

# Virtual Mentor

American Medical Association Journal of Ethics  
September 2010, Volume 12, Number 9: 714-716.

## MEDICAL EDUCATION

### **Disaster Medicine and Emergency Preparedness Training for Health Care Institutions**

John Broach, MD, MPH, Mary-Elise Manuell, MD, MA, and Andrew Milsten, MD, MA

The Center of Excellence in Emergency Preparedness Education and Training (CEEPET) at the University of Massachusetts Medical School recently produced a curriculum development model to address the disaster medicine and emergency preparedness training needs of central and western Massachusetts. The center is funded by a grant from the Massachusetts Department of Public Health Emergency Preparedness Bureau, which identified several competency areas the curriculum should be designed to emphasize. These are the incident command system, hazardous materials and decontamination training, risk communication, updating and revision of continuity of operations (COOP) and emergency operations plans (EOP), and emergency planning for at-risk populations.

CEEPET's mission is to provide competency-based emergency preparedness education and training, using an all-hazards approach, to staff members of hospitals, community health centers, long term care facilities, and emergency medical service providers.

#### **Needs Assessment**

We anticipate there will be considerable variability in needs both within and among the four target training groups. The goals of the needs-assessment process are to identify these individual needs and to enroll each stakeholder organization in ongoing curriculum development. To collect initial data about the specific training needs of each facility, an online survey was distributed, asking about types of training needed and how many staff members each facility would be training. Survey results, supplemented by an ongoing dialogue with our stakeholders as training needs develop, will form the basis for curriculum development.

#### **Curriculum Development Process**

The CEEPET curriculum development process is based on Ralph Tyler's four key curriculum development steps: defining goals, establishing corresponding learning objectives, organizing learning objectives to have a cumulative effect, and evaluating outcomes [1]. The advantage of this approach, especially in disaster medicine and emergency management training, is that course content can be adapted to each target audience's learning objectives. We believe that developing specific curriculum for as many different audiences as possible strengthens community resilience and preparedness.

A look at each of these steps illustrates how the center will develop audience-specific content.

*Define goals.* Hospitals, long-term care facilities, community health centers, and EMS providers all have different regulatory requirements and self-identified needs for emergency management training. To include as much flexibility in our curriculum development process as possible, the training center invites leaders of these stakeholder organizations to attend the bimonthly meetings of the curriculum development committee.

*Establish corresponding learning objectives.* The educational goals of the center will be updated and revised on an ongoing basis. The director of curriculum development and subject matter experts will develop a list of audience-specific learning objectives for each educational goal. These objectives will guide course development and evaluation.

*Organize learning objectives to have a cumulative effect.* To create a curriculum that builds on itself and continually reinforces core principles of emergency management and disaster medicine, the training center will adapt Jerome Bruner's concept of the "spiral" curriculum [2, 3], which suggests that returning to key topics, broadening and deepening them with each return or "spiral," reinforces the learner's understanding of how that topic fits into the core concept. This approach will allow us not only to build a common scaffolding for all emergency management course work, but also to emphasize the importance of each specific course in the overall discipline. Key topics will include incident command systems, the disaster cycle, and the National Incident Management System. Emergency management is well served by the spiral approach because effective disaster management depends upon the ability of professionals from a variety of disciplines to coordinate their efforts in times of crisis. Giving trainees a common foundation will, we hope, improve that cooperation in actual emergency response.

*Evaluate outcomes.* Participants' feedback will be solicited after each course and all courses will be evaluated quarterly and improved, based on this feedback. The learning-objective-based evaluation of each course will assess the value of the course material to the learner's overall understanding of emergency management.

## **Conclusions**

This curriculum development process has been designed to highlight the fundamentals of emergency response while allowing maximum flexibility and input from our stakeholders and trainees. We believe that the four-step approach is a useful model that can be adapted to many other locations and needs. In addition, the "spiraling" technique is particularly suited to emergency management, emphasizing standardization of disaster management education and enhancing the ability of trainees from various disciplines to work together.

## References

1. Tyler RW. *Basic Principles of Curriculum and Instruction*. Chicago: University of Chicago Press; 1949.
2. Bruner J. *The Process of Education*. Cambridge, MA: Harvard University Press; 1960.
3. Harden RM, Stamper N. What is a Spiral Curriculum? *Med Teach*. 1999; 21(2):141-143.

John Broach, MD, MPH, is a fellow in the Division of Disaster Medicine and Emergency Preparedness at the University of Massachusetts Medical School in Worcester. He received undergraduate, public health, and medical school training at Northwestern University in Chicago and completed his residency in emergency medicine at the University of Massachusetts.

Mary-Elise Manuell, MD, MA, is an assistant professor of emergency medicine at the University of Massachusetts Medical School in Worcester. She is the division director for the Division of Disaster Medicine and Emergency Preparedness and the program coordinator for the national disaster life support training center at the medical school. Dr. Manuell has a master's degree in disaster management from the American Military University. Two of her focus areas are crisis standards of care during catastrophic incidents and planning for active shooter incidents.

Andrew Milsten, MD, MA, is an associate professor of emergency medicine at the University of Massachusetts Medical School in Worcester. He is the director of the disaster medicine and emergency management fellowship. Dr. Milsten has a master's degree in emergency health services from the University of Maryland, Baltimore County. His research focuses on mass-gathering medical care.

## Related in VM

[Preparing for the Unexpected—Teaching ER Ethics](#), June 2010

*The viewpoints expressed on this site are those of the authors and do not necessarily reflect the views and policies of the AMA.*

Copyright 2010 American Medical Association. All rights reserved.