2. Center For Disaster Medicine, New York Medical College, Valhalla/NY/United States of America

**Study/Objective**: To explore methods of enhancing the self-efficacy of emergency medical responders performing clinical skills in austere environments.
**Background**: Numerous medical organizations descend upon global disasters to offer assistance where the health care and emergency response infrastructure is often fragmented and unreliable. Many civilian clinicians who volunteer to participate on such teams have never provided care in environments with dynamic, unpredictable, or hazardous conditions. The psychological and physiological stressors imposed on these clinicians may affect their ability to render care effectively in these settings.
**Methods**: We created an 8-hour, continuing education course on rendering aid in the austere environment that was piloted twice using paramedics and physicians who were affiliated with law enforcement or military tactical response teams. The course consisted of three hours of didactic instruction and five hours of various training evolutions using hi-fidelity patient simulators and trained medical actors. The training evolutions involved clinical skills, techniques for rendering care in sensory deprivation and overload conditions, and a final training exercise involving realistic situations in which skills were applied and evaluated.
**Results**: The two pilot course audiences' consisted of clinicians who had previous exposure to rendering various types of combat casualty care. In spite of this previous training and real world experience, the participants reported feeling better prepared to act clinically following immersion in simulated training environments that could realistically simulate hazardous environmental conditions.
**Conclusion**: Simulation of severe environmental conditions is an essential component of the education of clinicians who have roles rendering medical care in austere environments. A main feature of this training was the sensitization of the participant to external stressors and the ability of that participant to apply cognitive and psychomotor skills in less time and with more reliability throughout the training. Future training of clinicians deploying to harsh environments should consider the use of these training modalities.

*Prehosp Disaster Med* 2017;32(Suppl. 1):s214–s215
doi:10.1017/S1049023X1700557X

## A Table Top, Mass Casualty Incident Simulation to Identify Emergency Department Flow and Capacity Issues

*Manu Madhok*
Emergency Department, Children's Minnesota, Minneapolis/MN/United States of America

**Study/Objective**: Table-top simulation to identify gaps in a hospital's preparedness and help assess its ability to respond to a Mass-Casualty Incident (MCI).
**Background**: Mass-Casualty Incidents (MCI) occur throughout the country, and hospitals traditionally utilize disaster drills with volunteers as simulated patients, which is a very time-consuming and person-intensive process. The Hospital Surge Evaluation Tool is a table-top simulation designed to identify gaps in a hospital's preparedness and assess its ability to respond to a MCI.
**Methods**: The ASPR/RAND assessment tools were used to simulate a MCI from a bomb explosion. The exercise was designed to test whether the hospital can rapidly shift into disaster mode, clear space in the Emergency Department (ED), create space in the inpatient units or create new spaces, and effectively coordinate with the command center. Based on criteria entered into a generator tool, a random list of patients "presenting" to the ED is created with increasing numbers and acuity "presenting" every 15 minutes for 60 minutes. The ED staff (physician, charge nurse) assessed each patient on the list as red, yellow, or green and determined the appropriate level of care needed. If the patient needed to be transferred to an inpatient floor (med/surg or ICU), the ED called the command center. Using real-time, current census & staffing, the command center (incident command, bed/staff tracking) determined the appropriate destination (floor, ICU, OR) that the patient could be moved to and informed the ED. Incident command also had to determine other resources like staffing & supplies and calling the appropriate departments.
**Results**: The simulation was useful, but there were some assumptions and limitations that would deter it to happen as smoothly or as quickly. Patients would likely be kept in the ED longer. There are some limitations to the tool and manual entry is needed.
**Conclusion**: Table-top simulation exercises simulating MCI helped identify ED flow issues and creative solutions.

*Prehosp Disaster Med* 2017;32(Suppl. 1):s215
doi:10.1017/S1049023X17005581

## Challenges in Conducting Disaster Simulations

*Ali Haedar[1], Indro Murwoko[2], Theodora E. Yuliana[3], Arif N. Kholis[4], Rahmawati Husein[4], Corona Rintawan[5], Zuhdiyah Nihayati[5]*
1. Emergency Medicine, Faculty of Medicine, University of Brawijaya, Malang/Indonesia
2. Ministry of Health Republic of Indonesia, Jakarta/Indonesia
3. National Disaster Management Authority, Republic of Indonesia, Jakarta/Indonesia
4. Muhammadiyah Disaster Management Center, Indonesia, Yogyakarta/Indonesia
5. Muhammadiyah Disaster Management Center, Indonesia, Lamongan/Indonesia

**Study/Objective**: The objective of this study is to identify gaps and shortfalls of disaster simulation, in preparedness and coordination of multiple-jurisdictional integrated response, to a national catastrophic event, testing plans, critical response and recovery functions.
**Background**: The emergency management could include Preparation & Protection, Mitigation Respond, and Recovery. While the purpose of disaster simulation are to assess and validate our capabilities and role in the communications, critical resource logistics and distribution, mass care, medical surge, citizen evacuation and shelter-in-place, emergency public

information and warning, Emergency Operations Center (EOC) management, and long term recovery.
**Methods**: We conducted Disaster Simulations in Hospital Preparedness and Community Readiness for Emergency and Disaster (HPCRED) project for (1) Posts Rehearsal, (2) Emergency Medical Team (EMT), and (3) Hospital Disaster Plan (HDP). This was a pilot project, for 3 tertiary hospitals in 3 provinces in Indonesia. We assisted them to set up their HDP including their EMT team.
**Results**: The 3 important challenges in conducting disaster simulation are triage, prerequisite skills, and documentation. Triage in the field is not simple, it is a complex, comprehensive, and controversial procedure. It needs to be immediate and timely, adequate and accurate assessment, decisions based on assessment, intervened according to acuity condition, complete in documentations. A first Responder team should have prerequisite skills to control airway-breathing-circulation, to control external bleeding, to treat shock, to treat wounds, and to splint injuries to stabilize extremities. Documentation should record initial condition of patient, patient's description of injury or illness, initial and later vital signs, treatment given, personnel who took-over care, and any other pertinent information.
**Conclusion**: Good planning and exercising the ED system in daily practice can help maintain hospital disaster preparedness & critical functions. The triage system should be feasible to be implemented during disaster. We need to build capacities in Life Support, First Responder, Triage, and Ambulance Protocol.

*Prehosp Disaster Med* 2017;32(Suppl. 1):s215–s216
doi:10.1017/S1049023X17005593

## Conception d'un exercice de type ORSAN AMAVI mobilisant plus de 30 établissements hospitaliers pour le compte de l'ARS de Normandie

*Jan-Cedric Hansen*
Member Of The Board, Société Française de Médecine de Catastrophe, Canteleu/France

**Study/Objective**: Étudier la capacité organisationnelle du centre 15 zonal et de 30 établissements sanitaires normand face à une attaque terroriste combinée de type fusillade/explosion dans un centre commercial entrainant près de 200 victimes.
**Background**: Les évènements de novembre 2015 et la perspective des competitions sportives internationales devant se dérouler en France durant l'été 2016 on conduit les autorités à vouloir tester la capacité des ARS et des établissements sanitaires de province à concevoir, mettre en œuvre et organiser le RETEX d'un exercice ORSAN AMAVI.
**Methods**: L'ARS de Normandie a fait appel à l'expertise de la Société Française de Médecine de Catastrophe pour l'assister dans la construction et le pilotage de cet exercice stratégique innovant, premier du genre sous l'égide d'une ARS.
**Results**: L'intérêt d'un scénario vraisemblable, avec des plastrons bien conçus, reproduisant les proportions attendues de victimes adultes/gérontologiques/pédiatriques blessées/blastées/brûlées, avec pour cellule d'animation le PMA animé par un expert de la SFMC assisté d'un médecin régulateur détaché du SAMU Zonal, jouant sur les conditions météo du jour, en temps réel, permet une appropriation des points faibles logistiques/informatiques/organisationnels par l'ensemble des participants en évitant l'écueil du Crash Test aux effets démobilisants.
**Conclusion**: Ce type d'exercice basés sur plus de 10 ans d'expertise dans la conception et la mise en œuvre de simulation de crise et de formation au pilotage stratégique de crise permet des RETEX de qualité autorisant une réelle amélioration de la planification et de la réactivité des équipes dans une logique conforme à l'esprit de la roue de Deming.

*Prehosp Disaster Med* 2017;32(Suppl. 1):s216
doi:10.1017/S1049023X1700560X

## The 2016 International Simulation Drill of an Earthquake Disaster in Columbia: The Development of the Massachusetts General Hospital Emergency Medical Team

*Annekathryn Goodman[1], Miriam Aschkenasy[2], Kevin Murphy[3], Hilarie Cranmer[3]*
1. Obstetrics And Gynecology, Massachusetts General Hospital, Boston/MA/United States of America
2. Global Disaster Response, Massachusetts General Hospital, Boston/MA/United States of America
3. Global Disaster Response, Massachesetts General Hospital, Boston/MA/United States of America

**Study/Objective**: To describe the Massachusetts General Hospital Gobal Disaster response team's experience in an International Disaster Simulation.
**Background**: Disaster response is increasingly professionalized. The United Nations developed an Internet-based mechanism for the certification and registration of emergency medical teams (EMTs) for use in a crisis such as an earthquake. In September 2016, International Search and Rescue Groups (INSARAG) collaborated with Pan American Health Organization (PAHO) organizing the 6th annual Simulation Exercise (SIMEX) this year, for the second time, included EMTs participation. The goal of the 5-day exercise was practice coordination and communication with the international search and rescue teams, regional EMT's, and the government of Colombia to test procedures and policies in place for a response, and to work and learn together.
**Methods**: We describe the simulation exercise.
**Results**: There were 778 participants at the SIMEX, from 14 different countries of South America Groups ranging from the district level in Bogota, to regional teams, and international participants. There are three phases to this SIMEX: familiarization, preparation in the workshops, then simulation. The Coordination and Management Cell (CICOM – EMT), which provides information, coordinates the response, and supports the Health coordination team in decision making, was reviewed. Teams officially registered on Virtual OSOCC (Onsite Operations Coordination Center) as a deployed EMT and set up a location to work, and to coordinate with other teams, and with the overall disaster response key stakeholders. We simulated a team that had x members, with x equipment, and could work in an affected hospital in the disaster zone.