

RECOMMENDATIONS FROM THE NATIONAL BIODEFENSE SCIENCE BOARD

September 11, 2019

Background

In June 2019, the Disaster Medicine Working Group of the National Biodefense Science Board (NBSB or “the Board”) was asked to consider challenges and best practices to improve and standardize national training and readiness for healthcare providers (clinicians of various types) who could be required to deliver specialized care during disasters. Recommendations drafted by the working group were based on the group members’ general professional expertise, review of relevant literature and online material, and conversations with invited subject matter experts (SMEs) during numerous conference calls and email exchanges. A full list of experts with whom the working group consulted is in Appendix 1. A draft of these recommendations was presented, discussed, debated, and modified during a public meeting of the NBSB on September 11, 2019; a quorum of voting members voted unanimously to approve them.

Of note, these recommendations are intentionally focused on training for providers in the healthcare delivery system and others most closely associated with direct patient care (see Box 1) and not training for public health and community response system practitioners. Additionally, this document does not include specific recommendations for integrating healthcare providers into public health and community response systems (e.g., state and local health departments, incident command systems, or community-based organizations such as Medical Reserve Corps or the Citizen Emergency Response Teams). The Board recognizes that integration of the direct delivery of medical care and public health emergency response is critical, which will be addressed in a subsequent report.

Recommendations

- 1. Healthcare providers/clinicians need to receive specialized pre-event training to be better prepared to respond to disasters.***

All clinicians should be targeted, with special emphasis on those most likely to be involved in direct patient care during an initial response (see Box 1)

The following tools, mechanisms, or methods have been identified by the Board to ensure that clinicians receive effective pre-event training:

- a. Include disaster management content into curricula and training for learners at all levels.
- b. Conduct periodic exercises and drills (in particular functional and full-scale exercises) in healthcare settings coordinated with local emergency management, emergency medical services (EMS), and public health partners, to include guidelines in their effective and safe implementation.

Box 1. Clinical professional groups that are the focus of these recommendations.

- Paramedics (EMS and first responders)
- Nurses (triage nurses, nurse practitioners, emergency department nurses, epidemic and infection control staff, etc.)
- Physicians, physician assistants
- Pharmacists
- Public health practitioners in the healthcare setting
- Veterinarians
- Behavioral health workers, social workers, and social support staff
- Medical technologists in hospital clinical laboratories

- c. Promote and ultimately require education and/or continuing education for licensure and/or maintenance of certification (MOC), especially for clinicians and staff most likely to be required for initial disaster response.
- d. There should be a Disaster Medicine Leadership Certification with clearly defined competencies that are agreed to by the different professional governing bodies.
- e. Attempts should be made to incentivize participation in such certification.

2. Stakeholders should participate in the development and implementation of training.

- a. Pre-professional and professional organizations (such as those listed in Appendix 2) should actively participate in determining the competencies needed and mechanisms for implementation.
- b. HHS should coordinate specialty groups to determine minimal training and competencies for all clinicians, possibly via a joint multi-specialty working group or symposium organized by ASPR.
- c. An introduction to the importance of this topic and key points could be included during orientation of faculty and staff at hiring and renewal with continuing education (CE).
- d. Some ongoing CE training requirements should also be tied to licensure and/or MOC.

3. Practicing clinicians need more and higher quality incident-specific, just-in-time guidance and training.

- a. ASPR and other agencies (such as the Centers for Disease Control and Prevention [CDC] or American Academy of Pediatrics [AAP]) should provide access to just-in-time (JIT), well-vetted materials for disaster-specific resources that are consolidated in one source, such as the [Radiation Emergency Medical Management website](#).
- b. Multi-media interactive tools should be used, including brief videos and smartphone applications (apps), as well as expert-led informational sessions. Resource tracking databases (such as [HHS emPOWER](#)) should be promoted.
- c. Provide access to regional disaster health response systems and coalitions for remote and rural regions to access resources and expertise that are unavailable locally during disasters.

4. Community-based providers should also be prepared to serve as “first responders” during a protracted disaster while resuming and maintaining usual care functions.

Some major challenges facing this group and suggested tools/programs or guidelines to address these sub-bullets are:

- a. Threat or perceived threat of life or wellbeing to self and family.
 - i. CE and JIT training
 - ii. Ready access to personal protective equipment (PPE) and associated training/drills
 - iii. Ready access to medical countermeasures, including pre-exposure vaccination
 - iv. Personal and professional practice preparedness plans, such as contingency plans for healthcare providers’ family (children, spouse, and older relatives) and pets.
Good examples include the [AAP Family Readiness Kit](#) and the [FEMA Ready.gov](#) site.
 - v. Support systems for families while practitioners are “deployed” during a disaster
- b. Perceived lack of efficacy and preparedness.
 - i. CE and JIT training, including the unique needs of vulnerable populations
 - ii. Exercises and drills to promote skills, team trust-building, and competence
 - iii. Certification and other means to recognize additional training/competency
 - iv. Knowledge and dissemination of local, regional, and national resources (e.g., ASPR, and its tools such as [TRACIE](#), CDC, or state and local public health guidance resources, regional coalitions, and Poison Control Centers) for information and support
 - v. Provide incentives that link preparedness to reduction in cost for medical liability coverage or practice insurance or MOC

- c. Lack of typical supports and infrastructure in a disaster setting.
 - i. Continuity of operations plans (including contingency and alternative sites of care or roles)
 - ii. Dissemination of local, regional, and national resources (e.g., ASPR, and its tools such as [TRACIE](#), CDC, or state and local public health guidance resources, regional coalitions, and Poison Control Centers) for support (with specificities related to these factors)
 - iii. Disaster and crisis modifiers for health insurance reimbursement and other payment means to temporarily increase practice reimbursement during disaster
 - iv. Promoting memoranda of understanding (MOU) and licensure and/or insurance coverage modification in disasters (e.g., to permit healthcare providers to work outside the state or within a broader scope of practice) to temporarily increase workforce and improve surge capacity
 - v. Establish mechanisms whereby practitioners can be reimbursed for “lost productivity” during participation in selected training/drills/exercises.

5. *Specialists related to disaster medicine fields are invaluable and should be promoted.*

- a. There need to be SMEs designated to assist during disasters.¹ Such SMEs could be available locally or remotely through consultative services or active deployment during the disaster.
- b. Access to these SMEs in some rural or remote communities may be through a Regional Disaster Health Response System, coalitions, and/or a regional poison center.
- c. The number and distribution of disaster specialists should be considered more in terms of “availability and access” than “physical presence” within the facility as persons with such training may be hard to sustain within different communities based on population size, cost, and ability to attract such persons.
- d. There should be redundancy and backup for the possibility of systems failures (e.g., cell phones going down) that clearly delineate how SMEs who are only remotely available can be activated quickly.
- e. Establish and incentivize certification for Disaster Medicine SMEs. In certain communities, a local group of practitioners may be targeted for higher level training (including JIT training) that enables them to respond effectively in the event that alternative sources of SMEs cannot be accessed in real time.

¹ Such specialists would have unique training and experience in treating the medical, psychological, and behavioral consequences of exposure to chemical, biological, and/or radiological agents, nuclear events, and other naturally occurring epidemics and pandemics.

Working Group Members

H. Dele Davies, MD, MSc, MHCM, DMWG Chair

Carl Baum, MD, FAAP, FACMT

John Benitez, MD, MPH

Mark Cicero, MD, FAAP

Prabha Fernandes, PhD

Joelle N. Simpson, MD, MPH

David Schonfeld, MD, FAAP

Marc Shepanek, PhD (National Aeronautics and Space Administration *ex officio*, non-voting)

Joanne Andreadis, PhD, MPH (CDC *ex officio*, non-voting)

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APPENDIX 1

Subject matter experts who provided relevant presentations and participated in discussions related to the current topic of NBSB Disaster Medicine Working Group.

June 10-11, 2019

Kristen Finne, BA, Director, HHS emPOWER Program, Office of Emergency Management and Medical Operations. *HHS emPOWER Program.*

John Hick, MD, Hennepin County Medical Center, Lead Editor for TRACIE. *ASPR's Technical Resources, Assistance Center, & Information Exchange.*

Mark K. Hunter, MD, PhD, Director for the Center for Family Medicine, University of South Dakota Sanford School of Medicine. *Disaster Medicine Education of Community Clinicians.*

Laura Kahn, MD, MPH, MPP, Research Scholar, Program on Science and Global Security at the Woodrow Wilson School of Public and International Affairs, Princeton University. *A One Health Approach to Biosecurity Threats in the 21st Century.*

Janet Lindemann, MD, MBA, Professor Emeritus, University of South Dakota Sanford School of Medicine. *Development of South Dakota's Annual Disaster Medical Training Day.*

Kandra Strauss-Riggs, MPH, Education Director. *National Center for Disaster Medicine and Public Health (NCDMPH), Uniformed Services University of Health Sciences.*

Cheryl Stroud, DVM, PhD, Executive Director, One Health Commission. *One Health: The Intersection of Human, Animal and Environmental Health.*

Lauren Walsh, MPH, DrPH(c), Senior Program Coordinator. *Intro to the Regional Disaster Health Response System (RDHRS)*

Commander Wanda Wilson-Egbe DVM, MPH, DACVPM, Chief Veterinary Officer, National Disaster Medical System. *National Veterinary Response Team.*

June 26, 2019

Judith L. Bader, MD, ASPR Senior Advisor for Radiation/Nuclear Countermeasures & Managing Editor for Radiation Emergency Medical Management. *Rad-Nuke Education.*

John F. Koerner, MPH, CIH, ASPR Senior Advisor for Chemical Preparedness. *Salisbury, England – Nerve Agent Poisoning.*

Neil Hansen, MD, Associate Professor of Radiology, Radiology Residency Program Director & **Frank Rutar, MS, CHP, CHMM**, Director for Radiation Safety, University of Nebraska Medical Center. *Implementing Deployable Radiation Response Teams in an RDHRS.*

August 1, 2019

Kevin Dennison, DVM, Emergency Programs Manager, USDA APHIS. *Interagency Radiation Advisory Team for Environment, Food, & Health.*

Major Barbara Jones, DVM, MPH, DACVPM, One Health Consulting, LLC & Public Health Officer for the Medical Health Risk Assessment Team, Region 1 Army National Guard Homeland Response Force. *Integrating One Health Preventive Medicine into Disasters.*

Jane A. Rooney, DVM, Assistant Director, One Health Coordination Center, US Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS). *U.S. One Health Partners Update: Zoonotic Disease JEE National Action Plan.*

APPENDIX 2

Examples of pre-professional and professional Organizations relevant to these recommendations.

Pre-Professional Credentialing/Licensing Bodies

- Accreditation Council for Graduate Medical Education
- American Society for Clinical Pathology
- American Veterinary Medical Association Council on Education
- Council on Education for Public Health
- Liaison Committee on Medical Education
- National Association of Boards of Pharmacy
- National Association of EMS Educators
- National Board for Certified Counselors
- National Commission on Certification of Physician Assistants
- National Council of State Boards of Nursing

Professional Organizations Include:

American Academy of Family Practice, American Academy of Pediatrics, American Academy of Physician Assistants, American Burn Association, American Counseling Association, American Dental Association, American Medical Association, American Nursing Association, American Osteopathic Association, American Pharmacist Association, American Psychological Association, American Society for Microbiology, American Veterinary Medical Association, Association of Academic Health Centers, Association of State and Territorial Health Officials, Council of State and Territorial Epidemiologists, Infectious Disease Society of American, Joint Commission, National Association of County and City Health Officials, National Association of EMS Physicians, National Association of Pediatric Nurse Practitioners, National Association of Social Workers, National Association of State EMS Officials , Pediatric Infectious Disease Society, Society for Healthcare Epidemiology of America, Trauma Center Association of America