

375

### Mass-Gathering Medical Care and Research at the Indianapolis Motor Speedway

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The annual Indianapolis 500 Mile Race is the largest one-day, single-venue sporting event in the world. The race is attended by an estimated 400,000 persons. During each month of May, an estimated 1.75 million pass through the gates of the Indianapolis Motor Speedway (IMS) to attend the race, qualification days, and other events. A medical care system for both spectators and drivers has been in place since the first race in 1911. Emergency medical care at IMS is a blend of mass-gathering (crowd) medical care, racing and sports medicine, and mass-casualty incident (MCI) planning. Because every mass gathering has the potential to become an MCI, mass-gathering medical care and MCI planning are intertwined.

Mass gatherings are defined as crowds of more than 1,000 people. Few standards of care for the medical care of crowds exist. Staffing requirements, BLS/ALS mix, supply ordering, and medical-facilities preparation typically are educated guesses. Most mass-gathering, medical care studies are descriptive. To allow more accurate comparisons of emergency medical care between venues, there is a need for consistency in nomenclature and data collection. This could include the universal use of such terms as *person-attendance hours*; treatment categories that identify advanced life support, basic life support levels of care, and minor complaints; and standardized illness/injury classifications such as E-codes and ICD-9 codes.

Emergency medical planners may learn from knowledge and experience gained at other events and venues. But does past experience predict future needs? The next phase of crowd medical care research is to develop and validate models that predict patient load and case mix to help guide planners. There was a previous attempt to forecast 500 Mile Race Day patient volume with regression analysis. This statistical technique probably is inadequate to explain the complexities of crowd behavior and too simplified to use as a prediction tool.

376

### Disaster in the Dust? Provision of Mass First-Aid at the Bindoon Rock Festival

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**Objective:** To describe the provision of first-aid for approximately 25,000 attending an annual outdoor rock concert 100 km from city facilities.

**Scenario:** The annual Bindoon Rock Festival attracts upwards of 25,000 motorcycle and car travelers to a 40-acre property in the bush, 100 km from Perth, Western Australia. There are 48 hours of continuous music, alcohol, and food, in an arena controlled by the Coffin Cheaters, a motorcycle club. There are only two rules (no fires, no fighting). There is no overt police presence within the venue.

**First-Aid:** The medical facilities are provided in a tent and trailer facility staffed by 50 St. John Ambulance volunteers. The system has proved extremely effective, and has developed further each year. The injuries and illnesses are mostly minor and predictable, though fire could produce a major disaster.

**Conclusion:** A well-organized, low-profile, first-aid and volunteer ambulance service provides professional and effective first-aid and medical support for a large and potentially unruly gathering, and helps to prevent it from becoming a dusty disaster.

377

### Training Doctors for Mass-Gathering Medicine

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This paper describes the training offered to doctors who are responsible for crowds at major sporting events and other mass gatherings. It has been developed under the auspices of The Football Association with a grant from the Hillsborough Trust that was established after the Hillsborough Stadium Tragedy in April 1989, in which 95 football fans were crushed to death.

The Football Association has set the Diploma in Immediate Care as the ultimate qualification for the crowd doctor, but until all doctors have taken this, the one-day introductory course in crowd medicine has provided a basic introduction. This year, a further module in major-incident management, communication skills, and safety aspects of stadia design has been added.