

real-time monitoring in an often chaotic environment, including MCEs.

Prehosp Disaster Med 2017;32(Suppl. 1):s37–s38

doi:10.1017/S1049023X17001157

Emerging Mobile Health (mHealth) in KATH ED: Assessing its Strengths, Weaknesses, Opportunities and Threats (SWOT Analysis) among Healthcare Workers

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Study/Objective: To assess the behavioral attitudes of ward nurses at Komfo Anokye Teaching Hospital (KATH) towards the use of mobile phone app for monitoring bed occupancy to reduce ED overcrowding.

Background: Emerging Mobile Health (mHealth) is a component of electronic health which refers to the use of mobile communication technology to promote health by supporting health care practices. Round-the-clock patient transfers to admitting wards using mHealth tools have been found to address the challenge of overcrowding and improve quality care given by physicians to patients in some EDs. KATH ED has these challenges of overcrowding due to long boarding hours of patients. mHealth tools could be useful in addressing them.

Methods: We adopted an observational study to critically observe nurses' attitudes towards the use of a mobile phone app to send bed states. Twenty-three mobile phones were dispatched to the various wards that receive patient transfers from KATH ED. Nurses on these wards were trained on how to use the mobile app to send bed state; two hourly, nine times a day.

Results: Using Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis model, we found that mHealth enabled a strong teamwork among staff. This tool enabled better communication between the ED and admitting wards, encouraging patient flow in the ED. However, its use was limited by network challenges; there was apathy among ward nurses because they perceived the technology as extra responsibility.

Conclusion: The mHealth re-echoes the importance of an institutionalized and functioning Electronic Medical Records (EMR) in KATH, but it will be important to consider a behavioral model that will encourage acceptance and compliance among staff of KATH.

Prehosp Disaster Med 2017;32(Suppl. 1):s38

doi:10.1017/S1049023X17001169

Creating a National Capacity for Mass Mechanical Ventilation in Disasters: A Methodology of Capability-building Under Stress

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Study/Objective: To describe a structured, reproducible method of a national mass mechanical ventilation capacity building.

Background: The threat from disasters due to terrorism, war, and nature producing massive numbers of patients requiring mechanical ventilation requires that governments prepare a surge capacity location for multiple ventilated casualties. A structured methodology for creating such a capability has not been published. We present the approach used in Israel for creating a national mechanical ventilation capacity in a very short period of time.

Methods: Sequence of activities:

- Development of relevant scenarios;
- Creation of a multi-disciplinary task force;
- Government guiding document detailing requirements and budget;
- Guiding principles (medical, technical, ethical);
- Concept of operations (system components, manpower, monitoring, command & control);
- Infrastructure (patient units, their distribution, ventilators, monitors, supplies, oxygen);
- Manpower requirements and training;
- Storage and technical support;
- Standard Operating Procedures (SOP) and an ethical framework;
- Request For Proposals (RFP);
- Structured assessment tools for the hardware;
- Structured decision process for choosing the hardware;
- Hardware purchase, storage, and distribution;
- Training of relevant hospital personnel; and
- Ongoing maintenance of hardware and training.

Results: Within three months, a comprehensive capability for mass mechanical ventilation was created, including ventilators, monitors, spares, disposables, personnel, SOP, and ethical framework. The system comprises of a mix of low-end and high-end ventilators, monitors, staff, and care locations. It is capable of simultaneously ventilating and monitoring 2,000 patients. It has been maintained and periodically refreshed.

Conclusion: It is possible to rapidly create mass mechanical ventilation capacity for disasters via a structured, reproducible methodology. We submit that the methodology we created may help other nations desiring to create such a capacity, and offer this description, as well as access to the relevant documents and gained expertise to anyone interested in so doing.

Prehosp Disaster Med 2017;32(Suppl. 1):s38

doi:10.1017/S1049023X17001170

Effect of Multivariate Factors on the Complication of Infection in Lushan Earthquake Victims: A Retrospective Analysis

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Study/Objective: In order to reduce the infection rate of victims after an earthquake, resulting in helping doctors make accurate medical decisions, we conducted this study via clarifying the factors associated with the complication of infection in Lushan Earthquake victims.

Background: Our previous study indicated that infection played a critical role in predicting the length-of-stay in hospital,