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Health, the Disaster Management Centre (DMC) and the Institute of Forensic Medicine and Toxicology (IFMT) in collaboration with the College of Forensic Pathologists of Sri Lanka. A working group representing forensic and legal experts, military, police, fire brigade department, and disaster management were involved in drafting these guidelines. Further guidelines for the effective conduct of mass burials following mass disasters were also prepared and published in 2007.

**Discussion:** Despite all these efforts the efficacy of managing dead in recent mass disasters is still far from satisfactory.

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Mass Gatherings and Youth Peer Volunteerism

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Introduction: Music and sporting events are mass gatherings with unique risks related to participation. "All-ages" events, which include participants below the age of majority (18 in many jurisdictions), have been observed to have an over-representation of patient presentations in the youth category. Peer helpers may lower the barrier to seeking on-site care. Youth (peer-aged) volunteerism provides opportunities for exposure to new environments, skills, and mentorship. Medical volunteerism may promote personal satisfaction through prosocial behavior (i.e., helping others), community engagement and immersion into a potential health professions career path.

**Methods:** We conducted an observational pilot feasibility study with feedback forms and semi-structured interviews. The pilot program paired youth with parents/guardians/responsible adults as health care volunteers at special events.

Results: Youth/adult dyads volunteered for a variety of events in Canada during the 2018 event season. All participants in the "Juniors Program" completed at least a Standard First Aid course, including orientation to personal safety and confidentiality. Each pair worked in one of two areas: first aid or Festival Health (the harm reduction space at music events) providing peer-to-peer and "all-ages" support. Post-event feedback from the dyads revealed many positive experiences and universally called for more opportunities.

Discussion: A strong volunteer base is an asset to any community. In this pilot study, the volunteer experiences were supervised by a team of credentialed health care professionals. The authors report on qualitative feedback in themes based on patient perspective, volunteer perspective, team perspective, and event management perspective. More research is needed to measure the outcomes of the Junior's Program. More Investigation is needed to determine not only the long-term benefits of participation on event medical teams, but also to identify factors that shape a positive experience for youth, their parents, and the event participants that they support.

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## Measuring Student Nurses' Preparedness and Resilience for a Disaster Setting

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**Introduction:** Nurses have long been utilized in disaster response and recovery and they possess broad skill sets, which are critical in times of crisis. However, studies show that more than 80% of nurses who volunteered in disasters settings have no disaster education.

Aim: This project explored the disaster knowledge, preparedness, and resilience of 2nd and 3rd-year undergraduate student nurses in a Bachelor of Nursing Science program in a regional university to garner support for the introduction of dedicated disaster nursing education, which is currently absent from Australian undergraduate nursing curricula. Whilst disaster management processes in Australia are robust and Australian health care systems have explicit plans in place, the same cannot be said for all countries and health care systems. Australian trained nurses are highly valued and actively sought in the global health workforce market. In a world marked by increasing change and instability, the lack of dedicated disaster education and skills in the largest health workforce increases the overall vulnerability.

**Methods:** Data were collected using the Disaster Preparedness Evaluation Tool, the Connor-Davidson Resilience Scale, simple demographics, and a previous disaster experience questionnaire.

**Results:** The results highlight important gaps in current practice and vulnerabilities in the current disaster management framework. Local students scored higher results in preparedness and resilience.

**Discussion:** Student nurses are an underutilized resource in disaster preparation and by response teams around the world. With a global intent of shared responsibility and increased resilience in individuals and communities before, during, and after disaster events, dedicated capacity building of nursing staff has the potential to address key factors and simultaneously utilize an underappreciated demographic of student nurses. To the best of the author's knowledge, this project is the first to explore disaster knowledge, preparedness, and resilience in undergraduate student nurses using validated disaster preparedness and resilience tools in Australia.

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## Measuring the Masses: Guidelines for Publication of Case Reports on Mass Gatherings

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**Introduction:** The science supporting event medicine is growing rapidly. In order to improve the ability of researchers to access event data and improve the quality of publishing mass gathering cases, it would be of benefit to standardize event reports to permit the comparison of similar events across local and national boundaries. These data would support the development of practice standards across settings.

**Aim:** The authors propose the creation of a publication guideline to support authors seeking to publish in this field.

**Method:** Derivation study via analysis of published case reports using the Delphi process.

Results: Data elements were inconsistently reported within published case reports. Categories of variables included: event demographics (descriptors of date, time, genre, activity, risks), attendance and population demographics, data related to climate and weather conditions, composition and deployment of an onsite medical team, highest level of care available onsite, patient demographics, patient presentations and measures of impact on the local health care system such as transfer to hospital rates. Of note, there was a high incidence of "missing" variables that would be of central interest to researchers.

**Discussion:** Approaches to standardizing the collection and reporting of data are often discussed in the health care literature. The benefits of consistent, structured data collection are well understood. In the context of mass gathering event case reporting, the time is ripe for the introduction of a guideline (with accompanying guidance notes and dictionary). The proposed guideline requires the input of subject matter experts (in progress) to enhances its relevance and uptake. This work is timely as there is ongoing work on improving an international event medicine registry. If the evolution of both proceeds in lockstep, there is a good chance that access to a rigorous data set will become a reality.

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## Medical Activity Training using SDF Ship at Wide Area Disaster

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**Introduction:** We have repeatedly trained to use the SDF ship as a temporary medical facility during acute disasters. The Maritime Self Defense Force has various types of ships: supply ship (Oumei type), transport ship (Osumi type), and escort ship (hinge type, whip type) which has a large hangar and a treatable medical compartment.

**Methods:** The points of training are collaboration between the SDF and the commander's line of medical personnel, construction of a method of contact with the outside, construction of contact method inside the ship, kind of patient, medical contents, use of medical zone, method of transporting to the ship, method of transporting to the outside of the ship, positioning of the ship in the afflicted area, etc.

**Results:** Assuming the Nankai Trough Earthquake, the activities of SDF vessels in coastal areas are affected by the extent to

which the functions of medical institutions in inland areas are kept, how transportation methods can be secured, and how many injured people there are.

**Discussion:** As a result of the examination thus far, the range of activities of SDF vessels is limited. The function of the ship is considered to be offshore SCU, hospital evacuation support, etc. Tight collaboration and training with the SDF are necessary in the future.

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## Medical Measurement Against the Mega-Disaster: The Necessity of Systematization of the Disaster Medicine or the Disaster Medicine Compendium

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**Introduction:** The large number of casualties during major or mega-disasters are a global problem.

**Aim:** The role of medicine against mega-disasters is analyzed from a worldwide perspective.

**Methods:** Chernobyl incident, the Tokyo Subway Sarin Attack, the 9-11 attack, the Indian Ocean earthquake/tsunami, Hurricane Katrina, the Flu pandemic, the Higashi Nihon Earthquake followed by the Fukushima nuclear plant incident, etc. are critically analyzed, based on the actual medical experiences.

**Results:** These mega-disasters often have a wide, severe negative influence. Linked catastrophes often form catastrophic circulus vitiosus (CCV) or malignant cycles on a global scale. The typical example is the Chernobyl incident which caused not only many deaths by radiation exposure/thyroid cancer and world anxiety, but also is considered to have contributed to the end of the Eastern European Communism system in 1989 (East Germany) and 1991 (ESSR).

**Discussion:** Many roles of medical doctors and staff were requested, including creating preventive life-saving systems, in addition to the prevention of mega-disaster measurement to minimize the unhappiness. Moreover, medical ethics and philosophy are important, which were often overlooked. It is necessary for medical care and support to have a broad perspective. Although the classical philosophy of utilitarianism is often accepted without suspicion, it comes with the risk of disregarding vulnerable/weak people. The concept of justice according to John Rawls (USA) and the Minimal Unhappiness Theory by Naoto Kan (Japanese politician) should be considered, too. From such viewpoints, it is our conclusion to urge the establishment of systematic disaster medicine or to compile a disaster medicine compendium. Although the tentative first version was compiled with 22 volumes in 2005, only one-fourth was available in English. The English part increased up to nearly three-fourths by adding several new versions in which the nuclear/biological/chemical