Public health planning and climate change

Introductory

Changing climatic conditions threaten access to clean air, safe water, quality food, and adequate shelter, as well as complicating the control of infectious and respiratory diseases. All these factors impact on public health and community well-being.

Western Australia (WA) is already experiencing the impacts of climate change. Between 1910 and 2021, WA warmed by about 1.3°C. Rainfall has declined across the southwest of WA, experiencing the greatest decrease across Australia. WA will continue to experience the impacts of climate change with expected future projections including:

- A rise in mean, maximum, and minimum temperatures, increasing by about 2°C by 2050 compared to 1910.
- An increase in the number of hot days (>30°C) and very hot days (>40°C) in all locations, with greater increases in northern areas of WA, and fewer days of frost risk.
- Longer fire seasons and more days of very high fire danger.
- A rise in sea levels of about 24cm along the coastline by 2050, and by approximately half a meter by the end of the century.
- A continued rise in sea surface temperatures and in ocean acidification, and an increase in marine heatwaves.
- A likely increase in convective storms, with increased hail probability in southeast WA.
- A decrease in frequency of tropical cyclones, which are likely to have higher intensity.
- A continued decrease in mean rainfall in the southwest.
- Greater variability of rainfall and likely more intense extreme rain events, leading to both more very wet and more very dry (i.e. drought) years.

The Climate Science Initiative provides further information on WA climate change projections.

Policy context

The WA Climate Policy outlines how state and local partnerships can ensure our communities are safe and our regions are resilient.

The *Public Health Act 2016* requires both state and local government to develop public health plans. A priority of the State Public Health Plan 2025-2030 is to manage the effects of climate change on people's health and reduce the health system's environmental footprint. Local governments are required to make their plans consistent with the State plan. The suite of climate change factsheets aims to support local governments in developing their own local public health plans.

Local governments are at the forefront of dealing with climate risk and are ideally situated to enable place-based, community responsive, and integrated climate mitigation and adaptation activities. There is significant activity already happening across local governments aligned with public health and climate change planning. This includes local emergency management plans, land use and planning guidelines, community development and social

inclusion plans, sustainability or climate action programs, and asset lifecycle management plans. In developing public health plans that integrate climate change risks, there is an opportunity to highlight, incorporate and create connections across programs and plans which benefit the health and wellbeing of the whole community.

Health impacts of climate change

The effects of climate on health are various and interconnected. Climate change hazards can affect health either directly or indirectly or can undermine the foundations for health such as functioning infrastructure and access to good and services. Individuals and communities with higher sensitivity, and those with less capacity to adapt, will be those most affected. Groups at risk include women and children, the elderly, those with pre-existing medical conditions, people living with disability, Aboriginal people, culturally and linguistically diverse groups, those living in rural and remote areas, those in outdoor occupations, and poor and/or marginalised communities.

Direct health effects

Temperature increases and heatwaves are associated with adverse effects on cardiac (heart) conditions, foetal health, renal (kidney) health, and mental health conditions. Bushfires and bushfire smoke have been linked to respiratory (breathing) and mental health conditions, while a change in rainfall, including drought or flooding, can lead to infections, injury or mental health conditions. Climate change increases the likelihood of multiple hazards occurring at the same time, such as a heatwave and bushfires, or storm surge in coastal areas together with catchment flooding. This can lead to multiple and concurrent effects on peoples' health.

Indirect health effects

Indirect health effects of climate change result from changes to the environments with which people interact. This includes air pollution, the availability of safe drinking water, and adequate nutrition. The changing climate will also change the distribution of disease vectors such as mosquitoes, and water- and food-borne infectious diseases. Changes in economic and social systems, including loss of community infrastructure or services, migration or relocation, loss of connection to country, and conflict or economic hardship related to damaged property, supply chain disruption or more expensive goods, all have indirect effects on health.

Figure 1 (overleaf) provides an overview of climate-sensitive health risks, their exposure pathways and vulnerability factors.

Responding to climate change

Mitigation and adaptation are two complementary processes in addressing climate change.

Adaptation is the process of adjustment to the actual or expected effects of climate change, to reduce harm or gain benefits. It addresses the consequences of climate change and reduces vulnerability to its effects. Public health planning should consider how the health needs of the community might change in response to the changing climate. Integrating projected climate conditions into policies relating to areas such as land use planning, community and social services, community resilience, housing, waste, and water supplies is critical to maintaining and improving the health of local communities.

Mitigation, in common usage, refers to the action of reducing the severity, seriousness, or negative impact of something. When the term is used in relation to climate change, it refers to actions taken to reduce greenhouse gas emissions e.g. actions that reduce energy consumption

from burning fossil fuels. Local governments have a key role to play in protecting the health of their communities by planning and implementing emission reduction efforts in collaboration with other agencies and organisations. Policies across the range of local government activities should foster climate mitigation and environmental sustainability.

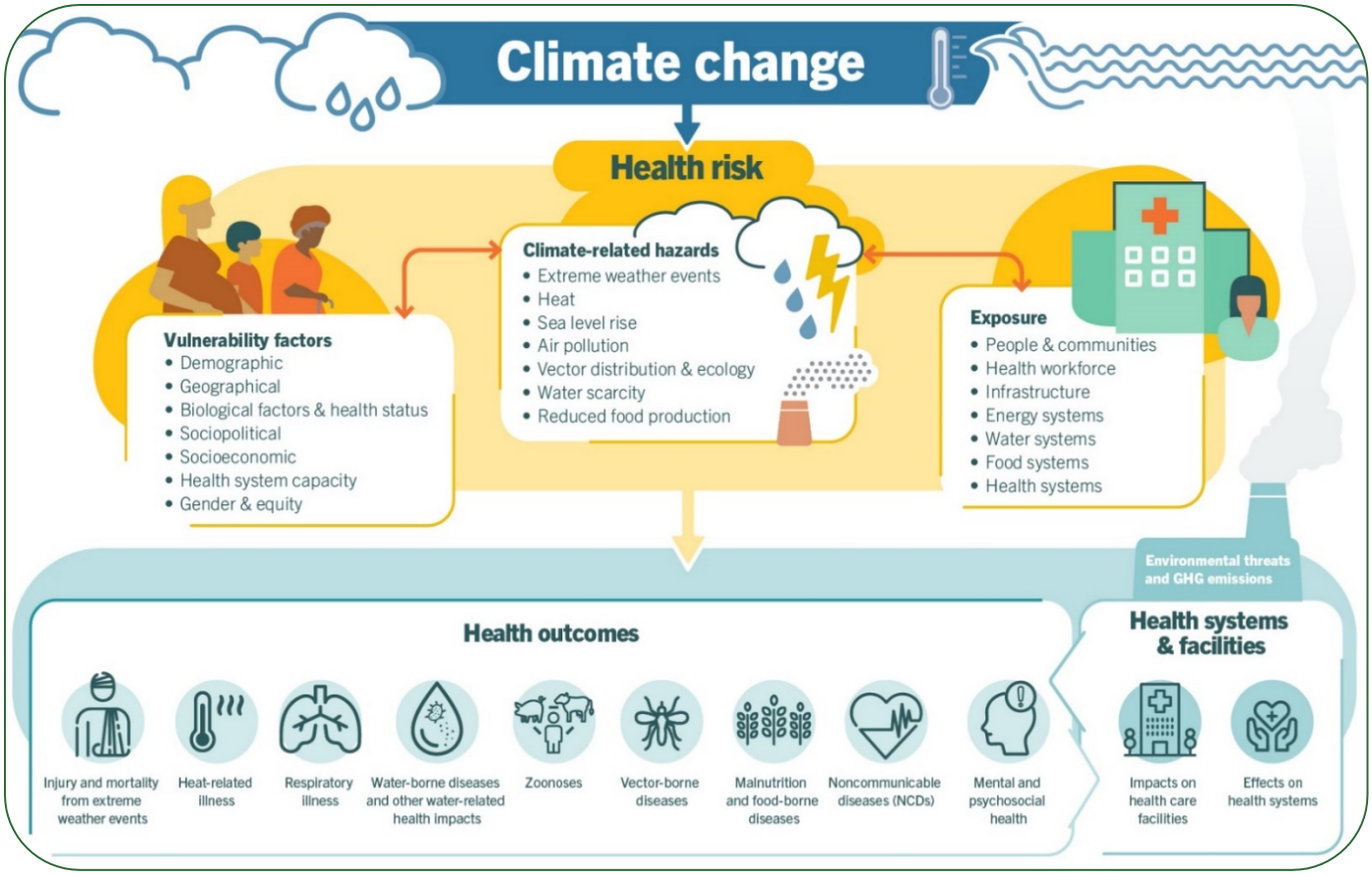

Figure 1: Overview of climate-sensitive health risks (Source: World Health Organization).

Health co-benefits of local government actions

Many activities directed at adaptation or mitigation benefit health in other ways beyond directly reducing the health impacts of climate change; these are often termed ‘health co-benefits’. For example, reducing greenhouse gas emissions from car transport by facilitating footpaths and cycling infrastructure has health co-benefits related to increasing physical activity, improving safety, assisting accessibility for disabled residents, and reducing harmful air pollution.

More broadly, enabling community development that addresses the social, cultural and environmental determinants of health, and building and enabling community relationships and connection, not only improves public health and decreases vulnerability in the event of climate events and emergencies, but also enables better community resilience through improved capability and capacity to respond in the face of a crises.

Public health planning and climate change factsheet series

The Department of Health has developed a series of factsheets designed to support local governments incorporate climate change initiatives in their local public health plans. These factsheets are intended to be read as a complete package and not considered in isolation. The factsheet series comprises:

- Built and natural environment
- Communication, engagement, and capacity building
- Emergency management
- Environmental health
- Healthy and sustainable food systems
- Leadership and governance
- Mental health and wellbeing

This document can be made available in alternative formats on request for a person with disability.

health.wa.gov.au