

sanitation facilities. The paper explores the pre-existing indirect factors responsible for the spread of outbreak in the provinces. These range from geography, socio-economic conditions, demographic features, topography, and community infrastructure. These factors play an extremely pivotal role in determining the nature of response required to control the diarrheal outbreak.

*Prehosp Disaster Med* 2011;26(Suppl. 1):s73–s74  
doi:10.1017/S1049023X11002512

### (A268) Lessons Learned: Western Australia's Health Sector Resilience during a Severe Storm

*M.G. Leclercq,<sup>1</sup> A.G. Robertson<sup>2</sup>*

1. Disaster Preparedness and Management Unit, East Perth, Australia
2. Disaster Management, Regulation and Planning, East Perth, Australia

The impacts of disasters on the community are not necessarily determined by the scale of a disaster, but are influenced significantly by the preparedness of the community, including the health community. Resilience is a dynamic quality within a community that is developed and strengthened over time. Evidence of the Western Australian (WA) health system resilience was demonstrated on 22 March 2010 when two severe weather fronts crossed the Perth metropolitan area and severely impacted a significant number of hospitals, the State pathology service, radiological services in tertiary and secondary hospitals, as well as aged care, mental health and other key health facilities. This storm has resulted in more than 120,000 claims and the total estimated cost is expected to exceed 1 billion Australian dollars, making it the most costly disaster due to natural hazards in WA history. Damage to these facilities included: (1) flooding, ceiling collapse, and broken windows in intensive care units, emergency departments, and operating theatres; (2) loss of radiological services; (3) sewerage inflow into wards, resulting in evacuation of mental health inpatients; (4) infrastructure damage to aged care facilities requiring relocation of residents; and (5) extensive loss of electricity and communications throughout Perth, which impacted on home oxygen therapy clients. A public health response also was required due to sewerage overflow into Perth's main river systems. This presentation will provide an overview of the event, lessons learned and how these lessons learned will be used to further enhance the health community's resilience.

*Prehosp Disaster Med* 2011;26(Suppl. 1):s74  
doi:10.1017/S1049023X11002524

### (A269) Lightning Injuries: A Case Series

*C. Yih Chong Michael, B. Russelle, G. Hsin Kai*

Emergency Department, Singapore, Singapore

**Background:** Singapore, albeit a small country, has one of the highest lightning activities in the world. However, injuries related to this spectacular weather phenomenon are under-reported and rarely a subject of study. Most reported cases dealt with lightning-caused fatalities but lightning-caused accidents are not always fatal. Actual reported international data showed that about 80% of lightning victims survived, with or without after effects. This study reviewed the cases of lightning-related injuries who presented to Tan Tock Seng Hospital, Emergency department.

**Methods:** This is a case series of 5 patients. All 5 patients presented to Tan Tock Seng Hospital, Emergency Department after a thunderstorm. All were undergoing military training when the incident happened. The circumstances surrounding their injury and their presentation and symptomatology were reviewed.

**Results:** In our study, three possible mechanisms of injury were identified through a side flash which occurred when the lightning hit the tree and traveled partly down that tree before a portion jumped to the nearby victims; through the concussive effect of the shock waves produced by the lightning; and through step voltage mechanism wherein the lightning after hitting the tree traveled into the ground where victims were standing. Two patients were diagnosed with rhabdomyolysis, one suffered from sensory-neural hearing loss, and one patient had a mild conjunctivitis as a result of tissue inflammation. Other symptoms included retrograde amnesia, parasthesia, tinnitus, and a single episode of seizure which resolved spontaneously. All our patients survived the ordeal and were discharged well back to their pre-morbid states.

**Conclusion:** This paper supports existing evidence that lightning-caused accidents are not always fatal and that victims may survive with no or little side effects given proper medical treatment.

*Prehosp Disaster Med* 2011;26(Suppl. 1):s74  
doi:10.1017/S1049023X11002536

### (A270) Medical Reserve Corps, American Red Cross, and a University: Lessons Learned from their Partnership during the Ice Storm

*D.J. Persell*

School of Nursing, State University, United States of America

The winter of 2009 brought the worst disaster caused by a natural hazard in the history of the state of Arkansas. An ice storm spanned the entire northern half of the state, leaving thousands without electricity, heat, transportation, health care, and in some cases, shelter, food, and water. In one county alone, > 13,000 power poles were destroyed. The infrastructure was severely damaged. In the University's arena, a shelter was opened by the Red Cross in partnership with the Medical Reserve Corps (MRC) to accept special needs victims and provide urgent primary care for shelter residents. The majority of patients presenting to the MRC had more than two illnesses. Examples included diabetes, renal disease requiring dialysis, hypertensive crisis, injuries from the storm, MRSA, respiratory syncytial virus, and mental illness ranging from depression to schizophrenia. Because the Red Cross did not consider ice storms as a reasonable cause for medication/medication supplies, these items were not replaced; this had health consequences of under-managed illness. Oxygen converters were preferred over oxygen tanks; however, the arena was on a generator and not all plug-ins had electricity. An ambulance company loaned the MRC a glucometer so blood glucose levels could be monitored. Those with mental illness required significant time from MRC providers. Largely, the MRC was nurse-managed with physicians or nurse practitioners available for sick call twice a day. Relationships became strained when the state placed a hold on the arena to secure it for a regional shelter. This put the university's financial stability in peril due to breach of contract with vendors scheduled to use the