The influence of climate change on the health of Aboriginal people in Melbourne: A rapid appraisal of the literature

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Introduction

Climate change and Aboriginal people
Warming of the Australian climate, and its impacts on weather and other parts of the environment in which Australians live, are already beginning to effect people and communities. Over time the effects of a warming climate will grow. Adaptation to the changing environment requires change in health and other systems that will be incremental but begin to become established over the next decade, coinciding with developments in Koolin Balit, the Victorian government strategic direction for Aboriginal health 2012-2022. Climate change provides a context within which all segments of the Australian community, and all health services, have to function.

Horton et al (2008) identify 10 major categories of health risk from climate change. The three currently impacting upon Victorian communities are described in Table 1 below.

Table 1. Current risks to health from climate change (adapted from Horton et al 2008:10).

| Main categories of risks to health (Horton et al 2008:10) | Elaboration on the risks *
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<td>1. Health impacts of extreme weather events (floods, storms, cyclones, bushfires etc)</td>
<td>Extreme events cause injury to people, damage to infrastructure (e.g. power, buildings – homes, community facilities and businesses, and water services) and economic activity, leading to contamination and disease, social and economic dislocation and the mental health effects of trauma.</td>
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<td>2. Mental health consequences of social, economic and demographic dislocations. [Note: Limiting health impacts of dislocation to mental health is inappropriate. Dislocation exacerbates the effects of the social determinants of health.]</td>
<td>Disadvantaged populations are expected to have limited capacity to adapt. The health effects are more diverse than simply mental health impacts. For example, when support networks are disrupted and employment, housing and transport, in particular, become less enabling, the impact on capacity for adaptation can be substantial.</td>
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<td>3. Health impacts of temperature extremes, including heat waves</td>
<td>Heat waves are becoming more common leading to increased morbidity and mortality. Effects vary with duration, timing in the season and vulnerability of the population. People who are very old, very young, people who are frail or have limited capacity to modify their environment are most at risk.</td>
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Research evidence
There is very little research literature directly addressing, or relevant to, the health impacts of climate change on urban Aboriginal populations. The literature that is available falls into two main categories. The first, is about documenting and understanding Traditional Ecological Knowledge (TEK) in Aboriginal communities that continue to live ‘on country’ in Australia. The second is about the intersection of climate change with social inequity and the impacts on human health that follow.

This paper is not a detailed review. Rather it seeks to outline the main themes in these two bodies of work and identify some implications for urban Aboriginal communities in Melbourne.
Traditional Ecological Knowledge (TEK)

Land is widely understood to be key part of Aboriginal culture. Valuing relationship to land is universally important.

*Even though nearly 40% of Indigenous adults living in non-remote areas did not recognise an area as their homelands in 2004-5, up by 50% over the previous decade (SCRGSP 2007), indicators relating to the relationship with land were universally considered important among Indigenous people (Garnett & Sithole 2007:32).*

Climate change researchers have worked with Aboriginal people still living on traditional land to document their understanding of its ecology, and then to locate this understanding in a broader cultural framework. This is what is meant by the term Traditional Ecological Knowledge (TEK).

Most of the studies of Australian Traditional Ecological Knowledge (TEK) have been undertaken in communities in Northern Australia. The researchers work with traditional owners of a locality to develop a calendar defining seasons, weather conditions, patterns in animal and plant life, their availability, interactions and cycles of variation. These calendars contain knowledge of country accumulated through generations of close observation and experience adapting to variation in conditions, located in the cultural context of the traditional owners of that land. Some also contain observations of recent change that is outside the understanding of traditional variation (Green et al 2010; Turner & Clifton 2009; Petheram et al 2010; Leonard et al 2013). The research paper by Leonard et al (2013) describes the development and summary content of a seasonal calendar in the East Kimberley region and locates it within Houde’s (2007) cultural framework of TEK. The CSIRO have published a number of seasonal calendars available at http://www.csiro.au/Portals/About-CSIRO/Who-we-are/CSIRO-Indigenous-Engagement/Publications.aspx
Houde (2007) defines TEK as: ...all types of knowledge about the environment derived from experience and traditions of a particular group of people (Houde 2007:36).

Houde (2007) describes six categories which together describe a Western understanding of TEK.

1. **Factual observations, classifications and systems dynamics.** It is about understanding and describing the components and dynamic of ecosystems.

2. **Management systems.** These are strategies used to sustainably manage local natural resources. These two components of TEK have been of most interest to scientists and environmental managers.

3. **Past and current uses.** This element is about historical patterns in land use, cultural and historical sites, that inform narratives transmitted over generations to provide a cultural sense of family and community and its relationship to the land.

4. **Ethics and values.** This element is a widely shared understanding of how things should be, for example respect towards humans, non-human animals and the environment. Ethics and values provide the link between ‘facts and actions’ and the belief systems embodied in culture and identity.

5. **TEK as a vector for culture and identity.** This element of TEK is about the belief systems that make up a cultural identity ... ‘the stories, values, and social relations that reside in places ... [and that contribute to] the survival, reproduction, and evolution of aboriginal cultures and identities’ (Houde 2007:40) and spirituality.

These three components describe the cultural context of local ecology and land management. The first five components of TEK collectively constitute the cosmology.

6. **Cosmology.** This is the TEK world view, a philosophical and spiritual orientation, which frames the role of humans in the world and their relationships to other parts of the natural world.
Traditional Ecological Knowledge (TEK) cont.

In the climate change literature TEK is understood as being particularly important because it provides direct knowledge of ecosystems, contributes new approaches to adaptation to a changing climate, and provides alternative strategies for sustainable living (for example, Prober et al 2011; Leonard et al 2013). The world view, or cosmology, shared by a group or society is fundamentally important to their decision making in regard to adaptation.

Urban Aboriginal communities are diverse, in many ways. The acceptability and appropriateness of health services are framed by Aboriginal culture, values and ways of living. Among urban Aboriginal people identification with traditional country is varied.

Aboriginal and Torres Strait Islander people living in any major urban area include people whose ancestors lived on the land now built upon, people whose families moved to the urban centre generations ago (either forcibly or voluntarily), people from rural and remote areas who now spend most of their time in the urban area, and people from rural and remote areas who are visiting the urban area for various reasons and for various lengths of times (Scrimgeour & Scrimgeour 2007:9).

Within urban Aboriginal communities there are individual, family and group networks providing cultural support but these are not always visible to non-Aboriginal people and not all Aboriginal people have a meaningful place in them (Scrimgeour & Scrimgeour 2007).

Mostly we witness a failure to acknowledge the diversity of Aboriginal identities, along with a failure to imagine ways in which strong Aboriginal identities can be allowed to mingle in multicultural landscapes without being assimilated, hybridized or otherwise de-legitimated. Stereotypical, racist and other exclusionary practices and ideas are the drivers of inequality (Brough et al 2006 cited in Scrimgeour & Scrimgeour 2007:12).

We do not know the role of TEK in the identity, value systems and world views of urban Aboriginal people living in Melbourne but, as in point 5 of the TEK framework, it probably has a role in transmitting culture and identity among urban Aboriginal people. Within the framework of TEK the health of the environment affects the cultural, mental and physical health of people and climate change issues are connected to social and health issues (Petheram et al 2010).

It has been argued by health workers that the culturally appropriate Northern Territory Families as First Teachers program has supported cultural transmission in Aboriginal communities to the benefit of children, and is potentially a significant climate change adaptation initiative. It is possible that encouraging the engagement, in the urban environment, between elders and young people may be a strategy to strengthen culture and identity, social and mental health.

In the Northern Territory an evaluation of investments in Indigenous Natural and Cultural Resource Management (ICNRM) in the form of the Healthy Country, Healthy People projects found a relationship between these projects and the health of participating Aboriginal people.
Aboriginal people actively involved in ICNRM were demonstrably healthier than those who weren’t. In particular they had low levels of the precursors of cardiovascular disease and diabetes. They also felt good about themselves because they were fulfilling cultural responsibilities, eating good traditional food and avoiding the social tensions of town life (Garnett & Sithole 2007:iv).

The researchers argue that: the evidence is sufficient to support the proof of concept that investment in ICNRM appears to be an important strategy for the prevention of chronic diseases and their complications (Garnett & Sithole 2007:25). Although it is not appropriate to import the Northern Territory ICNRM projects into Urban Victoria the underlying concept may be adaptable to this context for some Aboriginal population groups through intersectoral partnerships.

Examples of potential activities.


2. Programs that link young people to elders around TEK as a strategy to strengthen community and identity (Leonard et al. 2013). Traditional food production in an urban community garden may be a vehicle for cultural support and practical action.

3. Strategies that engage Aboriginal people in appropriately designed natural resource management activities (Garnett & Sithole, B. 2007:25) in Victoria may be able to create similar benefits to those found in such projects in the Northern Territory.
Social inequity

There is a frequently expressed argument that, in general, ‘the poorest and weakest groups, such as elderly people, persons with disabilities, children and minorities would be most exposed to climate change consequences’ (Costello et al 2009:1721). The logic of the argument is that ‘because climate change acts mostly as an amplifier of existing risks to health, poor and disadvantaged people will experience greater increments in the disease burden than rich, less vulnerable populations’ (Costello et al 2009:1712).

Groups most likely to experience the greatest impact from climate change are: people who are old or sick, on low incomes, in outer suburbs, in rental housing; people in poor quality housing (Garnaut 2008:139); people who speak a language other than English at home; people with disabilities (Lancet/UCL Commission); children (UNICEF); and, Aboriginal Australians. Disadvantage in relation to these issues reduces the adaptive capacity of the population group. Aboriginal people may experience all of these disadvantages in relation to climate change with the exception of speaking a language other than English at home.

Examples of potential activities


2. Intersectoral partnerships between health services and housing, education and employment agencies to enhance their capacity to address social disadvantage in the populations they serve.
Bibliography


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