

# Abstracts of Oral Presentations-WADEM Congress on Disaster and Emergency Medicine 2019

## CASE STUDIES

### Epidemic Thunderstorm Asthma

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**Introduction:** On November 21 and 22 of 2016, Victoria witnessed an unprecedented epidemic thunderstorm asthma emergency event in size acuity and impact. This scenario was never exercised nor contemplated. The event resulted in a 73% increase in calls to the Emergency Services Telecommunications Authority and 814 ambulance cases in the six hours from 6 pm on November 21, 2016. A 58% increase in people presented to public hospital emergency departments in Melbourne and Geelong on November 21 and 22, 2016 (based on the three-year average). 313 calls were made to the nurse on call from people with breathing, respiratory, and allergy problems (compared to an average of 63 calls for the previous month). Tragically, ten deaths are linked to this event.

**Methods:** A substantial amount of work has been completed, much of which goes towards addressing the Inspector-General for Emergency Management recommendations following a review of the event, including:

- Release of an epidemic thunderstorm asthma campaign and education programs which were rolled out across Victoria for the community and health professionals from September through November 2017;
- Development of a new epidemic thunderstorm asthma forecasting system on 1 October 2017 and updated warning protocols during the 2017 grass pollen season;
- Implementation of a Real-time Health Emergency Monitoring System to alert the department of demands on public hospital emergency departments on the system; and
- Introduction of a new State Health Emergency Response Plan in October 2017 to improve coordination and communications before and during a health emergency.

**Discussion:** The presentation will concentrate on the lessons learned more than two years down the track from the event in November 2016.

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### Hurricane Sandy - Initial Evaluation of Patient Characteristics

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**Introduction:** Disaster medical team response by governmental and non-governmental responders is highly variable and poorly characterized. Each response is unique in terms of caseload, patient demographics, and medical needs encountered. This variability increases the difficulty of determining team member composition as well as supply and equipment needs. In an effort to demonstrate this issue, we have reviewed the National Disaster Medical Response to Hurricane Sandy.

**Methods:** This project was a retrospective chart review of Hurricane Sandy data abstracted from the National Disaster Medical System (NDMS) Health Information Repository (HIR) medical records from the NDMS system response, and were abstracted for data including vital signs, ages, sex, chief complaint, and final impressions. In addition, length of stay among other parameters was abstracted. The data was analyzed using Microsoft Excel and Access with descriptive statistics. In addition, the results were compared to similar indices in a community emergency department and prior NDMS responses.

**Results:** The results indicate a wide range of patient ages, chief complaints, and final impressions. The vast majority of patients seen by Disaster Medical Assistance Teams (DMAT) were stable with relatively low acuity issues. The total number of charts reviewed were 7,905. Respiratory complaints were the most frequent at 845 patients followed by toxicology/injuries at 706 patients and mental health issues at 452 patients. In approximately 3,400 patients, no diagnosis was present in the chart. Length of stay averaged below 1 hour and peak patient ages were between 50-60 with a significant number of infants less than 2 years.

**Discussion:** Characterization of NDMS responses by DMATs and comparison with prior events and community emergency department caseloads can provide an insight into the needs of DMATs and other response organizations in future responses.

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### Level of Emergency Preparedness Before and After a False Missile Alert in Hawaii

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