

overwhelms emergency medical services personnel and equipment. In limited-resource environments, e.g., low- to middle-income countries (LMCIs), where healthcare systems already are constrained severely, training needs adaptation and adequate response principles need redefinition.

Methods: Several MCIs during a one-year period in Freetown, Sierra Leone were reviewed. Assessment of personnel, supplies, procedures, and infrastructure was applied to MCI responses in order to understand the modifications required for effective training in limited-resources systems. The MCIs included stadium stampedes, multi-vehicle collisions, and several fires.

Results: In 2008, a needs assessment of surgical capacity at 10 government hospitals in Sierra Leone showed that Connaught, the 267-bed referral center in Freetown, suffered interruptions in oxygen and electricity and lacked basic supplies/equipment. The hospital had six operating rooms; but only two functioned. An analysis of a fire indicated that 40 patients were transported by private vehicles and the fire brigade. While surgeons were knowledgeable regarding essential procedures including cricothyroidotomy, tube thoracostomy, and fracture reduction; supplies were scarce. No surgeries were performed within the first six hours of the event. Chest x-rays were not available until the following day; subsequently two chest tubes were placed. Twenty-six patients died (mortality = 65%).

Conclusions: Pre-existing MCI training programs do not meet challenges found in caring for victims where resources are severely constrained. Based on the analysis of the Freetown MCIs, a training course taking resource availability into consideration was developed. The prerequisites of implementing command/control/coordination/communication (C4) remain identical in systems with varying resources. Course curriculum and pertinent adaptations of MCI response training should focus on: (1) resource deployment; (2) evaluating C4 operations; (3) application of skills/professionalism; (4) casualty management; (5) evacuation through traffic; and (6) ascertaining Ministry of Health/local government capacity for handling mass casualties. Finally, LMIC governments should prepare by conducting drills and stockpiling supplies needed for adequate emergency response.

Keywords: developing countries; disaster; limited resources; mass-casualty incident; Sierra Leone

Prehosp Disaster Med

Time Standing Still: Adding Realism to Tabletop Exercises

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One of the greatest challenges in preparing for mass-casualty incidents is adding the realism of time-driven decision-making while fostering the training message. A close second to this challenge is minimizing stress and pressure and avowing bruised egos. While practicing decision making under the pressure of time is a necessity of incident preparation, real life never gives us the opportunity during an incident to call "time out" before continuing to the next phase.

A mechanism to achieve this sense of urgency is a tabletop exercise in which the incident is parceled into time

blocks and the incident management team is divided by function and/or location. Examples of functional groups are incident site, communications, hospital network, and mutual-aid organizations. The incident scenario is introduced in three phases: (1) initial response or stabilization; (2) continued response and operations; and (3) demobilization.

After the real-time period of exercise play, incident time is suspended and the functional groups discuss within their groups the actions taken, what they might have done differently, and what needs to be completed. After the discussion, the functional groups report to the group as a whole. At any point, discrete skills can be reinforced by training reminders. Among these are the development of incident objectives, adjusting assignments, and site management.

This exercise method can be employed to enhance and refine Incident Action Planning, transition of command, and other incident management skills, as well as validating plans and procedures. The method also may be employed to pre-plan emergency resource requirements. In this session, the participants will employ this methodology and focus on the development of the Incident Action Plan and the transition from response to demobilization or long-term operations.

Keywords: functional group; management; mass-casualty incident; planning; tabletop exercise

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Notification and Communication: Critical Initial Steps in Mass-Casualty Incident Drills

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Background: The global terrorism epidemic and recent disasters caused by natural hazards have underscored the sudden loss of standard methods of communication, which may seriously compromise a hospital's ability to implement the mass-casualty incident (MCI) plan. After initiating hospital-wide drills based on the Israeli approach, it was theorized that notification and communication could be improved with an MCI-specific notification system and a dedicated back-up radio plan.

Methods: Hospital staff completed post-exercise questionnaires evaluating the Regional Level-1 Trauma Center's most recent MCI drill using Likert-scaled items from 1–10 (worst to best). Participants were instructed to answer 26 items that applied to their experience. Notification and communication issues were assessed specifically in the most recent drill after the implementation of a computerized, one-touch notification system that simultaneously notified staff via beeper, e-mail, and cellular telephone, as well as overhead paging of the occurrence of the drill. Leadership personnel evaluated communication through the use of designated frequency radios distributed to key areas (triage, red area, operating room) of the drill. Responses were compared using the median and interquartile range (IQR).