

Study/Objective: To quantify the frequency and intention with which “stampede” is used to describe types of Mass Gathering (MG) disasters.

Background: Hazard vulnerability analysis would identify “human stampedes” as high probability events at MGs. Over 200 “stampedes” have occurred in the past 30 years. At the 2015 Hajj, at least 2,000 pilgrims died in one of the deadliest MG disasters in recent history. News and literature referenced the event as the “Hajj Stampede”, implying abruptly increased speed and mass panic. At the crux of many of these events, however, is a dense, immobile crowd – hardly the uncontrolled mindless mass implied.

Methods: The authors performed a systematic search of peer reviewed literature indexed in PubMed, EMBASE, and Web of Science. Abstracts were limited to human studies in English and keyword ‘stampede’. Grey literature using ‘stampede’ in the title or abstract in reference to MG disasters were also reviewed.

Results: Search strategy using the term “stampede” yielded 649 articles. After excluding those using the term 1) apropos computing, 2) as an acronym, or 3) colloquially, fifty-six remained which used the term in reference to mass gathering disasters. Within these articles, fourteen incidents were described in detail. “Stampede” was used in the same context as “crowd disaster”, “turbulence”, “quake”, “mass panic”, “crush”, and “trampling”.

Conclusion: It is important to distinguish between stampede and non-stampede events. Few articles describing stampedes actually involve speed anywhere in the description. The generic “stampede”, through suggesting a fast moving, irrational and culpable crowd, focuses on herding the masses rather than improving venue safety. We must stem the notion that these disasters are a whim of the crowd and work towards evidence-based engineered solutions.

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Canadian Hospital Disaster Preparedness

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Study/Objective: The objective of this study is to assess the level of disaster preparedness at Canadian hospitals.

Background: The most recent (2011) study of Canadian disaster preparedness provided valuable but rather limited insight due to the poor response rate (11%). Many new regional natural and man-made disasters have occurred since then, which mandates a reassessment of Canadian hospital disaster preparedness.

Methods: Design: 12-item paper survey, convenience sample. Target population: attendants of three Canadian conferences (ED chiefs/physicians, trauma surgeons/directors, EMS medical directors, ED nurse managers, Trauma/EMS fellows, and/

or emergency management personnel). Period: Trauma Association of Canada Conference May 2016; Canadian Conference on Emergency Planning and Preparedness for Healthcare Facilities May 2016; Canadian Association of Emergency Physicians Conference June 2016.

Results: The overall response rate was 86.1% [Ontario (54.4%), Quebec (30.9%), rest of Canada (14.7%)]. Level-1 trauma centers comprised 45.6% of responders’ hospitals. As for responder roles, 38.5% were ED physicians, 11.5% emergency managers, and 9.0% trauma directors. External disaster response plans were present in 97.5% and internal disaster response plans were present in 89.7% of responders’ hospitals. Within the three years preceding the survey, tabletop drills were held at 70.6% and live drills at 57.3% of responders’ hospitals. Centralized mass notification systems were present in 63.2% of responders’ hospitals. In the three years preceding the survey, 44.1% of responders reported an activation for an external disaster.

Conclusion: The overwhelming majority of responders report the presence of disaster response plans at their hospitals. The drill frequency appears higher than previously reported but should be increased further to comply with most recognized international recommendations for disaster preparedness. Study limitations include recall and sampling biases since the collected data was mostly limited to academic settings with uneven representation of certain provinces and rural areas. A standardized assessment of Canadian hospital emergency preparedness is warranted in light of these results.

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Emerging Disasters and Non Traditional Health Threats,

A Terminology Scoping Review

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Study/Objective: To examine and map the range of new and emerging disaster risks, based on evolving disaster: definitions, terms, and classifications in contemporary practice.

Background: Disaster risk reporting is primarily produced to identify who may be at risk (vulnerable populations) to specific events (cause). There is a paucity of discussion and literature attempting to establish what the emerging causes are of disasters, and consequently recognition of their potential impact. Possible reasons for this may include perceptions of these causes being non traditional threats, and therefore not readily identifiable as disasters. Nevertheless, many of these events currently meet established criteria defining ‘disasters’.

Methods: A scoping review utilizing the framework articulated by the Joanna Briggs Institute was undertaken to examine the extent, range and nature of new definitions of disaster in the existing literature.

Results: There is great diversity within disaster peer reviewed literature and further breadth in the “grey literature”,

humanitarian practice and media reporting. This is evidenced by a study conducted by Smith et al. in 2009, who identified nearly 2,000 peer reviewed, event specific publications that have been published in 789 journals. A variety of new and evolving threats to health described as disasters were identified, that are not captured in established disaster glossaries, along with new descriptors that attempt to classify them.

Conclusion: There is a lack of consistency in terminology when defining disasters across disciplines and communication exchanges. While disaster research guidelines and terminology standards have been produced, definitions are still applied inconsistently across disaster practice. The capacity to scan the horizon to identify non-traditional and emerging threats requires scope to redefine how disasters are interpreted, classified and measured. Interdisciplinary effort is required to inform and guide risk assessment and terminology definitions in a changing environment.

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Lessons Learned from Trauma Injury Patients by Medical Support in the Aftermath of Typhoon Yolanda in the Philippines

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Study/Objective: Course of treatment for trauma patients by JDR (Japan Disaster Relief team) support after typhoon Yolanda in the Philippines.

Background: Typhoon Yolanda hit Leyte directly in November, 2013. A large number of casualties occurred. Japan sent three teams of JDR, and built an air tent in Lethal Park, and they treated patients from 9:00 am - 1:00 pm. We report the course of the patients who underwent trauma.

Methods: There was a total of 187 patients who were treated from November 15 - December 07, 2013. Of those, 132 were men and 55 were women. The ages were 3 - 77 years. We found the tendency about patients who were treated in our tent.

Results: Ninety-four patients needed follow-up, and 78 of them had follow-up treatment more than twice, and 17 had treatment until the wound totally healed. After suture treatment, 4 patients became worse. Almost all patients stayed in the shelter near our tent. We introduced 12 patients to other hospitals when we closed our tent. There is the tendency that men continue to be treated more than women, when they didn't feel pain, they didn't come to our tent, sutured wounds were becoming worse.

Conclusion: Many patients had repeated medical examinations, but only a few consistently followed up treatment until their injuries completely healed. If we treated their injury, we educated them about the continuation of treatment, and what they have to do. We have to know the life and thought.

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Report of Hospital Evacuations in the 2016 Kumamoto Earthquake

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Study/Objective: In the 2016 Kumamoto Earthquake, over 2,000 Disaster Medical Assistance Team (DMAT) members responded. One of the main activities was the inpatient-evacuation from ten damaged hospitals to other hospitals. Some operation problems were found, and those require investigation for future reference.

Background: The 2016 Kumamoto Earthquake consisted of two giant quakes (magnitude 6.2 and 7.3) in the same area within a 2 day duration, and 774 aftershocks occurred within a week. Fifty people died, and 2,300 people were treated, and approximately 180,000 people had spent time in shelters. Inpatients-evacuation at the early phase of earthquake is at high risk of danger due to building damage. DMAT must avoid all risk factors before their operation. Since we had a hospital evacuation in the early phase of the earthquake, it is time to evaluate problems from hospital evacuation.

Methods: Survey questions and a hearing investigation for all evacuated hospitals were conducted.

Results: A total of 1,377 inpatient-evacuations from 10 hospitals was performed, 5 general hospitals, 4 psychiatric hospitals and 1 recuperation hospital. There was no deterioration in patients while being transfer. The reasons for evacuation were: partial building collapse, uneasiness of the mental disease patients and anxiety from building damage with aftershocks. As a result, there were no hospitals that were fully damaged or completely collapsed, however, DMAT entered damaged hospitals without safety confirmation, and transferred in-hospital patients who must stay in complete rest. Another problem for the hospital was financial damage. Since patients were evacuated, hospitals encountered decreased income or defrayment for returning patients.

Conclusion: Inpatient-evacuation needs to be avoided as much as possible for the safety of patients and DMAT members. Also, it affects hospital finances. In order to judge the needs of hospital evacuations, this requires expert opinion of building safety at the early phase of earthquake.

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The Concept of "Aesthetic of Disaster" and its Usefulness for Disaster Preparedness Plans

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Study/Objective: To provide relevant insights for a broader understanding of disaster medicine key concepts.

Background: On September 29–30, 2016, the Institute for Communication Sciences (ISCC), a Joint Service Unit with the Paris Sorbonne and Pierre & Marie Curie Universities ran a European Seminar during which, the question of the aesthetic of disasters (either natural, industrial or intentional) rose.