

athletes, coaches and staff participating. These games are distinct since all athletes possess intellectual or developmental disabilities and a high prevalence of comorbidities.

**Methods:** A prospective observational study of all patient encounters during the Games. Standardized patient encounter forms were completed by medical staff at all event venues and are reported.

**Results:** Approximately 2,000 athletes and coaches attended and participated in 11 events over 6 days. The games were held on the University of BC campus allowing for accurate collection of all medical treatment encounters during the games. Temperatures ranged from 15–28 C (50–80 F). In total, 314 patient encounters were documented, of which 88% involved athletes. Of these, 75% were due to event related injury and 25% due to illness. There were 14 patients (5.2%) transferred to hospital for assessment and/or management, 2 via Ambulance and others via non-emergency vehicles. Track and Field competitions had the highest number of incidents of all the sporting events (29.7%), and limb extremity pain was the most common patient (chief) complaint (26.4%).

**Conclusion:** A large scale mass participation event with athletes possessing developmental disabilities and a high prevalence of comorbidities, can be safely cared for with an appropriately designed medical support system, and not overburden local resources. This paper reviews historical injury and illness data that form the basis for planning in this population.

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### Mass Gathering Medicine Tabletop Game - A Systems

#### Approach to a Major Planned Event, Health Services Planning

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**Study/Objective:** The creation of an interactive learning activity to explore knowledge domains required for planning a robust event, health services response.

**Background:** We created three interactive board game-based, tabletop exercises to enhance systems learning for Major Planned Events (MPEs).

#### Methods:

Literature synthesis of potential effects of gamification on learning. Development of knowledge domains (7 steps) core to the creation of an effective health services response at MPEs, and face validity was addressed.

'Rules of engagement' were created (eg, cooperative versus competitive play, optimum size of each tabletop team 6–8 players, duration of play 90–120 minutes).

Conceptualization of chronology including pre, during, and post-event phases.

'Character' cards were implemented to represent the diverse stakeholders involved in MPE health planning.

Illustration of 'field of play' through creation of three, individual game boards (ie, obstacle adventure course, endurance running event, multi-day music festival) and depicting a detailed map of the specific event and the course (as applicable).

Generation of a series of scenarios used to create a set of event-specific 'Bonus', 'Challenge', and 'Patient' cards, each presenting an issue to be addressed by the players through collaborative 'free-play.'

**Results:** To date, the tabletop gaming exercises have been deployed at three workshops and have received extremely positive reviews. Formal evaluation has recently been pursued through a summer student research project. Thus far, a convenience sample of 28 event race directors and 44 medical students have been surveyed before and after the tabletop exercise. Mean and median comfort in all of the knowledge domains assessed improved. Qualitative feedback has been organized in themes.

**Conclusion:** The use of a facilitated mass gathering in a health tabletop exercise is an effective and engaging delivery modality for the transmission and integration of knowledge, related to the planning and delivery of health services for MPEs.

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### Development of a Mass Gathering Triage Tool: An Australian Perspective

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**Study/Objective:** This project aimed to outline the existing literature relating to triage in the mass gathering environment, and develop a mass gathering triage tool applicable to the Australian context.

**Background:** Many health service organizations deploy first responders and health care professionals to mass gatherings, to assess and manage injuries and illnesses. Patient Presentation Rates (PPR) to on-site health services at a mass gathering range from 0.48–170 per 10,000 participants. Transport to Hospital Rates (TTHR) range from 0.035–15 per 10,000 participants. Triage practices at mass gathering events vary.

**Methods:** A search of various online databases was undertaken to identify existing triage tools. This included a search of grey literature to identify the Australian contextual triage tools.

**Results:** A triage tool was developed based on the principles of triage, previous mass-gathering triage tools, existing Australian triage systems, and Australian contextual considerations. The triage tool is designed to be appropriate for use by first responders.

**Conclusion:** Further research should be conducted to test the validity and reliability of this Australian mass-gathering triage tool. In the absence of any other triage tool for the Australian mass-gathering environment, this triage tool should be considered for implementation for future clinical practice at Australian mass gatherings, where first responders are providing clinical assessment and management of patients presenting for on-site care.

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