

Oral Presentations—Mass Gatherings

Preparing for and Responding to Public Health Issues at a Major Mass Gathering: What Happened at World Youth Day 2008?

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Introduction: World Youth Day 2008 (WYD'08) was a gathering of >400,000 young people, (110,000 from overseas), held during several days in the winter in Sydney, Australia. Pilgrims were accommodated in simple dormitory-style accommodation. Public health-related preparations and outcomes during WYD'08 will be presented to assist future event planners.

Methods: The New South Wales (NSW) Health's planning documents, situation reports (from coordinating agencies and public health field teams), and post-event debriefing reports were analyzed.

Results:

Preparedness—Public health planning involved multiple agencies and focused on establishing surveillance systems and response plans for incidents of public health significance, including communicable disease control and environmental safety. A secondary public health workforce was recruited and trained, and field equipment procured.

Pre-Event Activities—International and event-specific surveillance data and pre-event gatherings were monitored for communicable disease risks and outbreaks were investigated.

Event Response—Most WYD'08 health presentations to on-site medical units were due to infectious diseases (51.8–31.3% influenza, 20.5% gastroenteritis), followed by injury (24.1%). Drug and alcohol effects, sexual-health related conditions, and hypothermia were rare. Emergency department and health call center data similarly showed the majority of participant presentations were due to infectious disease. Field team response to outbreaks involved considerable resource commitment.

Venue environmental health issues included trip/fall hazards and sewerage system breakdowns.

Conclusions: In WYD'08, influenza and gastroenteritis were the major public health concerns. Hypothermia risk may have been averted by unseasonably mild, dry weather. Health and event planners for mass gatherings should conduct a risk assessment that includes seasonality and duration of the event, and ensure their workforce is trained and ready to respond to infectious disease outbreaks.

Keywords: mass gathering; planning; preparedness; public health; surveillance; World Youth Day 2008

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Guidelines for Disaster Management to Prevent Mass-Psychogenic Illness

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Incidents involving people experiencing sudden, often group-wide, health complaints with an unknown cause seem to be more common in recent years in the Netherlands. A quick response and adequate decision making by all authorities involved is expected. However, knowledge on the early recognition of signs of a possible mass-psychogenic illness-related incident among rescue workers and disaster managers is low.

During an expert meeting organized by GHOR Nederland in November 2008, incidents when people experienced health complaints of an unknown cause were discussed. The characteristics of 15 incidents defined as "cause unknown" in the Netherlands between 2006 and 2008 were summarized according to date, location, type of incident, level of coordination of incident, number of casualties, and cause. Similarities between these incidents include: "odd smell"; stressful situation or activities, rumors, mutual provocation, disturbances in social relations, and the existence of a social relationship within the group of casualties (e.g., school children).

Early recognition of the underlying toxic or (partly) psychological cause is important. Generally, health complaints were atypical and hard to relate to specific exposure factors or a sensible time frame.

Excessive involvement authorities and media at the scene might intensify a possible onset of mass psychogenic illness (MPI). However, knowledge on the early recognition of signs of a possibly MPI related incident among rescue workers and disaster managers is low.

Keywords: chemical, biological, radiological, nuclear, or explosive; disaster management; guidelines; mass-psychogenic illness

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Evaluating the Influential Factors in Mass-Gathering Casualty Presentations—World Youth Day, Sydney, Australia 2008

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Introduction: The aims of this project were: to establish a database of patient presentations and mass gathering event profiles across all events during the four days of World Youth Day (WYD); and to analyze WYD quantitative data and compare findings across the WYD events and with existing predictive modeling data to provide a more sophisticated understanding of the key factors that affect patient presentations at mass gatherings.

Methods: The de-identified sample data were obtained from Casualty Report Forms for participants who presented to a St. John Ambulance Australia first aid post, medical center, or mobile team. The research team collated information on

other features of the events such as attendance, 'boundedness', mobility, weather, and distance from parking into the database to describe the important features of each event/site.

Results: Statistical analysis included descriptive and univariate and multivariate analysis including regression modeling and the findings were compared and contrasted with existing regression models for patient presentation rates and transport to hospital rates in Australia. The relative influence of key environmental variables is described.

Conclusions: The project provides a quasi-experimental approach to describe the relative influence of different event characteristics on patient presentation number and type where some characteristics are constant across events—such as weather and crowd demographic.

Keywords: Australia; influential factor; mass gathering; patient presentation rate; World Youth Day

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Ambulatory Medical Services in Hajj

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The need for the provision of emergency medical services to pilgrims during Hajj season prompted the Saudi Ministry of Health to institute an Ambulatory Field Medical Services Committee (AFMSC). The functions of this Committee are to forecast healthcare risks in accordance with interchanging national and international themes, to set detailed plans to overcome the anticipated risks and to institute surveillance systems for close monitoring of the risk factors. Since its constitution by resolution number 862/1/29 dated 04 May 1422, this Committee has contributed significantly to the prehospital medical care offered to pilgrims. This paper aims to present the scope of work of this committee in Hajj, regarding procedures, equipment, and manpower. Comparative statistical data showing the total number of cases treated at the site or transferred to higher medical center in addition to analysis of patients according to their sex, age group and nationality, their disease codes during Hajj years 1422–1427 will be discussed. Conclusions regarding the efficacy and practicability of this Committee will be presented.

Keywords: emergency medical services; Hajj; mass gathering; pilgrim; Saudi Arabia

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Emergency System for Spectators at the F1 Grand Prix in Japan, 2007 and 2008

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Introduction: A medical team provided the emergency system for the spectators at the F1 Grand Prix in Japan 2007 and 2008. A medical system for the F1 Grand Prix at the Fuji Speedway in Japan in 2007 was prepared and implemented.

Methods: A preparation-working group was established for the spectators at the F1 Grand Prix. Data were gathered of the number of people in the audience and the weather at Fuji speedway (F1). The working group analyzed the data and constructed the emergency system.

Results: Four first aid stations and one command center were established at the Fuji speedway. The system gathered the patient information and the command center directed them to first aid stations. Patients were transferred to a first aid station. If the doctor diagnosed that the patient is seriously ill or injured, the commander send the ambulance to the first aid station and patient is transferred to the hospital. The commander also could send the doctor-staffed ambulance to the site of the serious case. If there are mass casualties, the disaster dispatch team is sent to the site. During the 2007 event, 500 patients were accepted. The reason so many patients were seen was the cold, rainy weather and bad, muddy ground conditions. In 2008, there were improvements made, and the patient load decreased by about 100. It was helped by good weather.

Conclusions: The emergency system for spectators of the F1 Grand Prix in Japan 2007 and 2008 was planned and implemented. Many lessons were learned and the performance was improved. The working group for the F1 Grand Prix audience in Japan continues to improve, preparing for the next Grand Prix in Japan.

Keywords: emergency system; F1 Grand Prix; first aid; Japan; mass gathering; working group

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EURO 08: Lessons Learned from a Nearby State of a Host City

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Introduction: Switzerland and Austria had jointly organized the recent European soccer championship (EURO 08) in June 2008. Switzerland designated four host cities for matches with dedicated organizations. However, the nearby states weren't involved in this planning but were susceptible to collateral damage from this mass gathering.

Methods: This is a prospective study of the health services of a state (670,000 inhabitants) located near the EURO 08 host city (3 matches) with 80,000 persons expected to attend, hosting of two teams (France, Holland) and related events (giant screens, supporter parades).

Results: A staff with prehospital and hospital representatives was asked to forecast an appropriate health response for everyday care in the realm of the expected increased demand during the 19 match evenings. More than 140,000 spectators attended with five giant screens. A total of 209 patients received medical care on site, six of whom were conveyed to nearby hospitals. An additional 50 patients who were linked to this event were seen in state hospitals, of these, four were hospitalized >24 hours. No major or fatal incident was encountered and everyday care wasn't compromised. A total of 1,131 health professionals were engaged as supplementary personal during this three-week period in order to deal with a mass-casualty incident.

Conclusions: The EURO 08 facilitated gathering of many health actors that provided constructive and efficacious medical care. However, the emergency services established