness facing U.S. health care institutions. It will address recent policy proposals and explore how these policies are relevant to nurses—particularly to those nurses working in hospitals.

Photo by Bill Koplitz / FEMA.

DISASTER RESPONSE PLANNING: THE CHALLENGES

Following a disaster, survival rates depend on health care facilities' ability to provide care under duress and to handle a sudden influx of large numbers of victims. Much depends on the staff, stuff (supplies, equipment), structure, and systems that are required to treat a significant increase in patients seeking medical and nursing care[4]; this may be problematic in many regions of the United States. Solutions to these challenges are elusive. Many will argue that EDs are already functioning in a disaster mode on a daily basis,[5,6] as they are often understaffed, underresourced, and overused.[7] Yet this is part of the problem—when thrown into disaster mode, an already overburdened ED may be less flexible and less able to respond to emergency challenges.

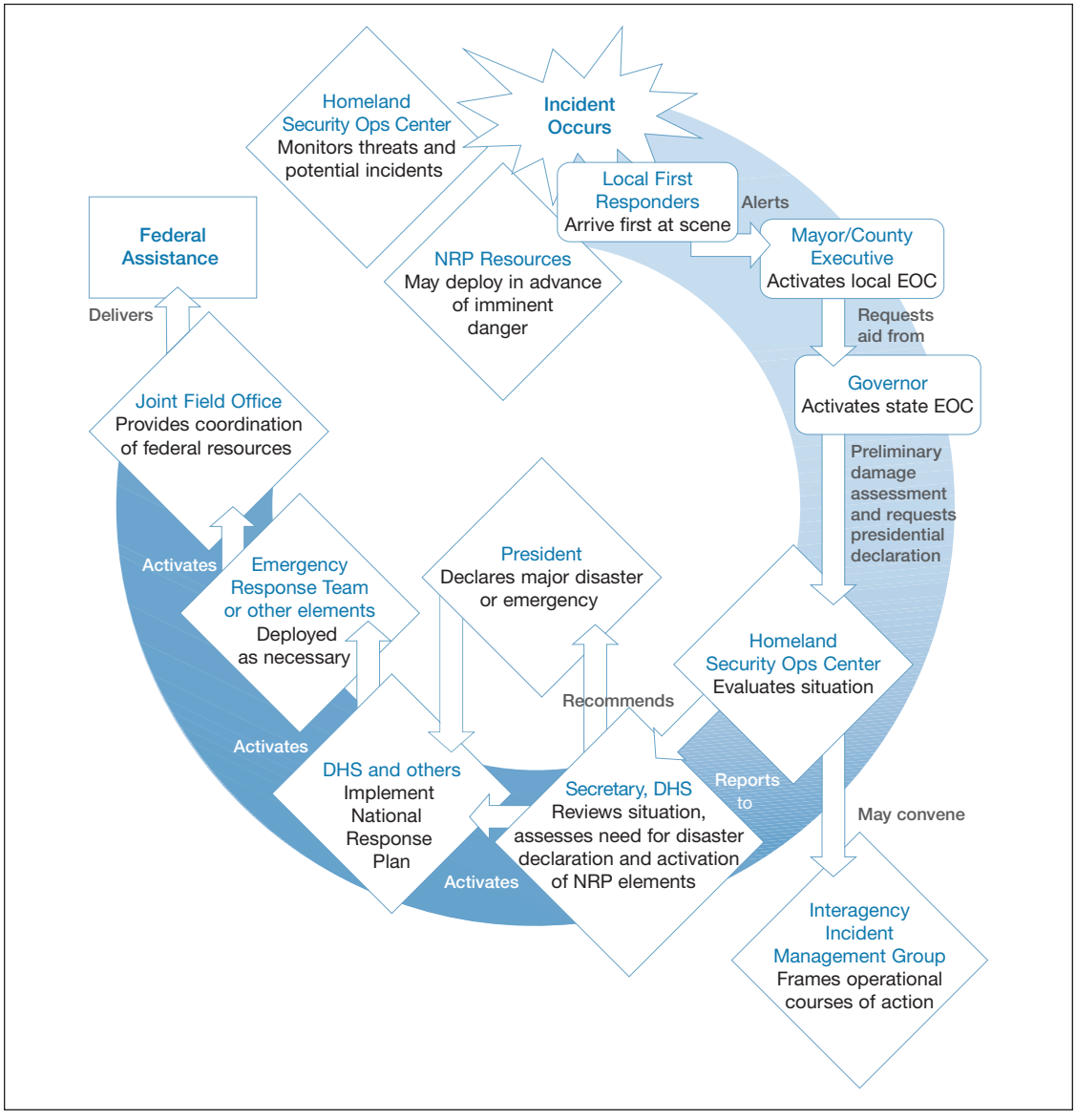
Traditional hospital and clinical care standards may be impossible to maintain in the event of a major disaster such as a pandemic or a bioterrorism attack.[8] In fact, it can be expected that standards of care will change. The Institute of Medicine (IOM) has defined crisis standards of care (CSC) as "a substantial change in the usual health care operations and the level of care it is possible to deliver [in a public health emergency,] justified by specific circumstances."[9] It goes on to say that, during disasters, medical care must promote the use of limited resources to benefit the population as a whole.

In 2012, the aftermath of Hurricane Sandy demonstrated that large urban hospitals are vulnerable to the ravages of natural disasters. The heavy storm surge and extensive flooding resulted in widespread loss of electricity and the failure of heating, ventilation, and air conditioning capabilities. Despite valiant efforts by hospital clinicians and staff, patient safety was jeopardized. Staff were forced to allocate scarce medical resources, such as vaccinations and dialysis procedures, and administrators came to regret their early decisions to shelter in place as backup generators failed and patients were forced to evacuate through darkened stairwells.[10] The emergency evacuation of two of Manhattan's landmark medical facilities—New York University Langone Medical Center evacuated 300 patients[11] and Bellevue Hospital evacuated 725 patients[12]—evoked the tragic memory of the catastrophic loss of hospitals in New Orleans in 2005.[13,14] Glaring weaknesses in our systems were revealed, despite the proliferation of policies designed to enhance emergency preparedness following Hurricane Katrina.

ARE NURSES PREPARED?

Equally troubling is the lack of preparedness among health care providers. For example, one survey of bioterrorism coordinators and emergency managers

Figure 1. Overview of Local, State, and Federal Emergency Response



DHS = Department of Homeland Security; EOC = emergency operations center; NRP = National Response Plan.
Source: U.S. Department of Homeland Security. *National Response Plan*. 2004 Dec. https://it.ojp.gov/fusioncenterguidelines/NRPbaseplan.pdf.

for 31 hospitals near a major metropolitan area found that more than half the nurses lacked necessary disaster response training.[15] Indeed, despite efforts to advance nurse readiness, many nurses lack the necessary knowledge, skills, and abilities to demonstrate clinical competence in the disaster health care arena.[15] Yet recent disasters have shown that nurses need to shift their work paradigm from general daily care to a model that accommodates the sudden unanticipated surge in the demand for health care. This model may force them to make very difficult legal, ethical, and moral decisions; examples include triaging who gets care first and who does not get care at all, allocating limited numbers of ventilators, and deciding who has access to lifesaving medications. Here advance training and preparation is crucial.

Disaster Preparedness Tools

Centers for Medicare and Medicaid Services
Emergency Preparedness Checklist
www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertEmergPrep/Downloads/SandC_EPChecklist_Provider.pdf

Institute of Medicine
Crisis Standards of Care: A Systems Framework for Catastrophic Disaster Response
www.nap.edu/catalog/13351/crisis-standards-of-care-a-systems-framework-for-catastrophic-disaster

Joint Commission
Requirements for Emergency Management Oversight
www.jointcommission.org/assets/1/18/JCP0713_Emergency_Mgmt_Oversight.pdf

Office of the Assistant Secretary of Preparedness and Response, U.S. Department of Health and Human Services
Hospital Preparedness Program
www.phe.gov/Preparedness/planning/hpp/Pages/default.aspx

In the event of a disaster or large-scale public health emergency, health care facilities will need to have plans and resources in place to adequately protect patients' health and safety. Ideally, these will include a centralized structure for control (incident command system), a framework for the allocation of scarce resources, and effective adaptation of standards for crisis care.[9,16]

Figure 1). Because disasters are very low-probability but very high-consequence events characterized by uncertainty and complexity, appropriate policies are needed and monitoring for compliance is required.[17]

PROPOSED CMS GUIDELINES

Various government organizations have established guidelines, standards, or tools designed to help health care organizations manage operations during and after a disastrous event (see *Disaster Preparedness Tools*). In late 2013, the Centers for Medicare and Medicaid Services (CMS) proposed its "Emergency Preparedness Requirements for Medicare and Medicaid Participating Providers and Suppliers."[18] These requirements seek to establish regulatory consistency across more than 68,000 health care institutions including, but not limited to, large hospital chains, nursing homes, community health centers, home health agencies, dialysis centers, and psychiatric hospitals. They were created after an extensive review of federal and state guidelines, as well as standards set by the Joint Commission and the National Fire Protection Association (NFPA). Concluding that current

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UNDERSTANDING THE EMERGENCY RESPONSE SYSTEM

In the United States, disaster preparedness and response is guided by an overlapping network of local, state, and federal laws and regulations. The "pillars" of the emergency response system, according to the IOM, are hospital and out-of-hospital care, and public health, emergency management, and public safety organizations. While separate, these organizations work with local, state, and federal authorities to ensure that CSC planning and response occurs. Yet despite that federal involvement is required in disaster response, the truth is that "all disasters are local": for the first 72 to 96 hours after an event, local public health departments and health care organizations are expected to remain independently functional (see

What Nurses Can Do

- Understand the changing policy landscape and use existing tools to facilitate organizational disaster response.
- Increase institutional awareness of the new CMS guidelines and offer a systems approach to disaster improvement.
- Understand protocols for providing care and spearhead efforts to establish compliance with federal guidelines.
- Use tools to assess hazards, gauge exposure to vulnerability, and identify gaps in an organization's emergency preparedness plan.
- Educate nursing staff and improve multidisciplinary response efforts through professional development and training.
- Provide feedback on new guidelines and associated costs as they arise during implementation.
- Encourage "fast tracking" existing performance indicators through real-time testing and use in disaster preparedness.

requirements were inadequate, the CMS attempted to establish a much higher bar for hospitals to meet in order to be prepared for a disaster.[18] The CMS requirements specifically state that participating providers will

- develop an emergency plan using an "all-hazards" approach, which prepares facilities for all types of potential disasters, including natural, biological, chemical, and radiologic events.
- develop and implement policies and procedures based on the organization's emergency plan and a risk assessment of potential hazards and deleterious outcomes. The risk assessment will identify potential vulnerabilities that can materialize during an emergency—for example, a power outage during a hurricane may cause equipment failure.
- develop and maintain a communications plan that complies with both federal and state law and also ensures coordination of patient care across all health care providers in an organization as well as with state and local public health departments and emergency systems.
- develop and maintain training programs—including annual trainings, drills, and exercises—or participate in an exercise that tests the plan.

Although many of these regulations are similar to those already established by the Joint Commission, this is the first time such comprehensive guidelines have been proposed for 17 unique categories of health care providers and suppliers, such as ambulatory surgical facilities, hospice centers, and all-inclusive care programs for the elderly. According to this proposal (and underscoring its importance), all health care facilities must comply with all applicable federal and state emergency preparedness requirements in order to participate in CMS programs and to receive CMS funding. The CMS has not yet finalized the ramifications of noncompliance with these requirements.

Initial concerns about the CMS proposal include underestimated projections of the burden and cost of compliance.[19] Changes in current risk assessment, emergency planning development, training and testing, communication systems, and overall policies and procedures may prove costly. Smaller community hospitals may need to partner with larger hospitals to achieve their goals. Participating providers may need to tailor disaster plans to the specific risks of their setting and population. Shifts in health facility NFPA preparedness codes in the revised CMS regulations[20] and ambiguity concerning the timeline of the provision of subsistence supplies (food, water, medical supplies, and medications) for staff and patients present additional challenges for nurses. Yet failure to address emergency preparedness guidelines could result in persistent low levels of preparedness, inadequate staffing, failure to sustain business continuity, and loss of revenue to the facility. Additionally, these policies affect disaster nursing scope of practice, standards of care, and, potentially, staff willingness and ability to meet clinical responsibilities during emergency events.[21, 22]

THE NEXT STEP: FOLLOWING THE EVIDENCE

Unfortunately, there is a scarcity of literature on the validation and standardization of performance indicators for emergency preparedness in health care settings.[23, 24] Few disaster drill performance metrics have been developed and tested with conclusive results.[25-28] While performance indicators are important in measuring the effectiveness of current preparedness efforts, to date no single tool has been adopted by all health care facilities. The proposed CMS regulations further emphasize the need to establish performance indicator metrics to evaluate ongoing and future disaster preparedness activities. In an ideal world, when working toward organizational readiness, nurses could use both lessons learned and evidence-based policies and interventions (see *What Nurses Can Do*). ▼

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