

Innovations in Medical Education: Teaching Contagious Disease Outbreak Awareness to Residents and Medical Students

Introduction:

As front-line healthcare providers, clinicians working in the emergency department should be familiar with detection, reporting and containment of sentinel cases for outbreaks. There is a great need to develop instructional methods on emerging infectious diseases and outbreak response in medical education curricula. Surveys of trainees at our institution indicate this topic is not adequately addressed in current curricula.

Workshop Description:

We have developed a brief innovative educational tool on outbreak response in the emergency department. A case-based contagious disease outbreak workshop is held during the mandatory four-week emergency medicine clerkship for senior medical and physician assistant students and in a separate session for emergency medicine residents. Centering on a case of viral hemorrhagic fever presenting to the emergency department, participants are divided into small groups representing the ED physician, the local health department officer, the CDC officer, Hospital Administrator/Incident Commander, the Infectious Disease Physician/Hospital Epidemiologist, and the Director of Microbiology. Each small group is given 30 minutes to define their roles and responsibilities in preparation for the hypothetical outbreak. A companion manuscript outlining principles of outbreak detection, surveillance, reporting and containment is provided. The workshop is conducted in a hospital conference room, with the availability of internet, telephone, and other hospital resources, simulating “real-life”. Pre and post workshop survey forms are completed. The workshop is followed by focus group discussion and feedback and by a 60 minute case-based lecture.

This innovative teaching tool may form the basis for a more comprehensive curriculum in emerging infectious diseases and communicable disease management.

Workshop Materials:

“Instructor’s Guide to Running the Workshop” (this Word document)

“Workshop Instructions”: Powerpoint Summary of the Workshop

“Workshop Evaluation Forms” (Pre and Post workshop surveys)

“Workshop Manuscript”: companion manuscript in word format, to be distributed to small groups

“Emerging Infections” Powerpoint Presentation that includes the case presentation and the didactic lecture

How Best to Conduct the Workshop (includes use of above materials):

Step 1: 15-20 students are assembled into a conference room. The goals and purpose of the workshop are described and there is opportunity for questions. The pre workshop surveys are anonymously completed. Slides 1 to 6 are presented by the instructor, up to

the workshop description. During the case presentation, students are encouraged to ask questions and to come up with a differential diagnosis.

Step 2: Students are divided into groups of 2 or 3, depending on the number of students, and are randomly assigned to one of the following: Emergency Department Physician, local Department of Health, Centers for Disease Control and Prevention, Hospital Administration, Infection Control Officer, and Director of Microbiology. Each group is requested to find information on their roles and responsibilities for the upcoming outbreak. Because the workshop is held in a hospital conference room, students have the opportunity, and are encouraged to use telephone and internet resources, to page hospital staff, call the local health department, go down to the laboratory, etc. These entities have been notified about us conducting the workshop, so that the Laboratory, the Infectious Disease Fellows, Infection Control, and the local Health Department are aware of our monthly workshop and are expecting potential calls. This is to minimize disruption to their operations and to avoid concern about a real outbreak. Alternatively, the workshop can be used as an opportunity to conduct a hospital emergency preparedness “drill”. Students are also given a copy of the companion manuscript prior to breaking off into groups, but encouraged to look through the manuscript only after having searched other sources, to make the scenario “real-life”. Students then have 30 minutes to gather information and create a written summary of their roles and responsibilities to present at the large group. One member of the group is designated as a spokesperson for the large focus group.

Step 3: Students return to the conference room. Each student group leader presents their role in the outbreak based on the resources they have located. There is opportunity for interactive discussion with other students, and the faculty member facilitates the discussion, interjecting information when appropriate.

Step 4: The powerpoint presentation is continued and the didactic lecture lasts approximately 50-60 minutes, with the opportunity for questions. Students are given the opportunity to keep their manuscripts.

Step 5: Opportunity for question and answer session and feedback on the workshop. Students complete the post workshop surveys (which includes the workshop evaluation) anonymously. They are then dismissed.