Senate Environment and Communications References Committee Inquiry on

Recent trends in and preparedness for extreme weather events

Submission from
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- Introduction :

  I am a public health physician and researcher into the impacts of climate change on human health. I have some comments to make in relation to the impacts of extreme weather events on human health in Australia, our preparedness to prevent and respond to extreme weather events and gaps in Australia's adaptation response. I have recently undertaken some pilot research on impacts of extreme weather on homeless people and services in Victoria, with colleagues Dr Catherine Pendrey and Dr Janet Stanley. This has been submitted for peer-reviewed publication and was recently presented at a scientific forum on climate change: see http://www.smc.org.au/2012/06/news-briefing-cities-under-stress-urban-life-and-extreme-weather/

- Climate change is predicted to accentuate changes in the frequency and intensity of extreme weather (CSIRO and BOM, 2012; McMichael et al., 2012; Steffen et al., 2012).

- Extreme weather events such as floods, bushfires, drought, severe storms and extreme heat are expected to have an increasing impact on the health and well-being of populations (Hughes and McMichael, 2012; McMichael et al., 2012). These impacts include deaths and illness, mental health problems, social dislocation and increasing pressure on health and welfare services. There is currently insufficient knowledge as to how acute care and community health and welfare sectors can meet this emerging challenge.

- In early 2009, south-eastern Australia experienced exceptional extreme heat events culminating in the Black Saturday Bushfires. From 26th January to 1st February in Victoria there were an estimated 374 excess deaths, a 25% increase in metropolitan ambulance emergency cases and 12% increase in emergency department presentations (DHS, 2009). The bushfires, which commenced on 7 February, resulted in 173 deaths with 414 patients initially presenting to emergency departments, and destruction of over 2000 homes (AEMI, 2011).

- The severity of impacts depends on the level of people's exposure and vulnerability to these extremes. Those who have been identified as having increased vulnerability to climate change include the very young, the elderly, those with chronic illness, those on low incomes and those in isolated situations (Hughes and McMichael, 2012; McMichael et al., 2012). In Australia people who are homeless are amongst the most disadvantaged of citizens and struggle to maintain good health. With greater exposure, higher rates of illness and poorer ability to protect themselves, they are likely to be amongst the most vulnerable to climate change (Ramin and Svoboda, 2009; Kermode et al., 1998).

- Extreme heat can exacerbate chronic disease and mental illness. Having a psychiatric illness may triple the risk of death from extreme heat (Bouchama et al., 2007). Bushfire and flood events have been associated with increased mental illness,

including depression and anxiety as well as post-traumatic stress and substance use disorders (Few et al., 2004; Guha-Sapir et al., 2010; Marshall et al., 2007).

- Flooding can disproportionately affect the homeless as they occupy more marginal areas (such as caravan parks) and may have reduced opportunities for transport away from affected sites (Few et al., 2004). During Hurricane Katrina in the USA, for example, poor and marginalised people were most affected, and following this event, the homeless population of New Orleans nearly doubled (Ramin and Svoboda, 2009).

- Our research project aimed to investigate the impacts of extreme weather on the health and well-being of homeless people in Victoria, as reported by service providers, and the potential implications for this population in a changing climate. Seventeen service providers across Victoria participated, with 9 from metropolitan Melbourne, and 8 from rural Victoria. The majority of services provided both acute and long-term support services. All interviewees reported that at least one extreme weather event had affected the health of their clients. Sixteen reported that clients' health had been affected by floods, 14 by extreme heat, 13 by bushfires and 11 reported impacts from storms. Extreme heat and flooding were the most commonly reported stressors on health in urban areas, with bushfire and flooding being the most mentioned in rural areas. Participants described a range of health impacts amongst clients associated with exposure to extreme weather events including hospitalisation or death of homeless clients, increased consumption of drugs and alcohol and adverse impacts on mental health.

- Our findings are consistent with evidence showing extreme weather events contribute to poor health by triggering or prolonging homelessness and exacerbating poverty, mental health problems and the effects of physical injuries and chronic disease (Bouchama et al., 2007; Few et al., 2004; Guha-Sapir et al., 2010; Mallet et al., 2011; Marmot, 2005; Ramin and Svoboda, 2009). Extreme weather events were described by service providers in our study as having a "magnifying effect" on highly prevalent existing physical and mental health problems among homeless people.

- Subpopulations of vulnerable people, such as the homeless, are often poorly represented in disaster planning and public health messaging (Edgington, 2009; Raymond, 2009; Quine et al., 2004) and may require more specific consideration in emergency planning.

- Growing numbers of people have been documented in boarding houses in Melbourne (Chamberlain, 2012), with substandard conditions in many instances such that residents may not be able to reduce their risk from extreme heat. Study participants reported that extreme weather events, such as heat waves, create hazardous conditions for those on the street and staying in rooming houses. They highlighted a lack of a cool and sheltered space accessible by homeless persons, who were frequently moved on from these spaces, such as shopping centres.

- The majority of our study participants (13) reported that extreme weather events had impacted upon the ability of their organisation to provide services to homeless clients at least moderately. Almost all (16) participants reported increased demand for services during extreme weather events and an increased workload. In contrast, less than half (7) indicated that climate change had been incorporated into planning for their organisation.

- Conclusion:

  Extreme weather events will present increasing threats to population health and well-being under climate change. These impacts are likely to be disproportionately felt by the most vulnerable in society, including those who are homeless. The capacity of community health and welfare services to cope with increasing service demands has not been adequately addressed to date, and effective policy solutions are needed to protect those who are among the most vulnerable in our society.

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