Chapter 12
Incident and Disaster Management Training: Collaborative Learning Opportunities Using Virtual World Scenarios

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ABSTRACT
The maturation of incident and disaster management training has led to opportunities for the inclusion of multi-modal learning frameworks. Virtual reality technology, specifically multi-user virtual environments (MUVEs) such as virtual worlds (VW), offers the potential, through carefully crafted applications, for increasing collaboration, leadership, and decision making skills of diverse adult learners. This chapter presents a review of ICT appropriate learning theories and a synopsis of the educational benefits and practices. A case study, offered as part of a Master of Healthcare Administration (MHA) course for health care managers, demonstrates the application of a virtual world training scenario hosted in Second Life® and using a Play2Train simulation. Students report a strong positive reaction to virtual learning and demonstrate improved crisis communication skills and decision making competencies. Additional research is recommended to demonstrate the utility of virtual world learning as compared to standard training options such as tabletop exercises.

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INTRODUCTION

As the importance of emergency preparedness escalates during the 21st century, due to both natural and man-made disasters, the U.S. government has responded with several initiatives highlighting the need for incident and disaster management training. First, the National Response Plan (NRP) details the crucial role of incident management across multiple government sectors (Jain & McLean, 2006). Second, to support these NRP multi-sector goals, an Eight Step Training Model for improving public agency disaster management leadership has been recently published (Slattery, Syverston, & Krill, 2009). Third, the National Emergency Training Center and the Emergency Management Institute together offer professional development through formal courses, grants, and training opportunities for first responders and allied professionals (USDHS, 2003; FEMA, 2009). Fourth, the National Exercise Simulation Center (NESC) now provides facilities and systems that are designed to offer live, virtual and constructive simulations for disaster management training (FEMA, 2009a). These primary federal initiatives, part of the National Response Framework, form the incident and disaster management learning network for government entities.

The majority of non-government organizations (NGOs), including commercial industry, the health and nonprofit sectors, and private volunteer organizations, appear to be tailoring their training efforts to follow the federal government’s guidance. This is especially true for integration of the National Incident Management System-Incident Command System (NIMS-ICS) into emergency preparedness plans (Jarventaus, 2007). One example is the Hospital Emergency Incident Command System (HEICS) which serves as the framework for incident command within a healthcare setting (McLaughlin, 2003).

The health care system sector has become a key player in providing incident management training to all levels of healthcare employees throughout the nation as well as serving as a local community disaster planning and coordinating resource. Community hospitals still represent the largest number and type of health care institutions in the country (AHA, 2009), and they function effectively in disseminating emergency preparedness knowledge through internal learning and development programs within their institutions. The Joint Commission on Accreditation of Health Organizations (JCAHO) recently published eight new regulations that provide a clear requirement for hospital incident management training. These mandates include the integration of community partners for purposes of drills and practices (Joint Commission International, 2008). Other community agencies, including local public health departments, have begun to view the medical care system as a primary leader for emergency planning and response (Guidotti, 2004). The public also now sees the hospital and its spokesperson as a trusted resource for crisis communication during a health incident or disaster (CDC, 2006). All of the diverse and varied health institutions, as well as public health agencies, consistently try to emulate emergency preparedness and disaster management training protocols as established by the U.S. government.

Emergency preparedness training (EPT) has been considered essential for all health care employees for several years, although incident management training represents a newer subset of administrative skills within the formal health management curriculum. Hospitals routinely provide internal, in-service training that is on-going, dynamic and fully integrated within the health care system. This contrasts significantly with the majority of EPT that is typically government or regulatory mandated, tends to be top-down driven, and requires collaboration with community partners (Schafer, Carroll, Haynes & Abrams, 2008). A continuing challenge for health organizations involves balancing the need for real-life disaster preparation and training for handling emergency incidents without significantly disrupting the day-
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