New Jersey Post

Emergency Response Seminar

At Rider University

October 5, 2018
Presentation 3
Advanced Medical Emergency Resource Coalition (AMERCO)
Deployable Mobile Hospital System
Advanced Medical Emergency Resource Coalition (AMERCO) Deployable Mobile Hospital System

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Interior View – AMERCO Mobile ER/ICU

Interior Easily Re-Configurable
Interior View – Mobile ER/ICU
Interior View – Mobile OR
Overhead View
Program Overview

• Rapidly Deployable Mobile Hospital System

• Two ER/ICU’s, One OR, Interconnects, Support Trucks

• Fully Self Sufficient

• Original Funding by US Military
Intent of Program

• Develop a Rapid Response Capability by Civilian Hospitals in Major Metropolitan Areas

• Design and Prototype Vehicles

• Research Projects Associated with Program

• Successfully Executed
Mobile Operating Room During Construction
Military Air Transport

- Air Transport Test Loading Facility (ATTLA) Wright Patterson AFB approved MSED-1 for C-17 Military Air Transport
Communications Capabilities

- Satellite VSAT and BGAN
- Point to Point Microwave
- Cellular
Research Aspects of Program –
Partial List

• Invited presentations
  • Advanced Technology Applications for Combat Causality Care Conference 2011
  • Institute of Electrical and Electronic Engineers (IEEE) Engineering in Medicine and Biology Conference 2012
  • Military Health System Research Symposium 2016

• Papers
  • Military Medicine MHSRS Supplement 2018
  • American Journal of Disaster Medicine 2015
# Research Aspects of Program – Typical Project

## Environmental Monitoring

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- **SENSORS**
  - Chem/Rad
  - Air Quality
  - Fixed & PTZ Video
  - Smoke/ Fire/CO
  - Weather

- **COMMS**
  - CACI Thunderstorm Portal

- **FUSION/DECISION SUPPORT**
  - Toughbook Server/Workstation
  - COBRA Hazards dB

- **C2 & ALERTING**
  - Incident Management System
  - Mobile Command Vehicle
  - A/V Annunciators
  - Mobility
Stakeholders

• Original Funding to Hackensack University Medical Center by US Military

• Partnered with New Jersey EMS Task Force for Second ER/ICU vehicle

• Now consortium of hospitals (AMERCO) with New Jersey Department of Health participation.
Deployments

• Integrated into National Response Framework

• Listed as EMAC Asset

• Four Categories of deployment
  • Disaster Response
  • Hospital construction, Patient Surge
  • Community Outreach
  • Alternate Care Site
Partial List of Deployments

• Superstorm Sandy (several)
• Ocean Medical Center
• Jersey City Medical Center
• South Nassau Medical Center
• Gotham Shield Exercise
• 2014 Super Bowl
• Veterans Outreach with NJ Hospital Association
• St Croix – US Virgin Islands
US Virgin Islands - Present Deployment

- Governor Juan F Luis Hospital – St Croix
  Heavily damaged last fall
Engineering Considerations for Deployment

• Units fully self contained for short term
  • Power Generators, Water Supply and Holding Tanks
  • Oxygen Generators, Satellite Communications

• Longer term need utilities
  • Three Phase 208 volt Power
  • Water, Waste Water connections
  • Medical Gasses
Special Considerations St Croix Deployment

• Set up in Sloped Parking Lot

• High Wind and Seismic Considerations

• OR Infection Control Measures
  • Flooring
  • HVAC Pressure Balancing
  • Medical Gas Certification
Continuing Efforts - Opportunities

- Unique Prototype Medical Units
- Many Engineering Challenges on Each Deployment
- Always Looking for Innovative Solutions
Display Outside SAME Conference

• One Mobile ER/ICU is on Display at Today's Event

• Parking Lot Outside Building
Follow Up - Contacts

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Questions ?