POLICY POSITION STATEMENT: CLIMATE CHANGE

Endorsed by Asthma Australia's Board of Directors: 13 October 2022

PURPOSE OF THIS POSITION STATEMENT

Asthma Australia's Policy Position Statement on Climate Change was developed in response to increasing demand from people affected by asthma for Asthma Australia to advocate for their interests. The bushfire smoke crisis of 2019-20 was a turning point for our understanding of climate health impacts as it became clear that we were already feeling the effects of climate change. People with asthma were disproportionately impacted by exposure to the bushfire smoke,[1] yet worsening bushfires are just one of many climate-driven phenomena which impact asthma outcomes.

Exposure to air pollution can both cause people to develop asthma and trigger symptoms or exacerbations in people with existing asthma, impacting the communities around them. Certain air pollutants which contribute to climate change can contribute to these adverse asthma outcomes. At the same time, many of the threats which are increasing as a result of climate change are negatively impacting people with asthma and those at risk of developing asthma, such as bushfire smoke, dust storms, thunderstorm asthma, ozone and pollen.

This Policy Position Statement summarises the impacts of climate change on asthma and presents policy recommendations for action to mitigate climate change, before focusing on air pollution and health inequities, which are priorities for policy action to adapt to the unavoidable impacts of climate change. Asthma Australia's climate change advocacy will seek support for these recommendations from the government, non-government and corporate sectors. We will continue to collaborate with advocates who share a vision for a healthy future, including through our membership of the Climate and Health Alliance (CAHA). The development of this Position Statement was informed by CAHA's Healthy, Regenerative and Just policy agenda.[2]

INTRODUCTION

Climate change is inextricably linked with air quality. The emissions which contribute to climate change also reduce air quality, which can cause people to develop asthma and trigger symptoms or exacerbations in people with asthma. These adverse impacts on asthma are also caused by a number of threats which are increasing as a result of climate change, including bushfire smoke, ground level ozone and pollen. Reducing emissions will therefore improve air quality in the short and long term.

Many people with asthma recognise they are particularly impacted by the effects of climate change. Asthma Australia surveyed 12,000 people during the catastrophic 2019–20 bushfires about the impacts they experienced as a result of exposure to bushfire smoke.[3] When asked what the government, Asthma Australia or other organisations could do to reduce the impact of poor air quality on their day-to-day life, more than 1,000 respondents provided open text responses that linked the bushfire smoke crisis with climate change. Common suggestions included taking action to mitigate climate change and supporting individuals and communities to respond to bushfire smoke, for example by providing people with air purifiers and implementing building improvement programs to prevent smoke from entering homes, commercial buildings and schools.

Asthma affects 1 in 9 Australians, or 2.7 million people. This means people with asthma are one of the largest population groups vulnerable to the risks associated with climate change. Asthma Australia therefore urges federal, state, territory and local governments to accelerate efforts to mitigate and adapt to climate change.

ABOUT ASTHMA AUSTRALIA

Asthma Australia is a for-purpose, consumer organisation which has been improving the lives of people with asthma since 1962. Asthma affects one in nine Australians or 2.7 million people. Asthma is an inflammatory condition of the airways, restricting airflow and can be fatal. There is no cure, but most people with asthma can experience good control of their asthma.

Our purpose is to help people breathe better so they can live freely.

We deliver evidence-based prevention and health strategies to more than half a million people each year.

SUMMARY OF RECOMMENDATIONS

Recommendation 1
Asthma Australia calls on Australian governments to accelerate moves towards renewable and non-emitting sources of energy and transport to mitigate climate change. Specifically, we endorse:

a) The Climate and Health Alliance's call for Australian governments to implement a National Strategy on Climate, Health and Well-being for Australia[4] and commit to policies to limit warming to 1.5°C or less.[5]
b) The call for a 75% reduction in on Australia's greenhouse gas emissions by 2030 in the Community Sector Climate Change Declaration.[6]

Recommendation 2
Asthma Australia calls on all Australian governments to adopt whole-of-government approaches to addressing air pollution as a priority issue for climate change adaptation. Specifically, we call for measures to:

a) Improve air quality monitoring and reporting.
b) Provide ongoing funding support for an AirSmart public education program to inform consumers about the health impacts of air pollution and empower them to take action to protect their health.
c) Provide support to vulnerable individuals with asthma exposed to air pollution and vulnerable individuals at risk of developing asthma as a result of exposure to air pollution.
d) Develop and implement frameworks for institutions to effectively to respond to air pollution events.

Recommendation 3
Asthma Australia calls on Australian governments to recognise the importance of social determinants of health in designing policies that address climate change adaptation. Specifically, we call on governments to:

a) Invest in quality, affordable housing and housing repair and maintenance programs.
b) Address the disproportionate impacts of climate change-driven weather events and conditions on outdoor workers.

IMPACTS OF CLIMATE CHANGE ON ASTHMA

The World Health Organization has labelled climate change as the defining issue for public health in the 21st century.[7] Asthma can both be caused and exacerbated by conditions related to the warming climate. Numerous climate related pathways are responsible for this:[8]

- **Bushfire smoke** contains particulate matter and gases which can cause symptoms in people with asthma.[9] The frequency and severity of bushfires are increasing as a result of climate change,[10] meaning severe air pollution events are likely to become more common. Exposure to bushfire smoke can increase the likelihood of health complications for pregnant people and worsen birth outcomes such as preterm birth, low birth weight and the need for medical intervention when babies are born.[11] These birth outcomes in turn increase the likelihood of developing childhood asthma. Bushfire smoke can also irritate and cause inflammation in children's lungs, exacerbate symptoms and cause significant health burden.[12]
- Higher atmospheric carbon dioxide (CO_2) results in increased **pollen production**, which is one of the most common and dangerous asthma triggers.[13] Pollen is also a sensitising agent which causes new cases of asthma.[14]
- **Extreme heat**, which is seen increasingly with global warming, can trigger asthma symptoms for many people, as can extreme fluctuations in temperature. Humid and dry conditions are also common triggers.[15]
- **Ground level ozone**, a secondary pollutant worsened by a hotter and drier climate, is a potent substance for people with asthma. Exposure to ozone has been found to cause severe exacerbations of asthma, reduce lung function and cause the onset of lung diseases.[16]
- Climate change is also increasing the frequency and severity of extreme weather events, including **flooding, storms, cyclones and drought**.[17] These extreme weather events significantly contribute to asthma burden. For example, storms and flooding expose people

with asthma to **mould** triggers, which can both worsen and increase the risk of developing asthma. Storms and extreme wind events carry irritants like **pollen, dust and other organic irritants**, all of which have the potential to cause flare-ups and impede asthma control.[18]

- The **thunderstorm asthma** event in Melbourne in 2016 demonstrated the tragic impact the combination of factors that are all worsened by climate change (extreme weather, increased pollen, higher prevalence of asthma) can have on our populations. It caused the deaths of 10 people and over 3,000 emergency department presentations in one 30-hour period.[19]

In addition to these climate-mediated pathways, people with asthma and those at risk of developing asthma are vulnerable to the emissions which contribute to climate change such as vehicle and industrial emissions.

Sociodemographic factors directly influence the extent to which people are impacted by climate-related risk factors. This is particularly so for people living with asthma. Sociodemographic characteristics including age, gender, health, nutritional status, ethnicity, housing, access to healthcare, socioeconomic status, employment status and type, and geographical location can put people at greater health risk when environmental conditions are deteriorating. As examples: people of lower socioeconomic status may not be able to effectively implement protective behaviours when faced with extreme air pollution events; older people with asthma are more likely to be negatively affected by extreme changes in temperature.

RECOMMENDATION 1: Asthma Australia calls on Australian governments to accelerate moves towards renewable and non-emitting sources of energy and transport to mitigate climate change. Specifically, we endorse:

a) The Climate and Health Alliance's call for Australian governments to implement a National Strategy on Climate, Health and Well-being for Australia[20] and commit to policies to limit warming to 1.5°C or less.[21]

b) The call for a 75% reduction in on Australia's greenhouse gas emissions by 2030 in the Community Sector Climate Change Declaration.[22]

CLIMATE CHANGE CONTRIBUTES TO AIR POLLUTION WHICH NEGATIVELY IMPACTS HEALTH

The impacts of declining air quality around the world are being experienced now. This should motivate strong action to mitigate climate change and be a priority issue for adaptation strategies. The United Nations (UN) '5x5' response recognises five major risk factors for non-communicable diseases and places air pollution alongside unhealthy diet, tobacco use, harmful use of alcohol and physical inactivity.[23] The UN Environment Programme describes air pollution as 'the most important environmental health risk of our time' and states it is responsible for 1 in 9 deaths.[24]

Exposure to environmental hazards (such as air pollutants, mould and pollen) can be both a risk factor for the development of asthma and a trigger for asthma symptoms in people who have asthma.[25] Asthma flare-ups can result in mental and physical ill health, loss of income, lowered participation in social and recreational events, hospitalisation and even death. The cost of asthma was estimated at $28 billion in 2015, including healthcare costs, lost productivity and the cost of disability and premature death.[26]

Asthma Australia calls on all Australian governments to adopt whole-of-government approaches to addressing air pollution as a priority issue for climate change adaptation. Critical aspects of

these approaches must include:

- Improving air quality monitoring through the increased spread of air quality monitoring networks.
- Improving information and education about air quality.
- Implementing supports to protect the health of vulnerable individuals against air pollution.
- Developing frameworks and guidelines which institutions can follow in air pollution events to protect the health of local community members.

Asthma Australia offers more detailed information and policy recommendations on air quality and bushfire smoke in our Bushfire Smoke Policy Position Statement.

RECOMMENDATION 2: Asthma Australia calls on all Australian governments to adopt whole-of-government approaches to addressing air pollution as a priority issue for climate change adaptation. Specifically, we call for measures to:

a) Improve air quality monitoring and reporting.
b) Provide ongoing funding support for an AirSmart public education program to inform consumers about the health impacts of air pollution and empower them to take action to protect their health.
c) Provide support to vulnerable individuals with asthma exposed to air pollution and vulnerable individuals at risk of developing asthma as a result of exposure to air pollution.
d) Develop and implement frameworks for institutions to effectively to respond to air pollution events.

SOCIAL DETERMINANTS OF HEALTH AND HEALTH INEQUITIES ARE AMPLIFIED BY CLIMATE CHANGE IMPACTS

The burden of disease resulting from climate change is far greater for certain population groups, including those experiencing socioeconomic disadvantage.[27] While investment is needed to protect the community at large from the increasing impacts of climate change, additional support must be provided to vulnerable people.

Social determinants of health are those social factors that can result in positive or negative health impacts for an individual. Health begins where we live, work, learn and play,[28] and health and wellbeing are therefore influenced by individual, societal and socioeconomic factors. Social determinants that can result in negative health consequences include socioeconomic position, housing, education and employment, all of which can be threatened by instability caused by climate change.

Housing in particular, as a social determinant, can affect a person's asthma. Poor housing can:

- Harbour indoor triggers (such as mould, dust mites or triggers from pest infestations);
- Be poorly sealed against outside risks (such as smoke, dust or pollen); or
- Offer inadequate ventilation or air cleaning systems (which prevent the removal of accumulated air pollutants).

The effects of poor housing may be particularly acute for people who rent or live in social housing as they may have limited means or agency to make necessary improvements to their homes. A

person affected by poor housing may also be too unwell to look for better living conditions and/ or may be unable to afford devices such as air purifiers to clean indoor air. Therefore, worsening air pollution, extreme heat and increases in pollen, mould and ozone associated with climate change are likely to exacerbate health inequities that some groups in society already face.

In Asthma Australia's Bushfire Smoke Impact Survey, some participants reported they were unable to take action to protect their health due to financial restraints.[29] Investment in quality, affordable housing and housing repair and maintenance programs should be a major focus for climate change adaptation.

Several groups are disproportionately affected by asthma, including Aboriginal and Torres Strait Islander people, people living in areas of lower socioeconomic status and people living in rural and remote areas.[30] Climate change exacerbates health inequities already experienced in these population groups.

Early life is a significant determinant of health in the climate change context. The foundations of adult health are laid in early childhood and before birth.[31] Exposures in early life (pollen, air pollution, mould and heat) are likely to be an important contributor to asthma and asthma burden.[32] Children are not only more vulnerable now to health impacts from climate change such as worsened air pollution, but they will also experience these impacts for the rest of their life.

Health literacy is likely to influence health outcomes resulting from climate change. Good health literacy empowers individuals to gain access to, understand and use information in ways that promote and maintain good health for themselves, their families and their communities. Without good health literacy, there is a risk that an individual's condition cannot be managed, which can have flow-on effects for other social determinants of health. Only about 40% of adults have the level of individual health literacy needed to meet the complex demands of everyday life, such as understanding and following health advice and making good health care choices.[33] Asthma Australia supports the development of a national health literacy strategy, which has been prioritized as an action in the National Preventive Health Strategy 2021-2030.[34] This would help empower vulnerable people to understand the health impacts of climate change, to access available support and to take action to protect their health.

Outdoor workers are disproportionately affected by climate change-driven conditions and events including heatwaves, bushfire smoke events and storms. However, as was seen with the prolonged smoke exposure during the 2019-20 bushfires, workplaces do not have clear frameworks to respond to extreme climactic events.[35] Adaptation strategies are therefore needed to support outdoor workers to ensure they are safe at their places of work.

RECOMMENDATION 3: Asthma Australia calls on Australian governments to recognise the importance of social determinants of health in designing policies that address climate change adaptation. Specifically, we call on governments to:

- **a) Invest in quality, affordable housing and housing repair and maintenance programs.**
- **b) Address the disproportionate impacts of climate change-driven weather events and conditions on outdoor workers.**

RELATED RESOURCES

For more detailed information and policy recommendations on air quality and bushfire smoke, refer to **Asthma Australia's Bushfire Smoke Policy Position Statement**.

For more detailed information and policy recommendations on the social determinants of health and asthma, refer to **Asthma Australia's Position Statement on the Social Determinants of Health**.

CASE STUDY: Impact of 2019-20 bushfires on people with asthma

In Asthma Australia's Bushfire Smoke Impact Survey,[28] people with asthma reported higher rates of serious health outcomes than people without asthma, including attending the emergency department, hospitalisation and requiring oral or injected corticosteroid medication. The unprecedented levels and duration of exposure to bushfire smoke during this period also had significant impacts on mental health, including new and increased symptoms of anxiety and depression. The survey revealed that beyond health impacts, people with asthma disproportionately suffered financial strain and reduced participation in everyday activities.

Survey respondents described how the bushfire smoke was impacting them, for example:

> "Quite anxious, I worry about getting sicker with my asthma, my work capabilities have been reduced."
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> "Air quality at work has been very bad, with the air con system unable to filter out particles. I've been wearing a P2 mask all day at work but it gets hard to breathe by the afternoon, once the filter has been blocked by condensation from my breathing. I then have to choose between hard-to-breathe clean air, easy-to-breathe smoky air, or going home. Some days I can work from home but not when I need to use specific equipment or carry out tasks on-site. I've also had to cancel shifts."
>
> "Currently living by myself without a car so I have to walk everywhere which means I have to be out in the smoke almost every day walking to work and walking to get food and other shopping."
>
> "My job is 80% outside. In order to feel safe I need to be inside during pollution events. My productivity is suffering."
>
> "Cannot afford air conditioning and am having problems buying an air purifier. Sealing an old 60s/70s flat difficult."
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> "Our school has not been responsive to the public health warnings and carried on with outdoor sport activities on days of hazardous air quality. My son has missed three days of school in order to avoid sports days etc."
>
> "Due to an increase in my asthma symptoms and having a newborn baby after a month of smoke I have relocated to Perth indefinitely."

"My home is old so I have had to use wet towels at the doors and windows throughout the house. I used three fans and the new Air Purifier during the worst times of the South Coast fires around Bega as this is where I live."

"Even working inside a shopping centre gave no relief as the smoke could still be smelt inside. It has been near impossible to avoid."

"Increased concern about the long-term exposure to small children lungs and airways as we have been surrounded by thick smoke for nearly 2 weeks. Terrified that my youngest may have an asthma attack and during an emergency evacuation we could have been unable to seek medical help."

"I have been on edge. Unable to exercise which increased my anxiety."

"I sometimes feel useless, seeing how other people seem to be able to function normally when I'm struggling to do basic tasks."

"Financial support would be huge for me, offering free p2 masks, offering discounted ventolin, an air quality update app, discounted air cleaners, better management of bushfires before summer, action on global warming and climate change, more climate and environmental representatives/advocates in government, free asthma checks, free asthma or air quality management kit (masks, info booklet, health information, etc.)"

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