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BHEPP PROJECT: VIRTUAL WORLD HICS TRAINING





Future Integration of BHEPP Research Initiatives

This graphic displays how it is hoped the 11 BHEPP research initiatives will work together in the future to ensure sustained communications and access to information during a disaster.



Explosions
cause
hundreds of
casualties,
cripple power
grid, and
degrade phone
and internet
communicatlons in
Bethesda

Patient arrives to Walter Reed NMMC



9 Patient medication data obtained from SureScripts®

Patient's spouse checks 'Lost Person Finder' website and learns patient was transferred to Suburban Hospital

Hospital personnel trained via Virtual World training participate in response



Patient
transferred to
Suburban – voice
repot made from
WRNMMC radio to
Suburban cell
phone via
wireless bridge

Suburban
personnel need
information on new
drug – Disaster
Information
Specialist
acquires it





Patient data from National Naval Medical Center to Suburban via



8)



6 MARS radio

2

Patient Data Exchange (vehicle for data transfer between hospitals)

Patient triage data captured with digital

pen

RFID tag put on

patient; patients

will be tracked

in both

hospitals

Traditional Training Methods

- Hospitals use the Hospital Incident Command System (HICS).
- Senior hospital staff are required to train periodically on HICS.
- It is a hospital accreditation requirement (The Joint Commission).





Hospitals' Training Methods

Trainees must read quite a bit...



Traditional Training Methods

...participate on table-top exercises...



Traditional Training Methods

...and participate in disaster drills/exercises.





(e.g., CMAX / Capital Shield – annual exercises)

Virtual World Disaster Training

- NLM is evaluating the use of a Virtual World + Web-based e-learning platform to enhance BHEPP emergency training.
- Interactive learning on the web, and computer game-based exercising.







VW Training: Research questions

- Can VW training be more engaging, effective than traditional methods?
- What are the limits of the medium to simulate disaster management conditions and tools?
- What are the adoption barriers of these technologies & methodologies in the hospitals?





Virtual World Training Features

- Target audience: Senior hospital staff who may play a role in the Hospital Command Center (HCC).
- Covers from basic HICS information to interactive virtual exercise capabilities.
- Flexible, realistic emergency scenarios.
- Available from anywhere there is an Internet connection via secure login.

Training Platform Components

- "Crawl": Web-based HICS concepts learning and reference information.
- "Walk": Web-based, scenario-based, quizzes and tests.
- "Run": Virtual World-based collaborative disaster exercise.







HCC in Second Life



Project stages

- Stage 1 (2009-11)
 - Identified contractor resources.
 - Developed proof of concept
 - Web-based custom e-learning platform using Flash
 - VW learning platform using OLIVE (a commercial VW software platform)
 - Platform demonstrated to and approved by hospitals
- Stage 2 (2012)
 - Collaboration with UMD Center for Health & Homeland Security
 - Developed enhanced web-based e-learning platform
 - Developed Second Life-based VW learning platform
 - Formal evaluation via a virtual exercise

Project stages

- Stage 3 (2012+)
 - Conduct new training exercise for Suburban.
 - Engage other hospitals.
 - Develop single-player training.



Recent developments

- Virtual exercise conducted at Suburban Hospital with very successful results.
- Developed e-learning platform using MOODLE and content is being further refined.
- Other hospitals and agencies are interested in using the BHEPP training resources.





Demo

- MOODLE site: www.bhepptraining.org
- Virtual HICS immersion.

