Heat health plan for Victoria

Protecting health and reducing harm from extreme heat and heatwave

VICTORIA State Government | Health and Human Services

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Foreword

For most Victorians, summer means holidays, days at the beach, picnics in the park, and time with family and friends. However, summer can also pose risks to our health.

Victoria has experienced a number of heatwaves over recent years, and, with the effects of climate change, we are likely to experience extreme heat with greater frequency and intensity in the years ahead.

Extreme heat can affect anyone, including the young and healthy, and there are certain people who are more at risk than others; people who are 65 years old or over, those who have medical conditions, and people taking certain medicines are particularly vulnerable.

Babies and young children are especially in danger during periods of extreme heat, as are people who live alone and people with mental illness or disability.

Heat-related illness can range from mild conditions, such as a rash or cramps, to very serious conditions, such as heat stroke, which can be fatal. Extreme heat and heatwaves can also exacerbate existing medical conditions including heart and kidney disease.

During the January 2014 heatwave, there were 167 deaths that were not otherwise expected. It's vital that Victorians are aware and alert to the dangers of extreme heat.

The 2015–16 *Heat health plan for Victoria* outlines what extreme heat is, how it is monitored and managed by authorities, and how Victorians can and will be informed about protecting themselves, their family and friends from the risks of extreme heat. It is a useful resource for the community and for public organisations, raising awareness about the effects of extreme heat and what can be done to reduce health risks during periods of extreme heat.

I wish all Victorians a safe summer.

Hon Jill Hennessy MP
Minister for Health
Minister for Ambulance Services

Executive summary

The *Heat health plan for Victoria* outlines a coordinated and integrated response to extreme heat in Victoria and sets out the actions and systems in place to support those most at risk during periods of extreme heat.

Rising temperatures and more frequent intense periods of heat are forecast to be a part of Victoria's climate.

As demonstrated in the January 2009 and 2014 heatwaves in Victoria, extreme heat can exacerbate existing medical conditions and cause heat-related illness, which may be fatal. With an estimated 374 excess deaths in 2009 and 167 in 2014, these events reinforce that heat is the single biggest environmental cause of death during emergencies in Victoria.

There is no single agency that has complete responsibility for building, maintaining and protecting the health of at-risk populations during extreme heat. Indeed, all Victorians have important roles to play. As such, it is important that individuals, government and the broader community work together to reduce the health impacts associated with extreme heat and provide support to those most vulnerable in the community.

The updated *Heat health plan for Victoria* is built on the findings and recommendations from the evaluation of the 2009–10 heatwave framework, the Victorian Auditor-General's 2014 audit *Heatwave management: Reducing the risk to public health* and the *State heat plan 2014.* The actions outlined in this plan aim to protect the health of Victorians in extreme heat, specifically those most at risk of negative health impacts. The plan looks at before, during and after extreme heat.

Every summer, the Department of Health & Human Services works with other government departments, departmental program areas, local government and health and community service providers to target the most vulnerable groups in raising awareness of the health impacts of extreme heat and how to survive the heat. There are a range of communication resources on how to survive the heat including a poster, brochure, factsheet for clinicians and a telephone script for telephone-based service providers.

When extreme heat is forecast, the department issues a heat health alert to notify other state departments and agencies, departmental program areas, hospitals, local government, agency partners and health and community service providers of forecast extreme heat conditions that are likely to impact on health. Recipients of the alert are advised to respond in accordance with their heat plans and operational protocols.

The heat health alert, communication resources and the broader coordination of extreme heat planning and responses ensure a coordinated approach to stakeholder and community information and action.

In particular, the plan outlines processes to:

- ensure health is part of an integrated and coordinated approach to the state's management of extreme heat
- ensure the community, at-risk groups and their carers receive clear heat health information and understand the shared responsibilities of all individuals
- develop partnerships and collaborative arrangements to better respond to extreme heat
- increase understanding of the health impacts of extreme heat on communities and their capacity to respond
- develop long-term and sustainable behavioural change to minimise the impacts of extreme heat on health and wellbeing.

Contents

1 Introduction

1.1 Overview and audience

Victorians are generally accustomed to living in hot weather and are known to be resilient in hot conditions. For this reason, many Australians may be complacent about extreme heat and do not believe they are susceptible to heat-related health impacts.

In 2011, the then Department of Health commissioned a telephone survey[1] that explored the perceptions of extreme heat risk in older people in metropolitan and rural Victoria. It showed that almost half believed they were less at risk than the average person and, of those who recalled heat health warnings, almost half failed to change some at-risk behaviour in the heat.

There is evidence worldwide of the negative health impacts of extreme heat and heatwaves. Extreme heat, especially heatwaves, can cause illness and death. However, effective action taken early can reduce health impacts from these events.

In recent times, Victoria has experienced two significant heatwaves; the frequency and intensity of heatwaves is expected to increase as a result of climate change. Most recently in 2014, there were 167 excess deaths as well as an increased demand on health services during a record-breaking[2] four-day heatwave. The impacts were less than those seen during the 2009 heatwave when 374 excess deaths occurred. These 'excess deaths' are deaths that were not otherwise expected and may have resulted from the extreme heat.

The observed decrease in illness and death since the 2009 heatwave may, in part, be attributed to effective heat health planning and response by individuals, communities, organisations and local and state government. Advanced planning and preparedness by everyone will improve the resilience of Victorian communities to extreme heat and reduce the negative health impacts, particularly during emergencies.

The *Heat health plan for Victoria* builds on the original *Heatwave plan for Victoria* released in 2009 and subsequent update in 2011 and incorporates the experiences from the most recent heatwaves in Victoria to provide a consolidated overview of the Department of Health & Human Services' arrangements for reducing negative health impacts from extreme heat. It also suggests actions individuals and organisations can take to protect health during extreme heat, particularly those most at risk.

Everyone is vulnerable to extreme heat; however, there are some people who are more at risk. These include people 65 years old and over, people who have a pre-existing medical condition, people taking medication that may affect their ability to cope in the heat and people living alone or who are socially isolated. A more detailed list can be found in Appendix 1.

The *Heat health plan for Victoria* is primarily for health and community service providers and local and state government who engage with, provide services to or advocate for those most at risk. However, individuals, community organisations and other agencies can benefit from the plan because everyone has a role to play in protecting those most at risk.

> Extreme heat is potentially deadly. We all owe it to our communities to help prevent the negative health impacts.

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1 Reducing harm to older persons in Victoria from extreme hot weather <www.health.vic.gov.au/environment/heatwaves-research.htm>

2 Special Climate Statement 48 – one of southeast Australia's most significant heatwaves <www.bom.gov.au/climate/current/statements/scs48.pdf>

1.2 Objective and scope

The *Heat health plan for Victoria* aims to raise awareness of the negative health impacts of extreme heat and actions that can be taken to reduce the risk, particularly for those most vulnerable.

The plan sets out the actions the Department of Health & Human Services takes to prepare for and respond to extreme heat to reduce negative health impacts, including issuing heat health alerts and communicating how to survive the heat. The actions depend on the likelihood of an emergency and whether the extreme heat is widespread.

The *State heat plan*[3] is the overarching plan that sets out a coordinated whole-of-government response when forecast extreme heat is predicted to be an emergency. The *State heat plan* contains links to the *Heat health plan for Victoria* and other state department heat plans. More information about the broader policy context can be found in Appendix 2.

3 The *State heat plan* can be found at <www.emv.vic.gov.au/plans/state-heat-plan/>.

Additionally, the *Heat health plan for Victoria* recommends actions that individuals, health services, health and community service providers and local government can take to prepare and respond to extreme heat. The collective response by everyone will lead to better health outcomes during extreme heat for all Victorians, particularly those most at risk. Individuals and communities who are more resilient will likely experience less negative health impacts and be better equipped to respond to extreme heat in the future.

Key points

- Everyone is vulnerable to extreme heat; however, there are some people who are more at risk.

- The *Heat health plan for Victoria* provides a consolidated overview of the Department of Health & Human Services' arrangements for reducing negative health impacts from extreme heat.

- It also recommends actions that individuals, health services, clinicians, health and community service providers and local government can take to prepare and respond to extreme heat.

2 Understanding extreme heat and heatwave

2.1 Defining extreme heat and heatwave

There is no single internationally accepted definition of extreme heat or heatwave. The definition is dependent on the impact on health, community infrastructure and services. It is especially difficult given factors such as humidity, demographics, urban or rural design issues and acclimatisation. These factors mean that similar temperatures may have a different impact in different environments or communities.

In general, heatwave is known as a period of abnormally and uncomfortably hot weather that could impact on human health, community infrastructure and services.

The *Heat health plan for Victoria* defines **extreme heat** as the minimum mean temperature that is likely to impact on the health of a community, known as the Department of Health & Human Services' heat health temperature threshold. Extreme heat does not have a prescribed duration and may last as little as 24 hours.

The Bureau of Meteorology's *Heatwave service for Australia* defines **heatwave** as 'three days or more of high maximum and minimum temperatures that are unusual for that location'. This applies to any location in Australia. The service categorises heatwave as 'low-intensity', 'severe' and 'extreme' depending on a number of factors. This can be found at <www.bom.gov.au/australia/heatwave>.

2.2 Heat health temperature thresholds and districts

Based on a range of evidence and information, the Department of Health & Human Services has identified heat health temperature thresholds for each weather forecast district in Victoria, above which heat-related illness and mortality increases substantially.

Figure 1 shows the heat health temperature thresholds for the Bureau of Meteorology's weather forecast districts, which align with the Victorian Country Fire Authority's (CFA) total fire ban and fire danger ratings districts.

Calculating the forecast average temperature

The average temperature is calculated from the forecast **daily maximum** (in this case Tuesday) and the forecast overnight temperature, which is the **daily minimum for the following day** (in this case Wednesday).

An example of this calculation is demonstrated below.

Melbourne

Tuesday

Min: 20 °C

Max: 38 °C

Wednesday

Min: 25 °C

Max: 31 °C

Average calculation for Tuesday

(38 + 25)/2 = 31.5 °C

The threshold for Melbourne = 30 °C.

The temperature forecast indicates that the threshold will be exceeded.

This calculation will be repeated for each of the seven days included in the daily forecast.

The heat health temperature thresholds are based on information including average summer temperatures, research conducted by Monash University[4] and temperature thresholds used previously. These thresholds differ in different parts of the state.

The forecast average temperature for any given day is the average of the forecast daily maximum temperature and the forecast overnight temperature (which is the daily minimum for the following day).

Once forecast average temperatures are predicted to reach or exceed the heat health temperature threshold for a specific weather forecast district, the department will issue a heat health alert for that district as described in section 3.2.

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4 Reference temperature thresholds associated with increased mortality in 10 major population centres in rural Victoria, Australia <www.health.vic.gov.au/environment/heatwaves-research.htm>

Figure 1: Heat health temperature thresholds and corresponding weather forecast districts

Mallee District   34 °C
Buloke Shire
Gannawarra Shire
Mildura Rural City
Swan Hill Rural City
Yarriambiack Shire (north of the netting fence)

Wimmera District   32 °C
Hindmarsh Shire
Horsham Rural City
Northern Grampians Shire
West Wimmera Shire
Yarriambiack Shire (south of the netting fence)

South West District   30 °C
Ararat Rural City
Colac Otway Shire
Corangamite Shire
Glenelg Shire
Moyne Shire
Pyrenees Shire
Southern Grampians Shire
Warrnambool City

Northern Country District   32 °C
Campaspe Shire
Greater Bendigo City
Greater Shepparton City
Loddon Shire
Moira Shire
Strathbogie Shire

North Central District   30 °C
Central Goldfields Shire
Lake Mountain Alpine Resort (Unincorporated)
Mitchell Shire
Mount Alexander Shire
Murrindindi Shire

North East District   32 °C
Alpine Shire
Benalla Rural City
Falls Creek Alpine Resort (Unincorporated)
Indigo Shire
Mansfield Shire
Mount Buller Alpine Resort (Unincorporated)
Mount Hotham Alpine Resort (Unincorporated)
Mount Stirling Alpine Resort (Unincorporated)
Towong Shire
Wangaratta Rural City
Wodonga City

East Gippsland District   30 °C
East Gippsland Shire

West & South Gippsland District   30 °C
Baw Baw Shire
Latrobe City
Mount Baw Baw Alpine Resort (Unincorporated)
South Gippsland Shire
Wellington Shire

Central District   30 °C
Ballarat City
Banyule City
Bass Coast Shire
Bayside City
Boroondara City
Brimbank City
Cardinia Shire
Casey City
Darebin City
Frankston City
French Island (Unincorporated)
Glen Eira City
Golden Plains Shire
Greater Dandenong City
Greater Geelong City
Hepburn Shire
Hobsons Bay City
Hume City
Kingston City
Knox City
Macedon Ranges Shire
Manningham City
Maribyrnong City
Maroondah City
Melbourne City
Melton Shire
Monash City
Moonee Valley City
Moorabool Shire
Moreland City
Mornington Peninsula Shire
Nillumbik Shire
Port Phillip City
Queenscliffe Borough
Stonnington City
Surf Coast Shire
Whitehorse City
Whittlesea City
Wyndham City
Yarra City
Yarra Ranges Shire

Map labels:
Mildura — 34 °C Mallee
32 °C Wimmera — Horsham
30 °C South West — Hamilton
32 °C Northern Country — Shepparton, Bendigo
30 °C North Central — Seymour
32 °C North East — Wodonga
30 °C Central — Ballarat, Melbourne, Geelong
30 °C West & South Gippsland — Sale
30 °C East Gippsland — Bairnsdale

Key points

- One day of extreme heat can impact on human health.

- The *Heat health plan for Victoria* defines **extreme heat** as the minimum mean temperature that is likely to impact on the health of a community.

- The Bureau of Meteorology's *Heatwave service for Australia* defines **heatwave** as 'three days or more of high maximum and minimum temperatures that are unusual for that location'.

- Once forecast average temperatures are predicted to reach or exceed the heat health temperature threshold, the Department of Health & Human Services will issue a heat health alert.

- Heat health temperature thresholds differ by weather forecast district, so subscribe to receive heat health alerts for your district from <www.health.vic.gov.au/environment/heatwaves-alert>.

3 Heat health actions

In Victoria the responsibility for building, maintaining and protecting the health outcomes of vulnerable population groups in extreme heat involves multiple organisations and individuals across various sectors and communities. Individuals, health and community service providers, local and state government and emergency management agencies across Victoria must work together to support all community members, especially those who are most at risk from the health impacts of extreme heat.

Government and service providers offer a range of services to clients with specific needs such as people identified as being vulnerable to multiple hazards, those who are geographically or socially isolated, and those who are physically dependant or unable to make independent decisions due to cognitive or other impairment.

Tables 1–6 at the end of this section list actions the Department of Health & Human Services will take as well as actions others can take before, during and after extreme heat.

3.1 Before summer

3.1.1 Department of Health & Human Services

The Department of Health & Human Services works with other state government departments, local government and health and community service providers that provide information and services to at-risk groups and their carers during extreme heat to raise awareness about the health risks of extreme heat and promote heat health planning and response at the community level.

> There are many organisations, individuals and services involved in responding to extreme heat. We must all work together if we are to be effective in responding.

Consistent heat health messages are essential to increasing the likelihood of behaviour change and reducing negative health impacts. To support this, the department has a range of communication resources that are widely distributed to local government, health and community service providers and community organisations for use with their staff, clients and members. More information about the resources is available in section 4.1.

Likewise the department works with other government departments and the Bureau of Meteorology to promote consistent community heat health messaging. The department's media kit is available to support local messaging via the media, print or on the web. More information about communication channels can be found in section 4.2. Further collaboration occurs through exercises that bring relevant government agencies, emergency responders and health and community service providers together to discuss and improve their individual and collective responses to extreme heat.

The Department of Health & Human Services' heat health alert system notifies recipients of forecast extreme heat conditions for specific weather forecast districts that reach or exceed heat health temperature thresholds. Prior to summer, the department releases the *Heat health alert system information and guidance* document (available online at <www.health.vic.gov.au/environment/heatwaves-alert>) and tests the system. (More information on issuing heat health alerts can be found in section 3.2.1.)

The department begins incorporating heat health information and actions into existing departmental programs that support those most at risk such as:

- promoting heat health information at relevant forums to inform planning, preparedness and response to extreme heat
- including forecast hot weather notifications and tips to stay cool as part of the Keeping in Touch program for public housing tenants who are 75 years old or over. The program provides a weekly call to eligible tenants (who elect to participate) to check on their health and wellbeing.

Additionally, the department's high-rise public housing complexes have been equipped with electrical generators to operate core services and elevators to ensure that tenants can safely exit premises in the event of a power outage. Within a number of public housing complexes, the department also identifies and prepares community rooms that tenants can access as cool places during extreme heat.

3.1.2 Local government and health and community service providers

Local government and health and community service providers are encouraged to undertake their summer preparations including updating heat health plans and other relevant plans using the department's *Heatwave plan review tool* (see <www.health.vic.gov.au/environment/heatwaves-planning>). Some local actions may include ensuring appropriate staffing levels, considering staff and client safety in hot weather and ensuring staff are appropriately trained to explain the risks of extreme heat during client visits. This might also include updating individual heat health plans for clients, as well as preparing or updating a communication strategy and business continuity service plans.

Additionally, staff may also download the Better Health Channel app (see <www.vic.gov.au/social-media/mobile-apps/better-health-channel-health-information-and-services.html>) and subscribe to receive heat health alerts (see <www.health.vic.gov.au/environment/heatwaves-alert>) to be made aware of when extreme heat is forecast. Staff providing services may also encourage clients, their families and carers to download the app or subscribe to receive heat health alerts.

3.2 Immediately before forecast extreme heat

3.2.1 Department of Health & Human Services

The department issues a heat health alert when the forecast average temperature reaches or exceeds the heat health temperature threshold for a specific weather forecast district, as described in section 2.2. The alert is provided through a subscription service which, although available to everyone, is particularly targeted to departmental program areas, health services, local government, agency partners and service providers. The subscription is available by completing the form located at <www.health.vic.gov.au/environment/heatwaves-alert>.

Recipients are notified of forecast extreme heat conditions that are likely to impact on human health. They are asked to take action in accordance with their heat health plans. Recipients should also monitor local weather conditions and activate other plans, such as service continuity plans, emergency management plans and occupational health and safety plans, that contain heat-related actions.

More information is available in the department's *Heat health alert system information and guidance document,* which can be found at <www.health.vic.gov.au/environment/heatwaves-alert>.

Chief Health Officer

The Department of Health & Human Services' Chief Health Officer plays a critical role in informing and supporting both the Victorian community and the government to protect those most at risk during extreme heat.

The Chief Health Officer raises awareness of the negative health impacts of extreme heat and actions that can be taken to reduce the risk, particularly for those most vulnerable, by:

- issuing heat health alerts when extreme heat is forecast (see section 3.2)
- providing consistent heat health messages to the Victorian community in conjunction with the Emergency Management Commissioner and Ambulance Victoria
- reporting on data collected by the Heat Health Information Surveillance System to inform the immediate heat health response during periods of extreme heat (see section 3.2).

As referenced in the *State heat plan,* the Chief Health Officer also participates in the State Emergency Management Team and the State Coordination Team, which ensure whole-of-government arrangements in planning for and responding to during extreme heat. This further promotes the potential health impacts and consequences of extreme heat to all state agencies.

The department's Better Health Channel app provides smartphone users with early notification of forecast extreme heat conditions for their elected location up to two days in advance. The app utilises the same heat health temperature thresholds as the heat health alert system. The notification is supported with key heat health messages. The app can be downloaded for free from <www.vic.gov.au/social-media/mobile-apps/better-health-channel-health-information-and-services.html>.

The VicEmergency website promotes the department's heat health alert and community heat health messaging. The website can be found at <www.emergency.vic.gov.au>.

High temperatures may also signal the release of heat health messages to the broader community through various channels as described in section 4. Media releases and interviews with the Chief Health Officer, the Emergency Management Commissioner and agencies such as Ambulance Victoria and the Bureau of Meteorology provide consistent heat health messages to the broader community.

3.2.2 Local government and health and community service providers

Local government and health and community service providers should continue monitoring local weather conditions and respond in accordance with their heat health and emergency management plans and operational protocols to ensure safe service provision and business continuity once an alert has been issued.

3.3 During extreme heat

The *State heat plan* is the overarching document that outlines the whole-of-government response to extreme heat for reducing negative impacts and consequences on the community, infrastructure and services. A number of agencies and departments will need to respond to a range of incidents including health, energy and transport incidents and also major bushfire and storm events.

Significant extreme heat in 2009 and 2014 required a whole-of-government response. Both events were prolonged, widespread and resulted in a loss of life.

The main emergency management tasks during extreme heat are:

* ensuring the messages to the public are coordinated, consistent and complementary
* ensuring the impact and consequences of extreme heat on the community are identified and managed in an integrated and coordinated manner
* coordinating the whole-of-government response to the varied emergencies caused by the heat.

3.3.1 Emergency Management Commissioner

Under the *Emergency Management Act 2013,* the Emergency Management Commissioner has legislated responsibilities across most major emergencies in Victoria and is accountable for ensuring the response to emergencies is systematic and coordinated. Heatwave is a Class 2 emergency under the Act.

The Emergency Management Commissioner is responsible for emergency response coordination of extreme heat at the state tier and ensures the coordination, control, consequence management, communications and recovery functions of these events are integrated and effective.

3.3.2 Victoria Police

Victoria Police is the control agency for heatwaves under the *Emergency management manual Victoria* (EMMV) Part 7 – Emergency Management Roles and Responsibilities.

Victoria Police is also responsible for emergency response coordination at the regional, municipal and incident levels of emergency response management. Victoria Police has the *Guidelines for the operational response to extreme heat* to assist members to perform their control and coordination function.

3.3.3 Department of Health & Human Services

The department's Heat Health Information surveillance System collects and assesses morbidity and mortality data from a range of health and emergency services to track and provide regular reports on the care-seeking and service impact of extreme heat over the summer. The information can be used to identify increased demand on particular health services that may require immediate action, particularly during prolonged extreme heat.

The extreme heat can impact on Ambulance Victoria's capacity to maintain normal operational performance, for example. The Ambulance Victoria heatwave subplan to its *Emergency response plan* aims to ensure the maintenance of normal community response, manage increased demands and ensure staff safety and welfare during this period.

The Department of Health & Human Services has a support function and coordinates the health response during emergencies through the *State health emergency response plan* (SHERP). The Chief Health Officer and the State Health Coordinator (who report to the State Health and Medical Commander) participate in the State Coordination Team (SCOT) and the State Emergency Management Team (SEMT) in order to ensure a whole-of-government heat health response.

The SEMT as described in the *State heat plan* (see <www.emv.vic.gov.au/plans/state-heat-plan>) discusses the risks and likely consequences of the situation, operating throughout a continuum for the readiness for, response to and recovery from the extreme heat.

The State Health and Medical Commander is responsible for the overall direction of a health and medical response to extreme heat and may represent the following agencies:

• Department of Health & Human Services
• Ambulance Victoria
• first aid providers
• medical providers (including general practitioners)
• health services (public and private health services)
• residential and aged care services
• relief agencies
• local councils.

More information about what these agencies could do to plan and prepare for and respond to extreme heat can be found in the tables at the end of this section.

3.3.4 Local government and health and community service providers

Local government and health and community service providers have relationships with those who are most vulnerable and have procedures in place to support these people, as well as established communication channels that can be used to share information on how to survive the heat.

Local government and other organisations may further promote consistent community heat health messages through local media or their standard communication channels. Service providers and health professionals may also give clients messages verbally or by distributing community information resources.

3.4 After extreme heat

3.4.1 Emergency Management Victoria and the Department of Health & Human Services

The *State emergency relief and recovery plan,* as outlined in the EMMV Part 4, details the recovery arrangements for supporting communities to successfully deal with the social, built environment, economic, natural and agricultural impacts of an emergency. Recovery requires collaboration between individuals, communities, all levels of government, non-government organisations and businesses.

Emergency Management Victoria is responsible for recovery coordination at the state level.

The Department of Health & Human Services is responsible for recovery coordination at the regional level and for coordinating social recovery at the state and regional levels. Social recovery addresses the impact an emergency could have on the health and wellbeing of individuals, families and communities.

3.4.2 Local government and health and community service providers

In the days following extreme heat, the department encourages local government and health and community service providers to consider the continued effects of heat on at-risk clients that may impact on their need for support.

It is the responsibility of local government to coordinate local recovery if required.

3.5 Summary actions for before, during and after extreme heat

Everyone has a role to play in reducing the negative health impacts and demand on health services due to extreme heat. Individuals, government and the broader community can work together to take effective action in building the Victorian community's resilience to extreme heat.

The Department of Health and Human Services will undertake actions before, during and after extreme heat as outlined in Table 1.

Similarly, there are actions local government, health and community services providers, clinicians and health services can take before, during and after extreme heat. These are described in Tables 2–5.

Individuals can also take action to protect themselves, their family and their neighbours from the negative health impacts of extreme heat. Table 6 provides actions individuals can take before, during and after extreme heat.

Key points

- The Department of Health & Human Services' heat health alert system notifies recipients of forecast extreme heat conditions that are likely to impact on human health for specific weather forecast districts that reach or exceed heat health temperature thresholds.

- Local government and health and community service providers should continue monitoring local weather conditions and respond in accordance with their heat health plans and operational protocols to ensure safe service provision and business continuity once an alert has been issued.

- Media releases and media interviews with the Chief Health Officer, Emergency Management Commissioner and agencies such as Ambulance Victoria and the Bureau of Meteorology provide consistent heat health messages to the broader community.

- The department's Heat Health Information Surveillance System collects and assesses morbidity and mortality data from a range of health and emergency services. For example, extreme heat can impact on Ambulance Victoria's capacity.

- The *State heat plan* is the overarching document that outlines the whole-of-government response to extreme heat for reducing negative impacts and consequences on the community, infrastructure and services.

- The Emergency Management Commissioner is responsible for emergency response coordination of extreme heat at the state tier and ensures the coordination, control, consequence management communications and recovery functions of these events are integrated and effective.

- Heatwave is a Class 2 emergency under the *Emergency Management Act 2013.*

- Victoria Police is the control agency for heatwaves under the *Emergency management manual Victoria* (EMMV) Part 7 – Emergency Management Roles and Responsibilities.

- At the Department of Health and Human Services, the Chief Health Officer and the State Health Coordinator participate in the State Coordination Team and the SEMT in order to ensure a whole-of-government heat health response. The State Health and Medical Commander is responsible for the overall direction of a health and medical response to extreme heat.

- The *State emergency relief and recovery plan,* as outlined in the EMMV Part 4, details the recovery arrangements for supporting communities to successfully deal with the social, built environment, economic, natural and agricultural impacts of an emergency.

Table 1: Actions for the Department of Health & Human Services to take before, during and after extreme heat

Before summer	Immediately before forecast extreme heat	During extreme heat	After extreme heat
• Support heat health planning at the community level to protect all Victorians, particularly those most at risk. • Update any resources, plans or guidance material as necessary. • Distribute resources to health and community service providers and community organisations. • Test the heat health alert system and update guidance material. • Identify and prepare cool spaces for public housing tenants where possible. • Prepare community heat health messages and the department's communication strategy in collaboration with other government departments and agencies and in consideration of the whole-of-government communication strategy. • Incorporate heat health messages into existing departmental programs that provide services to those most at risk. • Ensure the Better Health Channel app (see <www.vic.gov.au/social-media/mobile-apps/better-health-channel-health-information-and-services.html>) and VicEmergency website (see <www.emergency.vic.gov.au>) are ready for providing heat health notifications and alerts. • Prepare the department's Heat Health Information Surveillance System to collect and assess morbidity and mortality data from a range of health service, health and emergency services. • Participate in exercises to discuss and improve individual and collective responses to extreme heat. • Participate and host heat health forums to promote heat health planning, preparedness and response. • Identify established and informal networks to connect and engage with Aboriginal and culturally and linguistically diverse communities. • Contribute to consequence management led by the Emergency Management Commissioner (see 3.3.1) through the *State risk and consequence seasonal assessment*, and the *State monthly readiness plan*.	• Issue a heat health alert when the heat health temperature threshold is reached or exceeded in a particular weather forecast district. • Consider releasing heat health messages to the broader community through various channels. • Attend SEMT meetings if required.	• Issue media releases or hold interviews or press conferences with the Chief Health Officer, Ambulance Victoria and Emergency Management Commissioner to explain the situation and how to survive the heat. • Use the Heat Health Information Surveillance System to track and provide regular reports on the care-seeking and service impact of extreme heat over the summer. • Support and coordinate the health response through the SHERP. • Participate in the SCOT and the SEMT to ensure the heat health response is integrated with the response of other functional sectors in a whole-of-government approach. • Lead the overall direction of a health and medical response to extreme heat through the State Health and Medical Commander.	• Consider what worked well and what could be improved in preparation for further heat. • Consider regional-level recovery activities if required. • Consider state-level recovery activities if required. • Consider conducting an evaluation and debrief in accordance the Health and Human Services *Emergency management evaluation guidelines* if required.

Table 2: Recommended actions for local government to take before, during and after extreme heat

Before summer	Immediately before forecast extreme heat	During extreme heat	After extreme heat
• Review and update the heat health plan and other relevant heat plans, including business continuity plans.	• Take action in accordance with heat health plans or other plans containing heat-related actions such as service continuity plans, emergency management plans and occupational health and safety plans.	• Undertake council activities in the municipal emergency management plan if required.	• Talk with clients about how they are recovering from the heat.
• Engage with key stakeholders and community members to raise awareness about the risks of extreme heat.	• Monitor local weather conditions on the Bureau of Meteorology's website.	• Reschedule any non-essential events, meetings and services to another day or in the cooler part of the day.	• Consider what worked well and what could be improved in preparation for further heat.
• Identify established and informal networks to connect and engage with Aboriginal and culturally and linguistically diverse communities.	• Instigate consistent community messages through local media or other communication channels.	• Increase community messaging through local media and standard communication channels.	• Consider local recovery activities if required.
• Use relevant lists of people who may be at risk of extreme heat that are current, including people who receive HACC services or Meals on Wheels, in heat health planning.	• Provide consistent heat health messages during client visits or telephone calls.		
• Update the heat health communication strategy.	• Update the council website with consistent heat health information or message from the mayor or CEO.		
• Participate in exercises and forums to discuss and improve individual and collective responses to extreme heat.	• Reschedule services to the cooler part of the day.		
• Update individual heat health plans for clients and vulnerable-client lists.	• Ensure appropriate staffing levels and consider staff and client safety in hot weather.		
• Provide heat health information to staff engaged in delivering client services so they can raise awareness.	• Ensure staff engaging with the public are aware of what the council is doing to support and protect those at risk such as where people can go to stay cool.		
• Engage staff across council to identify opportunities to promote heat health and enhance activities to respond to extreme heat.	• Restock the department's brochure in the lobby and distribute to clients.		
• Order and display the department's heat health brochure in the lobby and other council venues and distribute to clients.			
• Encourage staff to download the Better Health Channel app from <www.vic.gov.au/social-media/mobile-apps/better-health-channel-health-information-and-services.html>.			
• Encourage staff to subscribe to receive heat health alerts from <www.health.vic.gov.au/environment/heatwaves-alert.htm>.			
• Talk with clients, family and carers about downloading the Better Health Channel app and subscribing to receive heat health alerts.			
• Consider long-term planning opportunities to reduce impacts of extreme heat.			

Table 3: Recommended actions for health and community service providers to take before, during and after extreme heat

Before summer	Immediately before forecast extreme heat	During extreme heat	After extreme heat
• Review and update the heat health plan and other relevant heat plans, including business continuity plans. • Engage with key stakeholders and community members to raise awareness about the risks of extreme heat. • Update the heat health communication strategy. • Participate in exercises to discuss and improve individual and collective responses to extreme heat. • Ensure appropriate staffing levels and consider staff and client safety in hot weather. • Update individual heat health plans for clients and vulnerable-client lists. • Talk with clients, family and carers about downloading the Better Health Channel app from <www.vic.gov.au/social-media/mobile-apps/better-health-channel-health-information-and-services.html>. • Talk with clients, family and carers about subscribing to receive heat health alerts from <www.health.vic.gov.au/environment/heatwaves-alert>. • Ensure staff are appropriately trained to identify clients who may need assistance. • Order and display the department's heat health brochure in the lobby and other council venues and distribute to clients.	• Take action in accordance with heat health plans or other plans containing heat-related actions such as service continuity plans, emergency management plans and occupational health and safety plans. • Monitor local weather conditions on the Bureau of Meteorology's website. • Restock the department's brochure in the lobby and distribute to clients. • Reschedule services to the cooler part of the day. • Provide consistent heat health messages during client visits or telephone calls.	• Reschedule any non-essential events, meetings and services to another day or in the cooler part of the day. • Increase consistent community messaging through local media and standard communication channels. • Monitor temperatures in client areas. • Ensure adequate drinking water is available for clients, visitors and staff.	• Talk with clients about how they are recovering from the heat. • Consider what worked well and what could be improved in preparation for further heat. • Update plans and activities as required.

Table 4: Recommended actions for clinicians to take before, during and after extreme heat

Before summer	Immediately before forecast extreme heat	During extreme heat	After extreme heat
• Develop or review a heat health plan or strategy for the practice and staff. • Ensure staff are appropriately trained to identify patients who may need assistance. • Identify at-risk patients in your practice and begin talking about how they will cope during the heat. • Advise at-risk patients on adjustments to medications and fluid intake recommendations during extreme heat periods. • Check whether your fan or air-conditioner works well. • Subscribe to the department's heat health alert system at <www.health.vic.gov.au/environment/heatwaves-alert>. • Download or order the department's Factsheet for clinicians from <www.health.vic.gov.au/environment/heatwaves-community-resources>. • Plan for power outages, for example, what to do with vaccine fridges. • Talk with clients, family and carers about downloading the Better Health Channel app from <www.vic.gov.au/social-media/mobile-apps/better-health-channel-health-information-and-services.html>. • Talk with clients, family and carers about subscribing to receive heat health alerts from <www.health.vic.gov.au/environment/heatwaves-alert>.	• Monitor local weather conditions on the Bureau of Meteorology's website. • Hand out the department's heat health brochure to patients and carers. • Keep the waiting room cool, and provide water. • Reschedule any non-essential appointments with at-risk patients to a cooler part of the day or another day.	• Plan for increased demand from patients with heat-related illness or exacerbated medical conditions. • Call patients who do not show up for appointments to ensure they are OK. • Talk with patients about how they are coping during the heat.	• Talk with at-risk patients and their carers about their recovery from extreme heat. • Consider what worked well and what could be improved in preparation for further heat. • Update plans and activities as required.

Table 5: Recommended actions for health services to take before, during and after extreme heat

Before summer	Immediately before forecast extreme heat	During extreme heat	After extreme heat
• Have a heat health plan including business continuity that addresses the needs of staff, patients and carers. • Provide orientation and training within the hospital on preparedness and essential actions during extreme heat. • Identify at-risk patients and begin talking about what will be required for them on extreme heat days. • Check your contingency planning for air-conditioning and power supply. • Plan for power outages, for example, what to do with vaccine fridges. • Subscribe to the department's heat health alert system at <www.health.vic.gov.au/environment/heatwaves-alert>. • Download or order the department's *Factsheet for clinicians* from <www.health.vic.gov.au/environment/heatwaves-community-resources> and distribute it. • Participate in heatwave exercises to discuss and improve individual and collective responses to extreme heat. • Talk with clients, family and carers about downloading the Better Health Channel app from <www.vic.gov.au/social-media/mobile-apps/better-health-channel-health-information-and-services.html> and subscribing to receive heat health alerts.	• Take action in accordance with any relevant heat plans. • Monitor local weather conditions on the Bureau of Meteorology's website. • Make the department's heat health brochure available to patients and carers. • Keep waiting and outpatient rooms cool, and provide water. • Consider cancelling or deferring outpatients or other non-essential hospital programs that are scheduled on extreme heat days. • Review discharge plans for at-risk patients.	• Plan for increased demand from patients with heat-related illness or exacerbated medical conditions. This may include a significant increase in ambulance transfers, admissions to the emergency department, short-stay unit and wards. • Plan for a potential increase in arrival of deceased individuals. • Plan for increased staff absenteeism. • Liaise where necessary with the State Health and Medical Commander.	• Consider what worked well and what could be improved in preparation for further heat. • Consider a formal debrief of the response in order to revise and improve the hospital's heat health plan. • Update plans and activities as required.

Table 6: Recommended actions for individuals to take before, during and after extreme heat

Before summer	Immediately before forecast extreme heat	During extreme heat	After extreme heat
• Speak with a doctor about how to best cope during the heat (medications, limiting fluids, etc.).	• Monitor local weather conditions on the Bureau of Meteorology's website.	• Listen for bushfire messages if you live in a bushfire-risk area.	• Restock food, water and medicines for the next event.
• Plan how to stay cool during the heat.	• Consider rescheduling non-essential appointments to a cooler part of the day.	• Check on family and friends who you think need extra support and assistance during extreme heat.	• Consider what worked well and what could be improved in preparation for further heat.
• If you are unable to keep cool at home, identify other places that provide cooling such as a neighbour's or family member's home, public library, shopping centre or movie theatre.	• Locate a torch, fully-charged mobile phone or a landline phone, a battery-operated radio and sufficient batteries in case of power failure.	• Watch and listen for news reports about the extreme heat and for heat health messages.	• Take care of others.
• Get a copy of the department's heat health brochure for tips for coping during extreme heat from your general practitioner.	• Listen for bushfire messages if you live in a bushfire-risk area.	• Check for notifications from the Better Health Channel app for your location.	
• Check that your fan or air-conditioner works well.	• Contact your local council to know what they may be doing to assist residents during extreme heat.	• Check the VicEmergency website for heat health alerts and community heat health messages.	
• Stock up on food, water and medicines.		• Read the department's brochure for tips on coping during extreme heat.	
• Plan how to cope if the electricity goes out or public transport is disrupted.		• Keep in touch with friends, neighbours and relatives.	
• To prepare for black outs, ensure there is a torch, fully charged mobile phone or a landline phone, plus a battery-operated radio and sufficient batteries.		• Drink plenty of water.	
• Download the Better Health Channel app from <www.vic.gov.au/social-media/mobile-apps/better-health-channel-health-information-and-services.html> to receive extreme heat notifications for your location.		• Spend as much time as possible in cool or air-conditioned buildings.	
• Subscribe to receive heat health alerts from <www.health.vic.gov.au/environment/heatwaves-alert>.		• Never leave children, adults or animals in parked cars.	
• Talk with family or friends you think will need extra support and assistance during extreme heat to discuss how to help them keep cool during extreme heat.		• Stay out of the sun during the hottest part of the day.	
• If you are at risk of heat-related illness, talk with your family and friends about how they can help you survive the heat.		• If outside, stay in the shade and drink plenty of water.	
• Identify programs that offer concessions to assist with installing awnings, shade cloth or external blinds.		• Limit outdoor activities that can be rescheduled for a cooler day, such as gardening or building renovations.	
• Install awnings, shade cloth or external blinds on the sides of the house facing the sun.		• Wear a hat and light-coloured, loose-fitting clothing when outside.	
		• Wear sunscreen.	
		• Ensure those in your care such as children are dressed appropriately and drink water regularly.	
		• Reschedule any non-essential appointments to another day.	
		• Seek medical assistance if you feel unwell.	

4 Communication resources and activity

The *Heat health plan for Victoria* is supported by a communication strategy that outlines how the Department of Health & Human Services will improve understanding of extreme heat conditions, the risks posed to human health and the steps individuals, communities and organisations can take to minimise these risks.

The strategy contains a statewide departmental advertising campaign consisting of radio ads, social media, community service announcements, media stories and stakeholder advocacy. During a heatwave, emergency print and radio ads, along with media engagement, will be used to alert Victorians to the developing emergency situation. Alerts can also be found on <www.emergency.vic.gov.au>.

Prior to summer, resources such as social media posts, newsletter and newspaper article copy, sample media releases and printed posters and brochures are circulated to councils, healthcare providers and seniors' organisations to assist them in promoting consistent heat health messages. A range of public health messages may be communicated that provide recommendations on preparatory and preventive actions people can take to further reduce risks presented by extreme heat conditions, and in the event of a power failure.

Other summer messages

Government departments, emergency services and agencies provide a range of information and messages including Fire Ready, SunSmart and water conservation messages.

The department consults with these stakeholders to ensure heat health messages are consistent with other summer messages.

4.1 Resources

Heat health information is available for and promoted to all Victorians. It is targeted directly at people most vulnerable to heat-related health impacts and individuals and organisations with a direct responsibility to care for these people. Others such as pharmacists and general practitioners, who have a broader healthcare relationship with many Victorians most at risk during extreme heat, are also targeted.

The Department of Health & Human Services provides health and community service providers and some community organisations with printed resources on how to survive the heat for dissemination and discussion with clients. The printed resources are available to everyone at no cost or can be downloaded from <www2.health.vic.gov.au/public-health/environmental-health/climate-weather-and-public-health/heatwaves-and-extreme-heat>.

These include:

- a poster (available in multiple languages) for all Victorians and organisations to promote key heat health messages
- a brochure translated into 27 languages, will help all Victorians to understand how to prepare for and survive the heat

- the *Factsheet for clinicians* to highlight how heat affects the body and what clinicians can do in their practices to prepare for and respond to extreme heat with patients and staff
- the *Supporting people by telephone* ready reckoner for organisations that support those most at risk via telephone during extreme heat to prompt specific questions that will help identify if someone is in need of assistance
- factsheets for all Victorians providing information on the signs of heat-related illness, tips to survive the heat and for protecting those most at risk. The factsheets are available on the Better Health Channel website at <www.betterhealth.vic.gov.au>.

Other resources available are:

- a media kit containing draft heat health articles for local government and other organisations to use in promoting consistent heat health messages locally
- sample social media tiles and posts aimed at organisations that use social media to promote heat health awareness.

4.2 Communication channels

The Department of Health & Human Services has a range of established communication channels that may be used as mechanisms to communicate with people who are at risk of heat-related illness, their loved ones and carers. Many of these channels are operated by health and community service providers such as general practitioners, pharmacies and Home and Community Care (HACC) providers. In addition, the department uses websites, the NURSE-ON-CALL telehealth service, Personal Alert Victoria, radio ads, social media, outdoor advertising, community service announcements, and media stories to distribute information and alerts and to promote key messages.

Individuals and organisations can readily access heat health information to assist in planning and preparing for extreme heat, as well as during periods of extreme heat, from the Better Health Channel[5] and the department's

Environmental Health[6] websites. Specific heat health information for older Victorians, their relatives, friends or carers can be found on Seniors Online at <www.seniorsonline.vic.gov.au> or in the Seniors Card e-newsletter.

When the heat health temperature threshold is reached or exceeded, smartphone users can receive hot-weather notifications with key heat health messages via the Better Health Channel app (downloadable from <www.vic.gov.au/social-media/mobile-apps/better-health-channel-health-information-and-services.html>). Community information and heat health alerts will also be available through the VicEmergency platform, which is managed by Emergency Management Victoria.

Key points

- The *Heat health plan for Victoria* is supported by a communication strategy that outlines how the Department of Health & Human Services will improve understanding of extreme heat conditions, the risks posed to human health and the steps individuals, communities and organisations can take to minimise these risks.

- Heat health information is available for and promoted to all Victorians.

- A range of public health messages may be communicated that provide recommendations on preparatory and preventative actions people can take to further reduce risks presented by extreme heat conditions, and in the event of a power failure.

- When the heat health temperature threshold is reached or exceeded, smartphone users can receive hotweather notifications with key heat health messages via the Better Health Channel app (downloadable from <www.vic.gov.au/social-media/mobile-apps/better-health-channel-health-information-and-services.html>).

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5 Department of Health & Human Services' Better Health Channel provides community information on how to survive the heat and signs of heat-related illness. It can be found at <www.betterhealth.vic.gov.au>.

6 The Department of Health & Human Services' Environmental Health website contain information for the sector and the communication resources. It is located at <www.health.vic.gov.au/environment/heatwaves>.

Appendix 1: The effects of heat on health

International and Australian experience shows that extreme heat increases the incidence of illness and death.

Extreme heat rarely occurs in isolation. Infrastructure failure or other natural emergencies can add another level of demand on a community and services. For example, power outages will impact on people's ability to run air-conditioners; bushfires will increase vulnerability by reducing air quality; and public transport disruptions will hinder people's ability to reach a cooler location.

Heat-related health impacts

The most common causes of death during extreme heat are related to: cardiac conditions; asthma and other respiratory illness; kidney disease; diabetes; nervous system diseases; and cancer.

Although heat-related illnesses such as heat cramps, heat exhaustion and heat stroke may occur in hot weather, other conditions are seen to occur far more commonly. These include:

- exacerbation of medical conditions including heart (cardiac) and kidney (renal) disease
- confusion, muscle weakness, unsteadiness and falls due to dehydration
- exacerbation of asthma and other respiratory illness
- gastroenteritis, mostly due to poor food handling.

More information about heat-related illness can be found on the Better Health Channel at <www.betterhealth.vic.gov.au> or in the Department of Health & Human Services' communication resources, which can be downloaded from the Environmental Health website at <www.health.vic.gov.au/environment/heatwaves>.

Chief Health Officer's report:
The health impacts of the January 2014 heatwave in Victoria

Between 14 and 17 January 2014, Victoria experienced a significant heatwave. In terms of intensity and duration, it was similar to extreme heat recorded in January 2009, January 1939 and January 1908. Victoria experienced the hottest four-day period on record, with maximum temperatures 12 °C or more above average for much of Victoria. Parts of the state recorded temperatures of 45 °C or more on three consecutive days, and Melbourne reached temperatures in excess of 41 °C each day between 14 and 17 January.

The report found that during the event there was:

- a 25 per cent increase in Ambulance Victoria emergency caseload
- a 56 per cent increase in after-hours doctor consultations
- a 7 per cent overall increase in emergency department presentations (a 23 per cent increase in those 75 years old or over)
- a three-fold increase in heat-related calls to NURSE-ON-CALL
- a 24 per cent increase in mortality with an estimated 167 excess deaths (63 people died prior to arriving at a health service and a further 27 died in an emergency department).

The estimated 167 excess deaths are less than the 374 excess deaths during the 2009 heatwave. This reduction in excess deaths may be attributed to the establishment of heat health plans and increased prevention activities by all agencies.

Urban heat islands

The 'urban heat island' (UHI) effect occurs in urbanised environments where built areas become warmer (particularly at night) than the surrounding rural areas. This is due to common construction materials absorbing and retaining more of the sun's heat (Loughnan, Nicholls & Tapper 2009). Metropolitan Melbourne, for example, regularly exhibits a distinct UHI effect (Morris & Simmonds 2000).

Figure 2 illustrates Melbourne's heat island effect on night-time temperatures in March 2006 and the variability due to urban form and development. It does not contain every suburb, rather examples of suburbs both west and southeast of the central business district in Melbourne. The UHI effect adds to the warming from extreme heat.

The form and intensity of the UHI varies both spatially and temporally depending on the local meteorological conditions, geography and urban development.

Long-term planning with consideration of building materials and tree canopy can assist in reducing the effect of the UHI.

Urban heat island is one of many factors that affect an individual's ability to cope in extreme heat conditions including health, demographic profile and regular contact with people. For example, people living in regional areas may be at risk of extreme heat due to other factors such as age or being socially isolated.
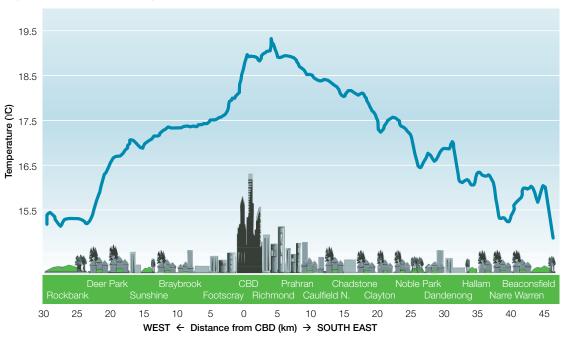
Figure 2: Spatial variability of the Melbourne urban heat island (1 am, 23 March 2006)

Source: Coutts, Beringer & Tapper 2010

Appendix 2: People most affected by heat

Extreme heat can affect anybody. However, there are some population groups that are more vulnerable to its effects due to factors such as their age, health, environment, social and economic circumstances, location or occupation.

In the context of climate change, vulnerability is the degree to which a community or an individual is susceptible to, or unable to cope with, the adverse effects of climatic changes. As such, vulnerability is a function of a community or individual's exposure to extreme heat and other climatic variables, their sensitivity to such changes and their ability to adapt.

The following people[7] are likely to be most affected by heat:

- people over 65 years old, especially those living alone
- people who have a medical condition such as heart disease, high blood pressure, diabetes, cancer or kidney disease
- people taking medications that may affect the way the body reacts to heat such as
  - allergy medicines (antihistamines)
  - some blood pressure and heart medicines (beta-blockers and vasoconstrictors)
  - seizure medicines (anticonvulsants)
  - thyroid medications (thyroxine)
  - water pills (diuretics)
- people who have a mental illness, particularly those on medication (antidepressants or antipsychotics)
- people with problematic alcohol or other drug use such as amphetamines
- people with an illness or infection that causes dehydration or fever
- people with cognitive impairment who may not be able to identify or communicate their discomfort or need for water

- people who have trouble moving around (such as those who are bed-bound or in wheelchairs)
- people who are overweight or obese
- pregnant women, breastfeeding mothers, babies and young children
- people who work or are physically active outdoors (such as gardeners and labourers)
- people with health conditions that impair sweating including people with heart disease, dehydration, extremes of age, skin disorders (including sunburn, prickly heat and extensive scarring from burns), congenital impairment of sweating, cystic fibrosis, quadriplegia and scleroderma
- people who are unable to acclimatise
- homeless people
- people of low socioeconomic status
- people who live alone or who are socially isolated
- people with low cardiovascular fitness
- non-English speaking people who may not be able to understand extreme heat announcements or have reduced access to appropriate health or support services.

Belonging to more than one at-risk group may further increase susceptibility to heat. However, protective factors such as the capacity to care for oneself and having access to a cool place, appropriate care and services reduce the risk of heat-related health impacts.

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7   This list is in no particular order.

Appendix 3: Policy setting

Know the plans and resources for your sector. Read them, understand them, practise them and implement them.

Relevant legislation

The Victorian Government has a legislative framework relevant to extreme heat and heatwaves.

The *Emergency Management Act 2013* outlines the governance arrangements in Victoria for managing all types of emergencies, including extreme heat. The *Emergency Management Act 1986* outlines the responsibility of local government to develop a municipal emergency management plan (MEMP). The two Acts need to be read together, pending further reform that will see the eventual repeal of the 1986 Act.

The *Public Health and Wellbeing Act 2008* strengthens the role of local government in heat health planning and response through the municipal public health planning process.

The *Climate Change Act 2010* lays out guiding principles for the consideration of climate change issues as part of decision making across Victorian state and local government.

The *Planning and Environment Act 1987* and *Local Government Act 1989* ensure building codes and municipal strategic statements foster better planning of the built environment in order to withstand the impact of a range of likely emergencies, including extreme heat. The Local Government Act also outlines the responsibility of local government to protect public health in emergencies.

Relevant manuals and plans

Emergency management manual Victoria

The *Emergency management manual Victoria* (EMMV) is the state's principal document for guiding the arrangements of all agencies with a role in emergency management. The EMMV is available at <www.emv.vic. gov.au/policies/emmv>.

State heat plan

The *State heat plan* provides a consolidated overview of the Victorian arrangements for reducing the impact and consequences of extreme heat on the community, infrastructure and services. The *State heat plan* is a subplan of *the State emergency response plan* (EMMV Part 3). The plan also refers to the *State emergency relief and recovery plan* (EMMV Part 4).

The *State heat plan* has been developed in conjunction with state government agencies responsible for managing the impact and consequences of extreme heat. The *State heat plan* outlines the coordination arrangements that complement the existing plans and arrangements, with the aim of ensuring that activities are integrated and coordinated. The plan can be found at <www.emv.vic.gov. au/plans/state-heat-plan>.

State health emergency response plan

The *State health emergency response plan* (SHERP) outlines the arrangements for coordinating the health and medical response to emergencies. The SHERP is a subplan of the *State emergency response plan* and is referenced in the EMMV Part 8 Appendix 10. During extreme heat, the Department of Health & Human Services has a support function and coordinates the health response. The SHERP can be found at <www.health.vic.gov.au/sherp>.

Victorian climate change adaptation plan

The *Victorian climate change adaptation plan* sets out how the government is managing climate risks to natural assets, essential infrastructure and services such as waterways, transport systems, healthcare and emergency response systems. It shows that to be most effective, climate change adaptation requires government, businesses and the community to work together. One example of the range of issues included is heatwave. An update on the progress of the objectives outlined in the plan can be found in *Building a climate resilient Victoria – Victorian climate change adaptation progress report* and downloaded from <www.depi.vic.gov.au/environment-and-wildlife/climate-change/adaptation-plan-progress-report>.

Relevant resources

For all populations, with a focus on those at risk, the department has developed guidance material to support local government and service providers in planning for and responding to extreme heat. These include:

- the *Emergency preparedness clients and services policy,* which outlines how the health and aged care sectors can prepare for external hazards that may affect services, including extreme heat (this was updated to explicitly outline what health services need to do)
- the *Heatwave planning guide* to support local government in developing and implementing heat health plans into existing municipal plans
- the *Heatwave plan review tool* to support local government in reviewing heat health plans with suggested information including templates for capturing data and feedback and ideas for facilitating discussion
- the *Residential aged care services heatwave ready resource* to support residential aged care services to develop and implement heat health plans, including ensuring service continuity during extreme heat
- the *Guidance for service continuity for community care services in extreme heat conditions,* which outlines general principles of service continuity during extreme heat for community care service providers.

Guides that support local government to assist communities in adapting to climate change through their municipal public health planning include:

- *Climate change and health: a guide to relevant resources for planning*
- *Urban design and health: a guide to relevant resources for planning*
- *Climate change impacts and risk management: a guide for business and government* (Australian Greenhouse Office)
- *Climate change action pack* (Local Government Supervisors Association of Western Australia)
- Victorian Climate Change Adaptation Navigator online tool (see <adaptation-navigator.org.au>)
- *Local climate change adaptation planning: a guide for government policy and decision makers in Victoria.*

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