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| Heat health plan for Victoria |
| Protecting health and reducing harm from extreme heatDecember 2021 |
| OFFICIAL |

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Introduction

In recent decades, Victoria's climate has changed by becoming warmer and drier with the number of extreme heat days becoming more frequent. Victorian climate projections by the CSIRO and Bureau of Meteorology indicate that these trends will continue with further increases in the number of very hot days and extreme heat[[1]](#footnote-2).

Extreme heat is one of the most significant natural hazards facing Victorians.

Each year, extreme heat exacerbates pre-existing medical conditions and causes heat-related illness. Children, people aged over 65, those taking some medications that affect the body’s ability to cope with heat, people living alone and people who are socially isolated are among those most affected[[2]](#footnote-3).

Victoria has experienced first-hand the deadly impact of extreme heat. In 2014, 167 excess deaths were recorded during a four-day heatwave across the state. This heatwave followed the 374 excess deaths3 recorded during the 2009 heatwave compared to the same period in the previous five years. ‘It is likely that the framework and collective efforts of all agencies have contributed to the reduced impact on public health in 2014’ according to the Victorian Auditor-General.4

Despite the significant harm extreme heat can have on our health, there are a number of effective actions that can reduce its impact on the health and wellbeing of the Victorian community. This is a shared responsibility. With the frequency and severity of extreme heat events increasing due to climate change, routine adoption of these social and behavioural adaptation practices by all Victorians will be critical to protecting health and reducing harm from extreme heat.

This *Heat health plan for Victoria* outlines how the Department of Health (‘the department’), together with local government and the health sector, can work together to promote public health and wellbeing before and during periods of extreme heat.

For the 2021-22 summer, the presence of coronavirus (COVID-19) continues to present challenges in protecting those most at risk of extreme heat. Further considerations or adaptations of the actions outlined in this plan due to coronavirus (COVID-19) can be found in the *Addendum to the Heat health plan* *for Victoria*.

## Objectives

This plan has three objectives:

* Protect the health of Victorians from heat-related harm.
* Communicate the actions of the department to prepare for and respond to extreme heat.
* Outline preparedness and response activities for local government and the health sector to reduce the impact of extreme heat on Victorians.

## Domains of action

This plan achieves these objectives across three key domains of action:

* **Empowerment**: empowering Victorians to prepare for and respond to extreme heat, particularly those most at risk, their carers, family and service providers.
* **Partnerships**: developing strong cross-sector partnerships through sharing good practice, extreme heat information, research and health advice to promote an informed and collective approach to preparing for and responding to extreme heat.
* **Coordination**: ensuring the health impacts of extreme heat are considered and responded to as part of a coordinated approach to Victoria’s emergency management arrangements for extreme heat.

# Understanding extreme heat and heatwaves

## Extreme heat and heatwaves

This plan distinguishes between single days of extreme heat and prolonged heatwaves.

**Extremeheat**occurs when the forecast average temperature[[3]](#footnote-4) on any day exceeds the predetermined heat health temperature threshold in a Victorian weather district.

A **heatwave**involves three or more consecutive days of extreme heat.

Isolated days of extreme heat typically affect the health and wellbeing of Victorians who are most at risk, commonly due to age, illness, medication or social isolation. A detailed list of population groups most at risk is in the Appendix.

In heatwaves, these impacts are compounded and may result in significant health impacts across broad sections of the community. Heatwaves also affect Victoria’s natural, built and economic environments, often through the compromised operation of critical infrastructure, facilities and services. These can have health consequences. eg loss of electricity can lead to food spoilage and subsequent gastroenteritis.

## Identifying extreme heat and heatwaves

Extreme heat and heatwaves are identified when the average temperature (as forecast by the Bureau of Meteorology) reaches or exceeds the predetermined heat health temperature threshold for a Victorian weather district. The heat health temperature threshold for a weather district is the average daily temperature above which increases in morbidity and mortality have been observed in the past.

The 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). An example of this calculation is in Figure 1.

Victoria’s heat health temperature thresholds are based on academic research, past experience and practice. Figure 2 and Table 1 illustrate Victoria’s heat health temperature thresholds and weather districts. A list of councils by weather district is available on the [health.vic Environmental Health website](https://www2.health.vic.gov.au/public-health/environmental-health/climate-weather-and-public-health/heatwaves-and-extreme-heat/heat-health-alert-status) <https://www2.health.vic.gov.au/public-health/environmental-health/climate-weather-and-public-health/heatwaves-and-extreme-heat/heat-health-alert-status>.

Once the average temperature is forecast to reach or exceed the heat health temperature threshold for a specific weather district, the Chief Health Officer issues a heat health alert for that district (see *Heat health alerts*).

## Impacts of extreme heat and heatwaves

The impacts of extreme heat and heatwaves can be significant. Extreme heat increases the incidence of heat-related illness in the form of heat cramps, heat exhaustion, heat stroke and dehydration.

Extreme heat can also exacerbate pre-existing medical conditions, including heart (cardiac) and kidney (renal) disease, asthma and other respiratory illnesses. The risk of drowning can increase as people engage in water-based recreational activities. There is also an increased risk of gastroenteritis where food is not properly stored at cold temperatures resulting in excessive growth of disease-causing bacteria.

While the impacts of extreme heat can reach across entire communities, those who are most at risk of extreme heat are people:

* of a certain age or life stage
* with particular social or economic circumstances
* experiencing health conditions
* taking medications that may affect how the body reacts to heat
* who are active outdoors.

For more specific information please refer to the Appendix.

Further information relating to the health impacts of extreme heat is available on the [Better Health Channel website](https://www.betterhealth.vic.gov.au/health/HealthyLiving/heat-stress-and-heat-related-illness) <www.betterhealth.vic.gov.au>.

Extreme heat rarely occurs in isolation. Infrastructure failure or other natural emergencies can increase the demand for services and add complexity to a community’s needs and response. Power outages will affect the ability to operate air-conditioners; bushfires will increase vulnerability by reducing air quality; and public transport disruptions will reduce access to alternative air-conditioned venues.

## Heat health alerts

The Chief Health Officer issues a heat health alert when the forecast average temperature reaches or exceeds the heat health temperature threshold for a specific weather district. The alert will be issued up to three days before the forecast extreme heat conditions and is provided through a subscription service which, although available to the public, is particularly targeted to departmental program areas, health services, local government, agency partners and service providers. Once issued, alerts cannot be withdrawn.

Subscribers are notified of forecast extreme heat conditions that are likely to affect human health. Subscribers are asked to act in accordance with their heat health plans, 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 on heat health alert subscription and operation from [the department’s website](http://www.health.vic.gov.au/environment/heatwaves-alert) <www.health.vic.gov.au/environment/heatwaves-alert>.

## Communicating the impacts of extreme heat

This plan is supported by the Heat Health Communications and Engagement Strategy.

The strategy aims to increase awareness on the risks of extreme heat and provide advice on how people can stay safe. It incorporates a broad range of tactics including government partnerships, stakeholder engagement and advocacy, paid advertising, proactive media and social media.

Survive the heat advertising campaign

The advertising campaign is targeted to at-risk groups, culturally and linguistically diverse communities and people living in rural Victoria. The campaign includes radio, Facebook, Weibo, InMobi (mobile phone) Weatherzone, and digital (web-based) advertising.

Before extreme heat

The department undertakes direct outreach and engagement with local and state government departments, emergency services and the health sector, sharing communications resources to help amplify our messaging. Stakeholder communications kits, caucus kits, and resources are prepared and distributed early in the season.

In advance of forecast extreme heat and heatwaves, cross government communications planning and key messaging is coordinated through the State Control Centre Public Information Section and the Emergency Management Joint Public Information Committee (EMJPIC).

During extreme heat

During extreme heat or a heatwave, emergency advertising will be booked and includes geo-targeted radio live-reads, and InMobi (mobile phone) advertising in English and eight other languages.

In the event of power outages, the department can opt to include power outage and heat safety messaging into our advertising.

Emergency Management Victoria may also choose to issue Advice on the VicEmergency warning system. The department will contribute heat health and health system impact messaging as required.

### Other summer messages

Government departments, agencies and emergency services run a range of campaigns over the summer period including: *Never Leave Kids in Cars*, *Fire Ready* and *Water Safety*.

Coordination of all summer campaigns is managed through the cross-government Summer campaigns working group.

### Printed resources

To increase the reach of our messaging, the department makes printed *Survive the Heat* posters and brochures available at no cost to the Victorian community, and organisations with direct care responsibilities including local governments and health services. These resources are translated into 26 languages.

The department emails services annually reminding them they can order printed resources via our website. [[4]](#footnote-5)

## Emergency management arrangements for extreme heat

The Victorian Government has coordinated governance and planning arrangements in place to prepare for, respond to and recover from extreme heat (Figure 3). This plan forms part of these arrangements.

The *State Extreme Heat Subplan*, under the *State Emergency Management Plan* (SEMP), outlines Victoria’s arrangements for responding to the impacts and consequences of extreme heat and heatwaves on the Victorian community, infrastructure and services. The subplan was developed in conjunction with state government agencies responsible for managing the impact and consequences of extreme heat. The activities and arrangements outlined in this plan align to the *State* e*xtreme heat subplan*.

The *State Health Emergency Response Plan* (SHERP) also forms part of Victoria’s emergency management arrangements for extreme heat. The SHERP outlines emergency response arrangements for the Victorian health sector. The SHERP is also a subplan of the SEMP.

# Heat health actions

Reducing the impact of extreme heat on the Victorian community is a shared responsibility across state and local governments, service providers, the emergency management and health sectors, communities, households and individuals.

The actions of the department, together with recommended actions to reduce the health impacts of extreme heat for local government and the health sector in preparation for, immediately prior to, during and after extreme heat, are outlined in Tables 2–5.

Links to resources to support these activities can be found under *Relevant resources*.

Table 2: Actions of the Department of Health before, during and after extreme heat

| Outcome achieved | Prior to summer | Within three days of forecast extreme heat | During an extreme heat event | After an extreme heat event |
| --- | --- | --- | --- | --- |
| **Empowering Victorians**  | Support heat health planning at the community level to protect all Victorians, particularly those most at risk.Incorporate heat health messages into existing departmental programs that provide services to those most at risk.Prepare community heat health messages and the department’s communication strategy to help identify heat health risks and mitigation actions. | Issue heat health messages through digital platforms and radio in line with the *Heat health communication strategy*.Consider issuing emergency advertising in consideration of the current forecast. | Issue, as necessary, media releases or hold interviews or press conferences with the Chief Health Officer, Ambulance Victoria and Emergency Management Commissioner to explain the event and how to protect health.Issue heat health messages through digital platforms and radio in line with the *Heat health communication strategy*.  | Consider regional and state-level recovery activities and community messaging in line with the *Heat health communication strategy*.[this cell is blank] |
| **Sector partnerships**  | Identify established and informal networks to connect and engage with Aboriginal and Torres Strait Islander and culturally diverse communities.Provide local government, health and community service providers and community organisations with access to heat health communication resources.Participate in heat health and emergency preparedness forums to promote heat health planning, preparedness and response.Provide emergency management preparedness and response guidance to health providers. | Issue a heat health alert when the heat health temperature threshold is reached or exceeded in a weather district. | Actively monitor impacts through partnerships with Ambulance Victoria, NURSE-ON-CALL and the Real-time Health Emergency Monitoring System.Enact emergency management plans for services managed by the department. |
| **Coordination of emergency arrangements** | Support pre-season briefings with Emergency Management Victoria and the Chief Health Officer.Ensure consistent and up-to-date public messaging is available on public communication channels including the Better Health Channel and VicEmergency websites and apps. Collaborate with other government agencies and departments to promote a whole-of-government emergency communications approach. | Undertake a risk and consequence assessment of the potential impact on the Victorian community and health sector.Assess the need for a departmental emergency management operational structure to coordinate departmental preparedness and response. | Monitor health system demand in line with the State Health Emergency Response Arrangements. | Consider conducting an evaluation and debrief including health impacts. Consider and implement lessons learnt. |

Table 3: Recommended actions for local government before, during and after extreme heat

| Outcome achieved | Prior to summer | Within three days of forecast extreme heat | During an extreme heat event | After an extreme heat event |
| --- | --- | --- | --- | --- |
| **Empowering Victorians**  | Review organisational heat health plans and other plans containing heat health-related actions in consultation with key stakeholders and partners.Update individual heat health plans for clients and vulnerable-client lists.Talk with clients, family and carers about subscribing to receive heat health alerts.Develop or review the organisation’s *Heat health communication strategy*.Order and display heat health communication material in council venues and distribute to clients.Consider long-term planning opportunities to reduce the impacts of extreme heat. | Provide consistent heat health messages during client/community visits and telephone calls.Ensure appropriate staffing levels and consider staff and client safety in extreme heat.Ensure staff engaging with the public are aware of council activities to support and protect Victorians from extreme heat.Instigate consistent community messages through local media or other communication channels.Update council websites and social media pages with heat health information or messaging from the mayor or CEO. Restock heat health communication materials and distribute to clients, where appropriate. | Reschedule any non-essential events, meetings and services to another day or to a cooler part of the day.Increase community messaging through local media and standard communication channels. | Actively engage with clients and community members about how they are recovering from the heat and identify and respond to any new or emerging needs. |
| **Partnerships**  | Engage with key stakeholders and community members to raise awareness about the risks of extreme heat.Engage staff across council to identify opportunities to promote heat health and enhance activities to respond to extreme heat.Identify established and informal networks to connect and engage with Aboriginal and Torres Strait Islander and culturally diverse communities. | Encourage local services, clubs and organisations to reschedule services or major events during the period of extreme heat. | Encourage local services, clubs and organisations to share heat health-related information through local networks. | Actively encourage local service providers to engage with clients about how they are recovering from the heat and identify and respond to any new or emerging needs. |
| **Coordination**  | Review and update the heat health plan and other relevant heat plans, including municipal emergency management plans, business continuity plans in consultation with key stakeholders and partners.Check contingency planning for air-conditioning and power supply. Ensure all relevant service areas of local government are subscribed to receive heat health alerts.Identify relevant information sources for residents who may be at risk of extreme heat in heat health planning.Participate in exercises and forums to discuss and improve individual and collective responses to extreme heat. | Take action in accordance with heat health plans or other plans containing heat-related actions such as business or service continuity plans, emergency management plans and occupational health and safety plans.Monitor local weather conditions on the Bureau of Meteorology’s website. | Undertake council activities in the relevant heat health or emergency management plan as required. | Consider undertaking local recovery activities as required.Consider and implement lessons learnt. |

Table 4: Recommended actions for health and community service providers before, during and after extreme heat

| Outcome achieved | Prior to summer | Within three days of forecast extreme heat | During an extreme heat event | After an extreme heat event |
| --- | --- | --- | --- | --- |
| **Empowering Victorians**  | Ensure appropriate staffing levels and consider staff and client health and wellbeing in hot weather.Update individual heat health plans for clients and vulnerable client lists.Talk with clients, families and carers about preparing for extreme heat by subscribing to receive heat health alerts.Develop and review the organisation’s *Heat health communication strategy*.Order and display heat health communication resources in service venues and distribute to clients.Engage with key stakeholders and community members to raise awareness about the risks of extreme heat. | Reschedule services to the cooler part of the day. Provide consistent heat health messages in line with departmental advice during client visits and telephone calls.Ensure staff engaging with the public are aware of local activities to support and protect those at risk.Restock heat health communication resources in service locations and distribute to clients. | Ensure clients, visitors and staff have cool spaces and adequate drinking water.Reschedule any non-essential events, meetings and services to another day or to the cooler part of the day. Increase consistent community messaging through local media and standard communication channels. | Actively engage with clients about how they are recovering from the heat and identify and respond to any new or emerging needs. |
| **Partnerships**  | Ensure staff are appropriately trained to identify clients who may need assistance during extreme heat.Talk to your local council about what local arrangements are in place to support people who are vulnerable to extreme heat. | Talk with families and carers about identifying actions to protect vulnerable clients and family members from the impacts of extreme heat. | Talk with families and carers about identifying actions to protect vulnerable clients and family members from the impacts of extreme heat. | Talk with families and carers about how their family members or clients are recovering from the impacts of extreme heat and any opportunity to improve support for future events. |
| **Coordination**  | Review and update the heat health plan and other relevant heat plans, including business continuity plans.Check contingency planning for air-conditioning and power supply. Subscribe to the heat health alert system.Participate in exercises to discuss and improve individual and collective responses to extreme heat. | 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. | Monitor weather conditions in client areas on the Bureau of Meteorology’s website. | Consider undertaking local recovery activities as required.Consider and implement lessons learnt. |

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

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| --- | --- | --- | --- | --- |
| **Outcome achieved** | **Prior to summer** | **Within three days of forecast extreme heat** | **During an extreme heat event** | **After an extreme heat event** |
| **Empowering Victorians**  | Identify at-risk patients and begin talking about what will be required for them during extreme heat. Order and distribute the department’s heat health communication resources to patients, their carers and families. Download or order the department’s *Factsheet for clinicians*.  | Make the department’s heat health communication resources 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 during extreme heat. Review discharge plans for at-risk patients, keeping in mind their specific needs, during extreme heat.  | Make the department’s heat health communication resources available to patients and carers. Keep waiting and outpatient rooms cool and provide water. Consider alternative arrangements (telemedicine) or deferring outpatients or other non-essential hospital programs that are scheduled on extreme heat days. Review discharge plans for at-risk patients, keeping in mind their specific needs, during extreme heat.  | Where appropriate, actively engage with patients about how they are recovering from the heat and identify and respond to any new or emerging needs.  |
| **Partnerships**  | Include hospital preparedness arrangements and essential actions during extreme heat as part of hospital orientation.  Talk with clients, families and carers about preparing for extreme heat. Order and display heat health communication resources in service venues and distribute to clients.  | [this cell is blank]  | [this cell is blank]  | [this cell is blank]  |
| **Coordination**  | Develop and review the organisation’s heat health and business continuity plans to address the needs of staff, patients and carers.  Check contingency planning for air-conditioning and power supply.  Plan for power outages, for example, what to do with vaccine fridges.  Ensure staff are familiar with the *State health emergency response plan*. Subscribe to receive heat health alerts from the department. Participate in heatwave exercises to discuss and improve individual and collective responses to extreme heat.  | Take action in accordance with any relevant heat plans.  Monitor local weather conditions, heat health information and emergency warnings via the Bureau of Meteorology and VicEmergency websites. 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 increased staff absenteeism.  | Monitor health service demand in line with escalation and notification arrangements under the *State Health Emergency Response Plan*.   | Consider a formal debrief of the response in order to revise and improve the hospital’s heat health plan. Consider and implement lessons learnt. Update plans and activities as required.  |

# Relevant resources

## Extreme heat and heatwave governance

[*Emergency Management Act 2013*](https://www.emv.vic.gov.au/about-us/what-we-do/our-legislation) <www.emv.vic.gov.au/about-us/what-we-do/our-legislation>

[*State Emergency Management Plan*](https://www.emv.vic.gov.au/responsibilities/semp)<https://www.emv.vic.gov.au/responsibilities/semp>

[*State extreme heat subplan*](https://www.emv.vic.gov.au/responsibilities/state-emergency-sub-plans) <<https://www.emv.vic.gov.au/responsibilities/state-emergency-sub-plans>>

[*State Health Emergency Response Arrangements (including the State health emergency response plan)*](https://www2.health.vic.gov.au/emergencies/shera) <www2.health.vic.gov.au/emergencies/shera>

## Heat health information, alerts and warnings

[*Heat health alert system*](http://www.health.vic.gov.au/environment/heatwaves-alert)<www.health.vic.gov.au/environment/heatwaves-alert>

Notifies local governments, departmental program areas, hospitals and state-wide or major metropolitan health and community service providers of forecast heatwave conditions that are likely to impact on human health. Individuals and organisations can subscribe to receive alerts.

[*VicEmergency*](http://emergency.vic.gov.au/)<emergency.vic.gov.au/>

Victoria’s real-time information source for all emergency warnings and information including floods, storms, fires, earthquakes, tsunami, beach closures and more.

[*Bureau of Meteorology*](http://www.bom.gov.au/) <www.bom.gov.au/>

The department’s official source of weather information. The bureau’s seven-day forecast maximum and minimum temperatures are used to calculate if a heat health temperature threshold has been reached in a specific weather forecast district.

[*Better Health Channel*](https://www.betterhealth.vic.gov.au/)<www.betterhealth.vic.gov.au/>

Provides health and medical information to improve the health and wellbeing of people and the communities they live in, including information relating to heat health. Information is quality-assured and reliable, up to date, locally relevant and easy to understand.

## Preparedness and planning for extreme heat

[*Emergency preparedness reference guide*](https://providers.dhhs.vic.gov.au/emergency-management)*<*https://providers.dhhs.vic.gov.au/emergency-management>

Outlines how the health and aged care sectors can prepare for external hazards that may affect services, including extreme heat.

[*Heatwave planning guide*](https://www2.health.vic.gov.au/public-health/environmental-health/climate-weather-and-public-health/heatwaves-and-extreme-heat/heatwave-planning) <https://www2.health.vic.gov.au/public-health/environmental-health/climate-weather-and-public-health/heatwaves-and-extreme-heat/heatwave-planning>

Supports local government in developing and implementing heat health plans into existing municipal plans.

[*Heatwave plan review tool*](https://www2.health.vic.gov.au/public-health/environmental-health/climate-weather-and-public-health/heatwaves-and-extreme-heat/heatwave-planning) <https://www2.health.vic.gov.au/public-health/environmental-health/climate-weather-and-public-health/heatwaves-and-extreme-heat/heatwave-planning>

Supports local government in reviewing heat health plans with suggested information including templates for capturing data and feedback and ideas for facilitating discussion.

[*Residential aged care services heatwave ready resource*](https://www2.health.vic.gov.au/public-health/environmental-health/climate-weather-and-public-health/heatwaves-and-extreme-heat)<[www2.health.vic.gov.au/public-health/environmental-health/climate-weather-and-public-health/heatwaves-and-extreme-heat](https://www2.health.vic.gov.au/public-health/environmental-health/climate-weather-and-public-health/heatwaves-and-extreme-heat)>

Supports residential aged care services to develop and implement heat health plans, including ensuring service continuity during extreme heat.

[*Guidance for service continuity for community care services in extreme heat conditions*](https://www2.health.vic.gov.au/public-health/environmental-health/climate-weather-and-public-health/heatwaves-and-extreme-heat) <[www2.health.vic.gov.au/public-health/environmental-health/climate-weather-and-public-health/heatwaves-and-extreme-heat](https://www2.health.vic.gov.au/public-health/environmental-health/climate-weather-and-public-health/heatwaves-and-extreme-heat)>

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*](https://www2.health.vic.gov.au/about/publications/policiesandguidelines/Climate%20change%20and%20health%20A%20guide%20to%20relevant%20resources%20for%20planning) <www2.health.vic.gov.au/about/publications/policiesandguidelines/Climate%20change%20and%20health%20A%20guide%20to%20relevant%20resources%20for%20planning>

[*Urban design and health: a guide to relevant resources for planning*](https://www2.health.vic.gov.au/about/publications/policiesandguidelines/Urban%20design%20and%20health%20A%20guide%20to%20relevant%20resources%20for%20planning) <www2.health.vic.gov.au/about/publications/policiesandguidelines/Urban%20design%20and%20health%20A%20guide%20to%20relevant%20resources%20for%20planning>

[*Victorian Climate Change Adaptation Navigator online tool*](http://www.vcccar.org.au/event/page/climate-change-adaptation-navigator-tool) <http://www.vcccar.org.au/event/page/climate-change-adaptation-navigator-tool>

[*Local climate change adaptation planning: a guide for government policy and decision makers in Victoria*](http://www.vcccar.org.au/publication/research-paper/local-climate-change-adaptation-planning-guide-for-government-policy-and) <www.vcccar.org.au/publication/research-paper/local-climate-change-adaptation-planning-guide-for-government-policy-and>.

# Appendix: At-risk populations

Extreme heat can affect anyone. Some people are more vulnerable to its effects due to factors such as their age, health, environment, social and economic circumstances, location or occupation.

The following population groups are likely to be most affected by extreme heat. While these population groups are not in any specific order, belonging to more than one at-risk group may further increase susceptibility to extreme heat.

The protective actions outlined in this plan will reduce the impact of extreme heat for these population groups.

## People of a certain age or life stage

* Over 65 years old, especially those living alone
* Pregnant women and breastfeeding mothers
* Babies and young children

## People with particular health conditions

* Heart and lung disease, high blood pressure, diabetes, cancer or kidney disease
* Certain neurological illnesses (eg Parkinson’s Disease, Multiple Sclerosis)
* Mental illness
* Illness or infection that causes dehydration or fever
* Conditions that impair sweating including dehydration, skin disorders (including sunburn, prickly heat and extensive scarring from burns), congenital impairment of sweating, cystic fibrosis, quadriplegia and scleroderma
* Problematic alcohol or other drug use such as amphetamines
* Cognitive impairments that may limit the ability to identify or communicate their discomfort or need for water
* Limited mobility (such as those who are bed-bound or in a wheelchair)
* Overweightor obesity
* Low cardiovascular fitness

## People taking medications that may affect the way the body reacts to heat

* Allergy medicines (antihistamines)
* Some blood pressure and heart medicines (beta-blockers and vasoconstrictors)
* Seizure medicines (anticonvulsants)
* Thyroid medications (thyroxine)
* Water pills (diuretics)
* Antidepressants
* Antipsychotics

## People with particular social and economic circumstances

* Sleeping rough
* Low socioeconomic status who may restrict use of, or have limited access to, air-conditioning
* Living alone or who are socially isolated
* Non-English-speaking people who may not be able to understand extreme heat alerts and warnings or have reduced access to appropriate health or support services

## People outdoors during extreme heat

* Working or being physically active outdoors (such as gardeners, athletes and labourers).

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1. [Victoria's Climate Science Report 2019](https://www.climatechange.vic.gov.au/__data/assets/pdf_file/0029/442964/Victorias-Climate-Science-Report-2019.pdf) (climatechange.vic.gov.au) [↑](#footnote-ref-2)
2. A more detailed list of population groups most at risk is provided in the Appendix. [↑](#footnote-ref-3)
3. The average daily temperature is calculated using the Bureau of Meteorology’s 7-day forecast. It is today’s maximum forecast temperature plus tomorrow’s minimum (or overnight) forecast temperature divided by two. [↑](#footnote-ref-4)
4. More information about these resources is available from [the department’s website](https://www2.health.vic.gov.au/public-health/environmental-health/climate-weather-and-public-health/heatwaves-and-extreme-heat/heatwave-community-resources) <www2.health.vic.gov.au/public-health/environmental-health/climate-weather-and-public-health/heatwaves-and-extreme-heat/heatwave-community-resources>. [↑](#footnote-ref-5)