Australian thunderstorm asthma deaths inquest reveals health system breakdown

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A recent coronial inquest into the deaths of ten people from thunderstorm asthma in the state of Victoria in November 2016 pointed to the impact of years of budget cuts and understaffing in the public health system.

Testimony to the inquest disclosed that callers to the Triple O emergency line were wrongly told an ambulance was on its way, when it was not.

Emergency Services Telecommunications Authority (ESTA) executive manager of operations Michelle Smith said in evidence that the organisation was unable to meet its five-second response target. Ambulance Victoria (AV) also ran out of vehicles, she said.

Between 6 p.m. on November 21 and 6 a.m. the next day, the authority received its greatest volume of calls ever—2,332. More than 1,300 calls came in between 6.15 p.m. and 8.15 p.m. alone. Between 7 and 7.15 p.m. alone, 201 calls were received.

Within half an hour of the "surge," AV had no ambulances available in the western suburbs of Melbourne, the state capital. Crews were called in from other areas but by 7.40 p.m., ESTA management determined that no more non-emergency crews would be dispatched. By 8 p.m., 150 cases were "pending"—an ambulance had been requested but there were none to dispatch.

Protocols required Triple O operators to stick to "scripts" saying "the ambulance is on its way" even though no ambulance had been dispatched.

That this decision led to deaths is incontrovertible. According to the testimony of University of Melbourne allergy specialist Professor Jo Douglass, there was an average of just 15 minutes between people experiencing severe symptoms and cardiac arrest.

On a "60 Minutes" television report in May 2017, the mother of 20-year-old asthma victim, Hope Canevali, described how she rang back AV when the promised ambulance had not arrived. After been kept on hold for many minutes, she was told, once again, the ambulance was on its way and not to transport her daughter to hospital. Hope died in her arms on the front lawn of the house—six minutes from the nearest hospital—while waiting for an ambulance to arrive. As she recounted, had she been told an ambulance had not been dispatched, she would have taken Hope to the hospital "but that choice was taken from me."

The Victorian Labor government's response was not to increase staff levels and the preparedness of the health system for future events of this nature, but to develop a new script for Triple O operators. Priority callers to AV will now be told "help is being arranged" but they should consider arranging their own transport.

Triple O operators now have the discretion to end a call in order to deal with higher priority cases, a decision that operators will have to make quickly and under pressure, which could lead to calls being erroneously ended.

The thunderstorm asthma event of November 2016 was the most intensive and deadly in history internationally, but it was not an unknown phenomenon. Melbourne is known as a global hotspot for thunderstorm asthma because of grass grown in regional Victoria. On November 21 there was a heatwave before a cool change at 5 p.m. Rye grass pollen swept in from the countryside northwest of Melbourne and became saturated with water. The pollen burst into fine particles, provoking asthma in thousands of people.

The city had experienced three previous non-fatal events in 1986, 1987 and 2010. Most significantly, the seriousness of the 2016 event was predicted and warned about 24 hours earlier by Doctor Philip Taylor of Melbourne's Deakin University AirWatch facility. His warnings went unheeded.

AirWatch operates the only volunteer pollen counter in the world. Over the past 25 years Dr Taylor and Biomedical Science Associate Professor Cenk Suphioglu,

also from Deakin University, had studied the effects of thunderstorm asthma and campaigned for pollen count stations and warning facilities in Victoria.

In 2012, respiratory specialists in Victoria appealed unsuccessfully for an advance-warning system for thunderstorm asthma.

Hospital emergency departments were also overwhelmed in 2016, with patients reduced to sleeping on the floor. At least two major hospitals, including the Royal Melbourne, ran out of Ventolin, a basic asthma medication.

On November 21, nearly 10,000 people presented at hospital emergency departments in metropolitan Melbourne and Geelong. At Footscray Hospital, in Melbourne's west, which has three ambulance bays at emergency, between 8 p.m. and 9 p.m., 37 ambulances lined up for help with their critically-ill patients. At nearby Sunshine Hospital, 18 ambulances banked up in the early hours of the morning.

Despite calling in almost 80 extra paramedics, doubling the call operator staffing and cancelling all meal breaks, police and fire crews had to supplement the ambulance service, along with non-emergency vehicles and field doctors specialising in disasters.

The 10 thunderstorm asthma victims who died were Omar Jamil Moujalled, 18, Hope Marsh, 20, also known as Hope Canevali, Apollo Papadopoulous, 35, Clarence Leo, 37, Ling-Ling Ang, 47, Thao La, 48, Hoi-Sam Lau, 49, Priyantha Peiris, 57, Min Guo, 29 and LeHue Huynh, 46. Some victims died waiting for ambulances that did not arrive.

The court heard that eight victims were from Melbourne's northwest, where the storm appeared to have hit hardest. The victims were mostly men, with an average age of 36, and were predominantly from Asian backgrounds, recently immigrated to Australia. Professor Douglas hypothesised that they developed allergies within three or four years of arriving.

AV executive director of emergency operations Michael Stephenson told the inquest that before November 2016, he had never heard the term thunderstorm asthma or heard anyone at his organisation use it. He described that night as "extraordinary" and "very confronting."

Earlier, the Victorian government commissioned an inquiry by the Inspector General of Emergency Management (IGEM). This was in response to the popular anger over the inadequate response on the night of November 21.

A constant theme of the report was the lack of coordinated systems, leadership and communication between the different layers of the health system, which resulted in information not being available in a timely and clear manner to hospitals, ambulances and the public.

It stated: "Minimal public information, emergency warnings or health advice were issued on 21 November 2016 during the thunderstorm asthma event" (Finding 18). Further: "Communication was adhoc, inconsistent across health services and not timely." (Finding 4)

Despite being the first responder to health emergencies, AV is not a control agency for any emergency and did not have access to the necessary platforms and networks. AV resorted to Twitter to send tweets with high alerts.

While the thunderstorm hit Geelong at 5 p.m. and moved rapidly eastward toward metropolitan Melbourne by "8 p.m. there was no understanding of the number of people affected and the severity of the consequences."

The Labor government's response to the IGEM report was a derisory $15.56 million in funding, for research, education and engagement campaigns, monitoring of pollen data, research to inform response protocols and improved real time monitoring of data.

While the crisis of November 2016 was caused by weather and environmental conditions, the entire health system buckled. This was the outcome of years of austerity measures imposed by Liberal and Labor governments alike.

The Labor government's reaction, which is not to deal with the fundamental problems within the public health system but to paper over the political establishment's responsibility for the disaster will mean the next thunderstorm asthma event could lead to worse outcomes.