**Results**: We implemented the program at nine different sites in Mie prefecture, and a total of 40 medical and health professionals participated in the program. The program was well perceived and the participants expressed their willingness to undergo the exercise with other various scenarios on a regular basis.

**Conclusion:** A practical program with a useful framework to prepare health and medical coordinators in disaster prone areas was successfully developed and implemented. We believe the approach used in this program could help in training health professionals in disaster prone areas.

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#### Creating Order Out of Chaos: Centralized Team Training for Disaster and Austere Medical Response

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**Study/Objective**: To explore a prototype in the medical training for civilian disaster response.

Background: Medical response to complex humanitarian disasters requires organized training that is lacking in most civilian health care providers. We believe that because of the unique challenges faced in austere medical environments, a centralized team approach to training needs to be created by the overarching command structure of international disaster response. This training should include not only damage control procedural skill acquisition, as well as realistic simulation drills, but also fundamental instruction of the pre-existing command framework within the greater disaster response, such that a trained team can productively incorporate within this context. Methods: Modeled after the military Tactical Combat Casualty Care (TCCC), we developed a team-based, Disaster and Austere Medicine Course for civilian providers called the International Disaster Austere Medicine Course (IDAMC). This course has been in existence for five years and highlights didactic teaching, procedural skills, simulation training, and Mass Casualty theory through the use of cadaver models and surgical simulators.

**Results**: Participants demonstrated an increased knowledge of core curricula learning objectives on pre- and post-course testing and displayed increased knowledge of their role within the structure of a greater disaster response. One disaster response team, in which 76% percent had undergone IDAMC training, was able to work efficiently in the immediate aftermath of Super Typhoon Haiyan and serve as the de facto hospital for a population of 2.1 million for four days.

Conclusion: The IDAMC serves as a prototype for civilian medical training in which simulation, procedural skills, and

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disaster response command framework are taught based on a successful military model.

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### Disaster Preparedness for Clinics - Further Study from Haiti

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**Study/Objective:** Our team created a manual to train clinics in Low- and Middle-income (LMI) countries to effectively respond to disasters. This study is follow-up to a prior study evaluating disaster response. We returned to previously trained clinics to evaluate retention and performance in a disaster simulation.

**Background:** Local clinics are the first stop for patients when disaster strikes in LMI countries. They are often underresourced and under-prepared to respond to patient needs. Further effort is required to prepare these crucial institutions to respond effectively, using the Incident Command System (ICS) framework.

**Methods:** Two clinics in the North East Region of Haiti were trained through a disaster manual created to help clinics in LMI countries respond effectively to disasters. This study measured the clinic staff's response to a disaster drill using the Incident Command System (ICS) and compared the results to prior responses.

**Results**: Using the prior study's evaluation scale, clinics were evaluated on their ability to set up an Incident Command System. During the mock disaster, staff was evaluated on a 3-point scale in 13 different metrics grading their ability to mitigate, prepare, respond and recover in a disaster. By this scale, both clinics were effective (36/39, 92%) in responding to a disaster.

**Conclusion:** The clinics retained much of the prior training and after repeated training the clinics improved their disaster response. Future study will evaluate the clinic's ability to integrate disaster response with regional health resources, to enable an effective outcome for patients.

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# Simulating a Disaster - Preparing Responders in India

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Study/Objective: This study evaluates the effectiveness of a novel modality created by our team to teach disaster

preparedness consisting of tabletop drills and disaster simulation. Based on the Incident Command System (ICS) framework, our system prepares medical providers to respond independently to country level disasters.

**Background:** Disaster response remains an important component of emergency preparedness internationally. To this end, the Incident Command System (ICS) provides a standardized approach to the command, control and coordination of emergency response.

Methods: A two-day workshop was conducted with medical providers in Bangalore, India that used serial disaster simulations to improve disaster response using the Incident Command System (ICS). Through increasing responsibility and selfdirected tabletops, the participants (doctors, medical students, nurses and police) gained the skills to respond independently to a simulated countrywide disaster. After the exercise, they were asked to grade the usefulness of simulation and lectures.

**Results:** Forty-four providers responded to the questionnaire, all of which (n = 44, 100%) recommended the course. They graded the final disaster drill as most useful (n = 36, 82%) and also graded lectures from topic experts as useful (n = 36, 83%). Based on qualitative written feedback, participants felt drills helped them in communication and leadership.

**Conclusion**: This novel teaching modality, using simulation and tabletop drills is an effective tool to teach the Incident Command System (ICS) to medical providers. Participants felt they benefitted from training and would respond better to future disasters.

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## Assessment of Hospital Disaster Readiness: A Tertiary Care Teaching Hospital Experience

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**Study/Objective:** Evaluate disaster readiness in a large tertiary care teaching hospital environment.

**Background**: The Centre Hospitalier de l'Université de Montréal is a large tertiary care teaching environment without the designation of "trauma center". It will soon move to its new location in downtown Montreal; a \$3.5 billion investment. The PHARE project (Projet Hospitalier d'Amélioration du Rôle d'Expert en situation de désastre) is a CHUM initiative to assess and improve hospital disaster readiness and planning for the new mega hospital.

Methods: In order to evaluate hospital disaster readiness, an online study was conducted among the entire CHUM community. We evaluated work experience, as well as basic and specific training in emergency measures. The online survey was conducted on a volunteer basis between September 13 and October 2, 2016. Completed questionnaires were included in the analysis.

Results: Overall, 2,927 members of the CHUM community completed the survey; managers, physicians, employees and

volunteers were represented at 77%, 29%, 24% and 32% respectively. Although 64% of participants reported basic training in emergency measures, these were mostly managers (86%) and employees compared to physicians (15%) and volunteers (17%). Overall, 60% of participants felt well prepared to face aggression (code white), medical emergency on site (code purple), or fire (code red) but inadequately prepared to face a bomb alert or call threat (code black, 67%). Very few participants reported specific training in emergency measures such as massive patient arrival (code orange, 8%), decontamination (3%) or general evacuation (code green, 25%). Overall, the level of knowledge (% of correct answers) of emergency color codes was aligned with perception of preparedness.

**Conclusion**: The PHARE project at the CHUM revealed that medical staff and volunteers are insufficiently prepared to face basic, as well as specific disaster situations. Efforts in the following months will be directed toward training disaster experts at our institution using table-top exercises.

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# US Disaster Medicine Fellowships: What is

Out There?

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**Study/Objective:** The goal of this study is to differentiate between the various Disaster Medicine (DM) fellowships in the United States (US) by analyzing objective data that include: length of program, prerequisites, disciplines offered, curricula taught, and utilization of blended or hybrid educational modalities. This will be helpful to applicants as they make decisions on which programs to apply to.

**Background**: According to the Society for Academic Emergency Medicine (SAEM), there are 17 Disaster Medicine fellowship programs in the United States as of 2016. These fellowships are Non-American College Graduate Medical Education (ACGME) accredited, and most utilize a unique curriculum and educational program, making it difficult for applicants to make educated decisions. As of now, there is no single online source providing a full description of all DM fellowships available. By concentrating information into useable metrics, this study provides an objective comparison of the available options for DM fellowships in the US.

Methods: A comprehensive survey of online data available on fellowship websites, as identified though the SAEM list of US programs. A data-mining tool was used to evaluate the characteristics of each fellowship program.

**Results**: Demographic, prerequisite, curriculum, and programmatic data for the US DM fellowships demonstrates the unique characteristics of each program. An example of two data points, number of faculty and outside rotations, can be seen in Table 1.