Virtual Reality-based collaborative training for Hospital Incident Command System (HICS)

RESEARCH GOAL
Assess the effectiveness of using Virtual Reality technologies to provide scenario-based Hospital Incident Command System training.

ISSUES
Hospitals in the Bethesda Hospitals’ Emergency Preparedness Partnership (BHEPP) identified difficulties conducting HICS training, including:

- Cost and complexity of conducting functional and full-scale exercises.
- Staff engagement issues.
- Difficulty scheduling exercises due to complex work shifts, staff turnover and staff availability.
- Difficulty simulating event conditions and information flow realistically during exercises.
- Complexity of capturing and analyzing trainees’ performance data.
- The impact of exercises on normal hospital activities.

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METHODS

- Hospital staff were interviewed to characterize current HICS training practices and issues.
- Traditional training exercises and post-exercise “hot-wash” meetings were observed.
- A virtual-reality platform was developed to simulate the operational environment and key tools.
- Training was conducted via the virtual platform and data captured for qualitative and quantitative analysis.
- Staff feedback was obtained in post-exercise “hot-wash.”
- An after action report was produced.

OUTCOMES

- Virtual reality (VR) training was more effective to develop and strengthen HICS skills than traditional exercises in this hospital context.
- VR training technology provided an engaging experience for trainees.
- VR allowed simulating disaster events in a realistic way.
- The VR platform allowed for seamless access and use of information from a variety of tools.
- A VR exercise took as much effort to plan as traditional functional and table-top exercises.

USEFUL LINKS

- BHEPP Virtual HICS Training: http://www.bhepp.org/research_resptrain.html
- Disaster Information Management Research Center: http://disasterinfo.nlm.nih.gov
- Virtual HICS YouTube video: http://www.youtube.com/watch?v=hYegZxHQHjQ
- Or use this QR code: