

Simulating Pandemic Influenza: Using Technology to Teach Public Health Preparedness

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APHA Annual Meeting - November 2009

Background: Innovative methods to efficiently simulate pandemic situations can facilitate engagement and preparedness learning. **Objective:** Describe and evaluate a pilot model, using technology, to simulate pandemic progression and decision-making in a 500-bed hospital and surrounding community. **Methods:** The University of Vermont College of Medicine Educational Tool (COMET), an electronic learning system, was used as a teaching platform. 72 clerkship medical students participated in a 4 hour pilot exercise. A first-hour introductory lecture concluded with a simulated emergency broadcast message from the department of health director that WHO Pandemic Phase had changed from III to IV, and students transitioned to small groups. A total of 6 timed emergency broadcasts were sequentially dispatched into 9 small classrooms over a 2-hour period, followed by a 1 hour large-group debriefing. The scenario began with a student with flu-like symptoms following international travel and progressed to demands for anti-viral medications and vaccines, work refusals, and ventilator shortages. Decisions faced extreme time-pressures, as subsequent emergency broadcasts appeared, with student groups required to develop medication distribution plans and triage patients. **Results:** 94.4% completed a COMET evaluation to assess knowledge and attitudes: 93% agreed or strongly agreed that physicians and hospitals are best prepared for pandemic illness with written plans, preparedness exercises, and stockpiles of antiviral medications and personal protective equipment; 94% agreed or strongly agreed that understanding their role in public health emergencies is important to their training. **Conclusions:** This innovative simulation was an engaging method to teach preparedness and could be utilized in other settings.

1. Describe this method of using technology to simulate pandemic progression.
2. Discuss the use of this method in preparing health professionals for emergency preparedness.
3. Assess the potential uses of this simulation technology in other settings.

Key points:

- Health professionals have essential roles in pandemic preparedness.
- Simulation of time-pressure for decision making in a rapidly changing scenario creates “real-world” situations and link clinical and public health education.
- Technology can facilitate innovative and effective teaching methods for pandemic preparedness.

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