

based on issues such politics, economy and social factors. This paper utilizes a biomedical perspective, by integrating epidemiological studies related to health effects due to the exposure to various pathogens or hazardous materials immediately following a natural disaster, as well as the epidemiological studies of populations affected by natural disasters.

**Results:** Meteorological disasters include extreme temperatures and storms, and have their own health risks such as lightning, hail, strong winds, among others. Health hazards and their associated harm are listed in a table along with suggested preparedness measures.

**Conclusion:** We created list of health hazards that can be used as a tool for health risk mitigation planning, strategy development, and resource allocation towards the wellbeing of first responders.

*Prehosp Disaster Med* 2017;32(Suppl. 1):s65–s66

doi:10.1017/S1049023X17001777

### Functional quality indicators for assessing health care initial response to societal disturbances for education

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**Study/Objective:** The purpose of this paper is to describe the procedure of identifying and developing quality indicators during educational activities. In addition, the steps taken to assure the validity and reliability of the indicators are presented.

**Background:** In Sweden a national effort has been made to structure the work processes for crisis preparedness. That is, the process for regional health point of contact and the designated duty officer, has been modified in an attempt to support a shared view regarding collaboration and command during societal disturbances. The effort consists of education and training of designated duty officers, while also developing quality indicators for assessing the work process before the designated duty officer declare a major incident.

**Methods:** The work of identifying and developing the quality indicators was carried out in focus groups with domain experts.

**Results:** Initially the work processes of the designated duty officer were thoroughly analyzed and described. The work process was separated into three distinct phases. Focus was on the first two phases. These process steps, have thereafter been connected to concrete behaviors or products that are assessed. The quality indicators are directed towards two levels; if a process step has been carried out within the time-frame, and also the performance quality of an indicator. For example, has an operational picture been established within three minutes of the alarm call? If so, what was the quality of the decision based on, the event description, the consequence description, or the measures description?

**Conclusion:** The aim of the quality indicators is to make sure that educational activities that are performed does in fact result

in actual, and measurable impact. This approach confirms to what extent the activities are successful.

*Prehosp Disaster Med* 2017;32(Suppl. 1):s66

doi:10.1017/S1049023X17001789

### A Cognitive Aid for Anesthetic and Operating Room Management during a Hospital Power Failure

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**Study/Objective:** The objective of this study was to create standard processes to guide the immediate anesthetic care of patients, and the rapid triage of operating room status and needs during a power loss event.

**Background:** Hospital power failures can occur because of extreme weather events, regional disasters, local disruption of municipal power, or an internal problem. Case reports of operating room power outages demonstrates that generator failure, inadequate emergency supplies, poor communication, and chaos due to lack of emergency plans are common issues.

**Methods:** Our team developed a strategy to prepare for hospital power failure, focusing on 32 operating and procedural rooms in 3 buildings. The battery life of our equipment was researched and/or tested. A concept of “room triage” using color indicators was developed to create a standard language, to describe status of the staff and patients in a room and the need for help. A cognitive aid to guide anesthetic care was developed and tested (Figure), and emergency monitoring kits with headlamps were placed in each room. A process for rapid assessment of the safety of each room by a central command area was established.

**Results:** Five table-top and live exercises of the new process were performed. Approximately 6 months later, our hospital experienced a brief power interruption. The expected lights and monitors were offline for a short period. We initiated our emergency plan immediately. Using runners with paper and pens, the perioperative command team had an accurate assessment of the safety and functionality of all rooms within 10 minutes. Many clinicians in the rooms had already opened up their emergency kits and were using the cognitive aid.

**Conclusion:** Hospital power failure can jeopardize patient and staff safety. Careful planning, preparation and practice is necessary to prevent adverse outcomes in the event of this emergency.

*Prehosp Disaster Med* 2017;32(Suppl. 1):s66

doi:10.1017/S1049023X17001790

### Achieving ‘Buy-In’ for Climate Resiliency Initiatives in Health Systems

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