

Disaster Medicine in the Post-9/11 Era

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As I write this introduction to the special series on disaster medicine in this issue of the *Southern Medical Journal*, I am struck by the fact that nearly 16 years have passed since the terrorist attacks of September 11, 2001—16 years! For those of us in the academic community who are committed to advancing disaster medicine, 16 years is a long time. It seems like just yesterday we stood together and expressed great hope about the advances that would come from a nationwide commitment to disaster medicine.

Much progress has been made since 2001, especially in terms of our nation's macropreparedness. For example, following Hurricane Katrina in 2005, the Pandemic and All-Hazards Preparedness Act helped establish the Office of the Assistant Secretary for Preparedness and Response. These changes, in conjunction with revisions to the National Response Framework, helped support Department of Health and Human Services (DHHS) programs such as the National Disaster Medical System, the Medical Reserve Corps, and the Hospital Preparedness Program.

The US Congress appropriated money, at least initially, to bolster DHSS, the Federal Emergency Management Agency (FEMA), the Department of Homeland Security, and related agencies. Between fiscal year (FY)2001 and FY2006, Congress spent nearly \$300 billion in homeland security funding. Unfortunately, priorities shifted. Between FY2005 and FY2015 federal disaster preparedness grants from FEMA and DHHS decreased by >50%. Other federal programs were suspended or quickly drawn to completion.

No one expected the money to flow forever, so the decline in federal funding was not a surprise. What was surprising, however, was the lack of development one would expect from a country spending hundreds of billions per year on homeland security. The return on investment for our emergency preparedness dollars across 16 years, particularly on the local level, is not evident.

The evidence suggests that we have failed on the state and local levels to develop true preparedness for communities. The

2016 National Preparedness Report issued by FEMA shows that most states are self-reporting below proficiency in prevention, protection, mitigation, response, and recovery.

Some of our micropreparedness failures are concerning. For example, although Joint Commission regulations require all "emergency services" facilities to perform yearly disaster drills, hospital administrations have been reluctant to develop comprehensive emergency preparedness training programs on their own. The 2014 American College of Emergency Physicians Report on the State of Emergency Care in the United States gave the country a "C-minus" grade in disaster preparedness; 14 states received an "F" grade.

Although we in disaster medicine have succeeded on the macro level, we continue to struggle on the local level to establish real solutions for healthcare preparedness. This special series is an attempt to get back on track with a review of several projects that will help foster local and/or regional preparedness. For example, we often overlook, from an academic standpoint, the physical capabilities of healthcare providers to serve during a disaster. Molloy et al, from Boston and the United Kingdom, describe the utility of a provider fitness test before deployment in a disaster.¹ Kazzi et al, from Emory University in Atlanta, Georgia, describe how hospitals can partner with the regional Radiation Injury Treatment Network to maximize expertise in the treatment of patient contamination during a radiation emergency.²

When discussing components of local preparedness, it is important to put aside plans and mitigation strategies to care for vulnerable populations. Hashikawa et al, from St Joseph Mercy Hospital and the University of Michigan in Ann Arbor, assess the disaster preparedness capabilities of children's summer camps in the United States and Canada.³ Mace and colleagues, from Case Western University in Cleveland, Ohio, comprehensively assess the communication, medical care, independence, supervision, and transportation needs of vulnerable patients during a disaster.⁴

When it comes to hospital preparedness, we already know that few hospital providers receive competency-based disaster training. Brice et al, from the University of North Carolina at Chapel Hill, take this a step further by describing the factors that would enable or restrict providers from working during a disaster.⁵ Jasper and colleagues, from Thomas Jefferson University in Philadelphia, assess one of the few mandatory, stand-alone disaster medicine courses for medical students in the United States.⁶ Finally, Scott and Hutchison, from the Medical University of South Carolina, Charleston, provide perspective regarding the hospital preparedness lessons learned from Hurricane Matthew in 2016.⁷

A common theme running through all of these articles is that of local preparedness. We have federal legislation and the component parts of our Emergency Support Functions in place. What we need now is a commitment to focus on patients and providers at the local level. We must commit to engage local partners and share resources to reach a common goal. In

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Charleston, South Carolina, for example, we have used community partnerships such as the Center for Health Professional Training & Emergency Response (www.musc.edu/chpater) to foster competency-based training to >1300 providers.

In the end, it takes only one provider to make a critical error during a disaster (eg, failing to isolate a patient suspected of toxic exposure). Such an error would bring the entire chain of emergency preparedness resources, including a legacy of hundreds of billions of state and federal dollars since 9/11, to a screeching halt.

Sixteen years from now, let us look back and marvel at the commitment we have made to our patients and providers regarding local preparedness. At a bare minimum, let us start by refusing to offer a disaster training course in which a participant simply fills in a bubble on a multiple-choice test to demonstrate his or her competence.

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