Introduction: Climate change and overdevelopment increase the intensity and frequency of flash flooding, which may generate more swiftwater rescue (SWR) incidents. Rescue personnel may fail to properly risk stratify (triage) these victims due to limited medical and/or variable SWR training, or due to an adverse rescuer-to-victim ratio. Some victims may attempt to refuse medical evaluation due to lack of awareness of incident-related morbidity and/or comprehension of risk.

Aim: To develop an SWR emergency medical triage tool.

Methods: A cross-sectional literature search identified SWR-related medical conditions. A flow diagram reliant upon incident history, chief complaint, and observational exam rather than interpretation of vital signs was created to guide medical decision-making.

Results: Every SWR victim should receive a medical screening exam focused on six clinical categories—drowning, hypothermia, hazmat exposure, physical trauma, psychological trauma and exacerbation of pre-existing disease. Drowning potential is identified by dyspnea, new cough or a history of (even brief) submersion. Shivering SWR victims and those with altered mental status but no shivering are assumed to be hypothermic. Any victim with open skin lesions/wounds who was immersed in floodwater and anyone who has swallowed floodwater is contaminated; these victims require decontamination and possible antibiotic therapy. SWR victims injured upon entering the water or from contact with either water-borne stationary or floating objects require trauma evaluation. Distraught victims and those who exhibit exacerbation of pre-existing organ-system disease also require ED evaluation.

Discussion: Most SWR course curricula are oriented towards technical rescue; they do not address comprehensive medical decision-making. We present a rapid medical screening exam designed to determine which SWR victims require an ED evaluation. Such a triage tool will assist rescuers to simultaneously honor patient autonomy and avoid risky and uninformed refusal of medical aid. Simplified medical decision-making should enable the application of this tool worldwide.

Emergency Patients with Mental Crisis Accessing Emergency Medical Services in Thailand

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Introduction: Emergency responders face an increasing number of calls involving people with behavioral and mental crisis issue. Integrated multi-agency schemes involving ambulance, police and mental health services are now being developed to provide urgent and emergency care pathways for these vulnerable patients.

Aim: The objectives were to study the situation, characteristics, issues, and accessibility to emergency medical services (EMS) and appropriate treatment for emergency patients with a mental crisis in Thailand.

Methods: The sample included 26,511 mental crisis patients accessing EMS. Data were obtained from the database of the Information Technology for Emergency Medical System between 2015-2017 and from stakeholders from four provinces distributed regionally using focus groups and in-depth interviews. The data were analyzed using descriptive statistics and content analysis.

Results: The number of patients with mental crisis accessing EMS increased in the past three years. Most patients are male in the working age group from the Northeastern area during the raining and winter season, especially between September and October. During patient encounters with maniacal attacks, assistance will be requested from the police and the emergency medical units. The response depends on the experience and community capability. The emergency responder teams had insufficient knowledge and skills. Emergency rooms in most hospitals lack specific caring unit. Psychiatric hospitals have different criteria for admitting patients. Most had no fast track system and even refuse admittance.

Discussion: Mental crisis patient calls with EMS were rising. However, accessibility to appropriate service centers was still an issue. Most hospitals lack prioritized access and staffs had insufficient knowledge and skills. Cooperation among the police, emergency medical operation team and the rapid psychiatric emergency team is need to be reinforced.

Emergency Response Training Program for Theme Parks: Experiences of Taiwan

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Introduction: "Tailor-made" training programs have been started in two theme parks in North and East Taiwan after the dust explosion of Ba-xien theme park in 2015. The training programs emphasized several areas. They work to strengthen the incident command system (ICS) and the skills of first responders, especially evacuation, placement, triage, and first aid, as well as to assist the park's cooperation with local disaster response units, such as the fire department and Health Bureau.

Methods: The first step was to find out the practical problems of the two theme parks, and then make a one-year, tailor-made training program according to the needs of parks and different levels of staff: senior supervisors, middle-level district supervisors, and frontline colleagues. After the phased training, the training results are inspected in the non-scripted exercise mode.

Results: It was found that the staff are relatively familiar with the evacuation process and placement of tourists. The initial

emergency responses such as triage, first aid skills, and patient transport gradually improve after several drills. The ICS operation and communication also became more effective and efficient. The regional emergency response units could understand these theme parks capability and how to cooperate with them.

Discussion: The experience of emergency response training and exercise in these two theme parks has shown that such a model is feasible and should be valued.

Enhancing the Effectiveness of Disaster Simulations through Contemporary Simulation Design and Technology

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Introduction: Simulation is often employed to test mass casualty and disaster response planning within hospitals, but it is resource intensive and needs to achieve high-quality recreation of scenarios to be effective. The delivery of large-scale interdisciplinary team and system simulation requires consideration of physical safety, system integrity for real patients, simulation team communication, and effective dissemination of outcomes.

Aim: To describe challenges and potential solutions for effective delivery of disaster simulations, drawn from simulation service experience at Gold Coast Hospital and Health Service (GCHHS).

Methods: This case study reviews strategies used to deliver a large-scale multi-team in-hospital disaster and trauma simulation, involving more than 75 participants drawn from paramedic/ambulance, emergency, trauma service, anesthetics, perioperative, surgical, and hospital administrative teams.

Results: Issues reviewed include simulation delivery team composition and briefing, safety strategies, matching simulation methodology to exercise objectives, the use of real-time communications technologies and apps for real-time communication and performance tracking, and leveraging the simulation experience for observers by narrated Facetime stream. Following the simulation, a debriefing was conducted with participants to address performance, communication and interfaces, strengths and weaknesses, and overall opportunity for improvement. Facility-wide dissemination of messages through standardized reporting, infographics, and video vignettes were also reviewed.

Discussion: Simulation is an engaging way to assess protocols and practices for disaster response within a tertiary hospital, and effectiveness can be enhanced through the strategic use of contemporary techniques and technologies.

Environmental Factors at Mass-Gathering Events: Considerations for Health Research and Evaluation

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Introduction: This poster will document the environmental domain variables of a mass gathering. They include factors such as the nature of the event, availability of drugs or alcohol, venue characteristics and meteorological factors.

Method: A systematic literature was used to develop a set of variables and evaluation regarding environmental factors that contribute to patient presentation rates.

Results: Findings were grouped pragmatically into factors of crowd attendance, crowd density, venue, type of event, mobility, and meteorological factors.

Discussion: This poster will outline a set of environmental variables for collecting data at mass gathering events. The authors have suggested that in addition to commonly used variables, air quality, wind speed, dew point, and precipitation could be considered as a data points to be added to the minimum standards for data collection.

Establishment of Palliative and End-of-Life Care Services in Sri Lanka

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Introduction: Sri Lanka has a rapidly aging population with an exponential rise in chronic morbidity. There had been no parallel development of palliative and end-of-life care-specific approach in health care.

Aim: To implement sustainable palliative and end-of-life care services in Sri Lanka through the existing systems and resources by advocacy, collaboration, and professional commitment.

Methods: Sri Lanka Medical Association established a volunteer task force for palliative and end-of-life care (PCTF) in October 2016, which comprised of multi-disciplinary health care professionals, legal fraternity, and civil society. PCTF identified the need for sensitizing the general public on the importance of palliative care, for standard guidelines and formal training for practicing health care professionals engaged in hospital and community-based palliative care. These needs are addressed through activities of PCTF in collaboration with the Ministry of Health.

Results: Representing the National Steering Committee of Palliative Care, the members of the PCTF were instrumental in developing the National Strategic Framework to fill the major gap of affordable quality palliative care in the country. PCTF also published the "Palliative Care Manual for