

National Adaptation Plan Issues Paper

Asthma Australia Submission, April 2024

ABOUT ASTHMA AUSTRALIA

Asthma is a respiratory condition that affects 2.8 million Australians, with children being the most impacted. Asthma is responsible for at least one Australian death every day, making it a serious health concern. More than 30,000 people are hospitalised each year due to asthma, yet 80% of these hospitalisations are considered potentially avoidable. Despite the prevalence of asthma, it is often misunderstood, causing fear and anxiety for those living with the condition.

Asthma Australia has been the leading charity for people with asthma and their communities for over 60 years. The challenges of climate change, unhealthy air, and health inequity make it more important than ever for people with asthma to have a voice. We search for new and progressive approaches to challenge the status quo. Our work is grounded in evidence and centred on the experiences of people affected by asthma. We believe by listening to those living with asthma, designing solutions with them, and influencing change, people with asthma can live freely, unrestricted by their asthma.

EXECUTIVE SUMMARY

Asthma Australia welcomes the opportunity to comment on the National Adaptation Plan Issues Paper. Australia is already witnessing the compounding and cascading effects of conditions and events driven by climate change.¹ People with asthma are particularly vulnerable to climate health impacts and they need urgent adaptation action, along with rapid decarbonisation, to limit these impacts.² The past decade has seen the catastrophic 2016 Melbourne thunderstorm asthma event, drought-driven dust storms, a prolonged bushfire smoke crisis, record temperatures and heatwaves, and a mould epidemic linked to extreme weather. These events can trigger symptoms and flare-ups in people with asthma, and can increase the risk of developing the condition, and climate change is increasing their frequency, severity, and duration.³

It is no surprise the burden of asthma is rising relative to other causes of ill health.⁴ The global respiratory pandemic continues to strain Australia's under-resourced health system and, coupled with the historic failure to invest in chronic disease prevention, our nation is ill-prepared to cope with the mounting harm from climate change to our health and wellbeing.

A national adaptation plan is a crucial if Australia is to minimise the impacts of climate change on asthma. Asthma affects 2.8 million people and this high prevalence, combined with the wide range of climate change impacts that worsen the condition, mean asthma must be a focus of adaptation planning. To avoid deepening health inequities, climate adaptation supports will need to prioritise population groups with a greater asthma burden and people with asthma who are more exposed to climate change hazards. Importantly, while First Nations Peoples experience a higher burden of asthma,

these communities possess knowledge and expertise and can contribute significant insights into climate adaptation that support social and emotional wellbeing for all.

Adaptation planning for asthma must extend beyond the health system and holistically address the determinants of asthma that are exacerbated by climate change. Addressing these determinants will result in a cascade of benefits for a range of additional health outcomes: improving housing conditions, reducing exposure to airborne hazards, and supporting priority populations will benefit infectious, respiratory, cardiometabolic, neurological disease outcomes; and reduce demand on our health system.

In this submission, Asthma Australia provides an overview of the interactions between climate change and asthma, adaptation priority areas for asthma, priority populations for adaptation, and insights from our consumer research. We then address the areas of the Issues Paper most relevant to asthma. Asthma Australia welcomes the actions taken to underpin the Adaptation Plan with First Nations-led perspectives and partnerships and we also address selected questions in this area. We note the short consultation period has limited our ability to consult with our stakeholders and respond to the full range of issues relevant to asthma in this consultation.

Climate change and asthma

Asthma is a chronic health condition that is heavily influenced by environmental conditions: it can be both caused and exacerbated by exposure to environmental triggers. Asthma is deeply linked with climate change as the emissions that cause climate change directly increase the risk of developing asthma and trigger asthma symptoms in people with asthma, while also driving events and conditions that increase asthma prevalence and morbidity.

The interactions with between climate change and asthma are particularly concerning the high burden of asthma in Australia. Asthma affects 1 in 9 Australians, or 2.8 million people.⁵ It is the 9th leading contributor to the overall burden of disease in Australia, having risen from 10th place in 2003 to 9th place in 2018,⁶ and the leading cause of burden of disease for people aged 5-14 years.⁷ Asthma mortality⁸ and hospitalisations⁹ in Australia are high by international standards, and around 400 people die each year in Australia due to asthma,¹⁰ with a significant increase in deaths in 2023.¹¹ In 2021-22, there were 25,480 hospitalisations for asthma, of which 90% were considered potentially preventable.¹²

People with asthma experience poorer health outcomes and quality of life,¹³ and they may live for a long period of time with its associated disability. This can reduce participation in paid employment, education, care responsibilities, sports and social events. A 2015 report, the Hidden Cost of Asthma, found asthma cost the healthcare system \$1.2 billion, lost productivity due to asthma cost \$1.1 billion, and the cost of the total burden of disease was \$24.7 billion.¹⁴

The numerous climate change pathways that can cause and exacerbate asthma in Australia include air pollution from bushfires, exposure to mould caused by heavy rainfall and flooding, increased ground level ozone, increased pollen production, thunderstorm asthma epidemics, and extreme heat.¹⁵ This means people with asthma—and those at risk of developing the condition—are particularly vulnerable to the risks associated with climate change. As people are exposed these risks in a range of settings, including homes, schools, workplaces, and healthcare settings, adaptation planning will need to span multiple policy areas to reduce the impact of climate change on asthma and avoid spiralling healthcare and productivity costs.

Adaptation priority areas for asthma

Air quality

Climate change is linked to numerous impacts which reduce air quality, including bushfires, grassfires, pollen, thunderstorm asthma events, mould, dust storms, and ground level ozone.¹⁶ These impacts are associated with a range of adverse health impacts, including asthma symptoms and exacerbations, and increased risk of developing asthma.¹⁷ Additionally, people seek shelter indoors during extreme weather events, and people with asthma are among those advised to stay inside with their windows and doors when air quality is reduced; this can expose people to indoor airborne hazards such as mould and pests, as well as unhealthy temperatures.¹⁸

While Australia is often assumed to have healthy air quality, 80% of the population was exposed to bushfire smoke for prolonged periods in 2019 and 2020.¹⁹ Further, there is no safe level of exposure to air pollution, meaning health impacts can occur even at low levels of pollution.²⁰ In Australia, 1.3% of the total disease burden was due to air pollution in 2018,²¹ and the financial cost of premature deaths due to air pollution has been estimated to range between \$11 billion and \$24 billion per year.²²

Air quality must be a priority area for adaptation planning and a multi-faceted approach is needed to address increasing threats to air quality from climate change. This approach should include actions to improve air quality monitoring, information, and public education, as well as actions to reduce pollution from avoidable sources such as wood heaters and fossil fuel production and combustion. Additionally, adaptation planning must support population groups most vulnerable to airborne hazards, including people with asthma, to reduce exposure to air pollution. Programs to holistically improve housing conditions and remove sources of indoor air pollution are critical, and some people will require air filtration to maintain a healthy indoor environment during air pollution or extreme weather events.

Housing

Adaptation planning must prioritise housing, as climate change impacts are largely experienced indoors: over 90% of our time is spent indoors, mostly in our homes.²³ People experiencing homelessness and housing precarity are among the most vulnerable to climate change impacts,²⁴ which is deeply concerning given the housing crisis in Australia. People living in poor housing conditions may also be more exposed to climate change-driven conditions that can damage health, including indoor heat, infiltration of outdoor air pollution, and indoor airborne hazards such as mould. Having a healthy indoor environment is particularly important for people who need to shelter indoors from climate change-driven events, including people with asthma.

Our homes also contribute to greenhouse gas emissions and governments around Australia have introduced policies aiming to reduce greenhouse gas emissions, save on energy costs, and improve thermal comfort. However, these policies have largely focused on energy efficiency measures such as air tightening and insulation, which can increase indoor temperatures during hot weather and increase exposure to indoor airborne hazards.²⁵ Additionally, adaption policy has largely focused on increasing disaster resilience and protecting assets, and neglected the need for climate change-adapted homes that support good health and wellbeing.

Access to healthcare

Demand on our already strained healthcare sector is likely to increase due to the detrimental effects of climate change on human health, which include a growing burden of asthma and other chronic conditions. Hence, it is critical that adaptation planning consider rising healthcare needs and ensure consumers can access appropriate and affordable healthcare as climate change progresses. This will include increasing access to affordable primary healthcare, including high quality telehealth services, which are particularly important for people cut off from healthcare services during an extreme event or when people cannot leave their homes due hazardous conditions such as bushfire smoke. Additionally, ambulances, emergency departments, and hospitals must be appropriately equipped in terms of resources, training, and their built environments to provide appropriate care during climate-change driven emergencies. Pharmacies must be able to provide appropriate medicines and equipment during extreme events, such as asthma medicines during bushfires and thunderstorm asthma events. Finally, ensuring access to mental health support services during and after climate-change events is a critical priority for adaptation planning, both to maintain continuity of care and respond to emerging needs.

Priority populations for adaptation

Adaptation planning across all domains, and particularly in health and social support, will need to prioritise support for the populations at greatest risk of adverse impacts from climate change. Climate change has been recognised as a risk multiplier because it increases existing social, health, and economic inequities,²⁶ including the disparities in asthma outcomes.

The National Health and Climate Strategy (NHCS) recognises priority population groups including people with chronic diseases such as asthma, and people in areas more exposed to climate change hazards, such as communities more exposed to bushfire smoke. Concerningly, several of the priority population groups recognised in the NHCS already experience a greater burden of asthma, including First Nations Peoples, people with disabilities, and people with low income.²⁷ These groups are more likely to experience negative health outcomes from exposure to climate change-driven hazards such as bushfires smoke, ground level ozone, mould, and pollen.

Climate change has a particularly significant impact on First Nations Peoples in Australia.²⁸ It is disrupting spiritual and cultural connections to Country by degrading the land, waters and air on Country, and it is impacting physical, emotional, cultural and spiritual health. These impacts compound existing health inequities, which include higher asthma prevalence.²⁹

Housing significantly determines exposure to climate change hazards, with unhoused people and people in precarious housing among the most exposed.³⁰ People living in poor quality housing can also experience greater exposure to hazards when sheltering indoors from extreme weather events or disasters, through increased indoor temperatures, infiltration of outdoor air pollutants, and exposure to indoor hazards.

Asthma Australia's consumer research findings

Asthma Australia has undertaken consumer research to understand how people with asthma and the broader community are affected by climate change, what actions they take to reduce climate change impacts, and whether barriers prevent them taking actions. The insights from these surveys can help inform adaptation planning.

Bushfire Smoke: Are you coping?

Asthma Australia's survey during the 2019-20 bushfires sought to understand how prolonged exposure to bushfire smoke was affecting people with asthma and the broader community.³¹ We received more than 12,000 responses and 61% of respondents reported having asthma. The results revealed that people with asthma were particularly vulnerable to bushfire smoke, and the impacts on them were broad. People with asthma were more likely to report emergency department presentations, hospitalisations, financial strain, and social restriction. They also described serious mental health impacts, including symptoms of anxiety and depression, due to smoke exposure and being unable to spend time outdoors or exercise to manage their mental health. The significant burden occurred even though people with asthma were more likely to take actions to try to reduce their exposure to smoke. This may reflect the unprecedented and prolonged extent of the smoke crisis, and the inadequacies of existing public health measures, including air quality guidance.

Asthma Australia's Homes, Health and Asthma Research

In 2022, Asthma Australia undertook a nationally representative survey of 5,041 people around how healthy Australian homes are.³² We sought to uncover the prevalence of key asthma and allergy triggers in Australian homes, what actions people take to reduce these triggers in their homes, and whether they face barriers to action. The results revealed homes are not healthy places for many Australians, particularly people with asthma or allergies, with nearly one-third reporting their symptoms were worse after spending time in the home. Half the survey respondents reported having mould or dampness in their home, which may have been linked to widespread heavy rainfall and storms. People with asthma, people living in social housing, and Aboriginal and Torres Strait Islander people were more likely to report exposure to mould and pests. These groups were also more likely to report facing barriers to addressing triggers in their homes, as were people living in lower income households. These findings revealed the need for a range of policy measures to improve the health of Australian homes, including financial support for low-income households to improve home health, focusing on priority populations, funding to improve the health of existing social housing stock, and improved standards for new homes.

Climate and Health Survey

In 2023, Asthma Australia undertook a nationally representative survey of more than 2,000 people to explore knowledge and attitudes about climate change and health.³³ The results revealed most Australians (88%) are concerned about at least one impact of climate change, including more frequent and severe disasters, air pollution, and health and wellbeing impacts. The survey also highlighted lived experience of climate health impacts, with one quarter of people saying climate change had already affected their health. There was strong support for government policies to support people at risk of climate health impacts, with 70% agreeing that governments should take action to protect these people. However, there was limited understanding of the health impacts of climate change in Australia, with particularly poor understanding of the potential for climate change to cause or worsen other chronic disease outcomes such as heart (16%) or kidney disease (10%). Further, most respondents perceive climate change to be a significant health risk for Australians in 20 or 50 years, with fewer perceiving a significant health risk now, or five years from now.

SUMMARY OF RECOMMENDATIONS

RECOMMENDATION 1: The National Adaptation Plan's vision should:

- a) Recognise the importance of a healthy and well population.
- b) Refer to the need to support populations most vulnerable to climate change impacts.
- c) Incorporate the concept of vulnerability.
- d) Recognise that supporting communities and environments is foundational to economic management and outcomes and reorder the areas listed in the draft accordingly.

RECOMMENDATION 2: Health and social support should be the highest priority of the National Adaptation Plan as a healthy and well community is foundational to all other areas of adaptation planning. This system should prioritise adaptation planning for:

- a) Chronic conditions that increase vulnerability to climate health risks, including asthma.
- b) Improving air quality and reducing exposure to airborne hazards.

RECOMMENDATION 3: Housing should be recognised as a critical adaptation priority in both the health and built environment systems. Adaptation planning should prioritise actions supporting an integrated approach to improve access to secure, affordable homes that are energy efficient, provide a healthy living environment, and are resilient to climate risks.

RECOMMENDATION 4: Climate adaptation measurements should include the general population and target population groups with greater health inequities and increased vulnerability to climate change.

Success should be measured in areas including:

- a) Health and wellbeing outcomes.
- b) Air quality.
- c) Exposure to airborne hazards.
- d) Housing quality, access, and affordability.

RECOMMENDATION 5: Actions to strengthen health and social support adaptation should be taken by all levels of government and all portfolios, working collaboratively, as well as:

- a) Health peak consumer bodies with a demonstrated understanding of climate change health impacts, like Asthma Australia.
- b) Medical peak bodies.
- c) Healthcare providers.
- d) Housing providers.

RECOMMENDATION 6: The National Adaptation Plan should recognise airborne hazards as an adaptation priority and identify the agencies responsible for acting on these hazards.

RECOMMENDATION 7: The National Adaptation Plan should recognise the importance of reducing air pollution from avoidable sources to minimise the cumulative impacts on health from increasing climate change-driven airborne hazards.

RECOMMENDATION 8: The National Adaptation Plan should commit to:

- a) Increasing access to local air quality information, including the use of low-cost sensors.
- b) Funding a national air quality public education campaign, such as the AirSmart campaign developed by Asthma Australia.

RECOMMENDATION 9: The National Adaptation Plan should recognise the multifaceted housing crisis as a significant barrier to adaptation and commit to specific actions to address housing access, affordability, security, and conditions.

RECOMMENDATION 10: The National Adaptation Plan should commit to resourcing public education and engagement to increase climate change health literacy, including targeted education to groups with higher risk of adverse health impacts and dedicated resourcing for peak bodies, such as Asthma Australia, which have prioritised environmental health education and literacy.

RECOMMENDATION 11: The National Adaptation Plan should recognise and align with the National Health and Climate Strategy, which requires strengthening through adequate resourcing and an implementation plan.

RECOMMENDATION 12: The National Adaptation Plan should build on the National Health and Climate Strategy and set out detailed actions to progress health and social support adaptation, including actions to reduce exposure to air pollution and improve housing conditions, particularly for priority populations such as people with asthma.

RECOMMENDATION 13: Implementation of the National Health and Climate Strategy's actions should prioritise the National Health Vulnerability, Capacity and Adaptation Assessment and National Health Adaptation Plan.

RECOMMENDATION 14: The National Preventive Health Strategy should be urgently updated with the addition of two new focus areas, climate change and air quality, and commitments to respective policy achievements for the decade to 2030.

RECOMMENDATION 15: The National Adaptation Plan should reaffirm the commitment in the National Preventive Health Strategy to increase spending on preventive health to 5% of total health expenditure to reduce vulnerability to climate change health impacts.

RECOMMENDATION 16: Adaptation planning should prioritise strengthening the National Agreement on Closing the Gap by addressing the impacts of climate change on First Nations communities and engaging with the structural determinants of disparities in life expectancy, education, and socio-economic status.

RECOMMENDATION 17: Adaptation planning should prioritise strengthening the National Clean Air Agreement, and its work plans, to ensure actions are taken to reduce air pollution from avoidable sources, minimise the cumulative impacts of air pollution from all sources, and reduce exposure to airborne hazards. These actions should include:

- a) Aligning the National Environment Protection Measure for Ambient Air Quality with the World Health Organisation air quality guidelines.
- b) Developing and implementing indoor air quality standards.
- c) Reducing air pollution from avoidable sources.
- d) Expanding access to local air quality information, including the increased use of low-cost air quality sensors.
- e) Implementing a national air quality public education campaign, such as AirSmart.

RECOMMENDATION 18: The National Adaptation Plan should embed a climate in all policies approach in the Strengthening Medicare reform agenda and prioritise actions to address the ability of primary healthcare providers to:

- a) Meet increasing primary healthcare demand from climate change health pressures.
- b) Continue to deliver care during and following acute climate change events.
- c) Support consumers to understand and manage climate change risks to their health.

RECOMMENDATION 19: The National Adaptation Plan should recognise the need for social and affordable housing to provide protection against local climate change risks and a healthy environment that supports health and wellbeing, including actions to:

- a) Ensure new dwellings are well designed, built, and maintained to ensure healthy indoor air quality, thermal comfort, energy efficiency, and an indoor environment free of asthma and allergy triggers.

- b) Holistically retrofit existing dwellings, prioritising residents with asthma and others with increased vulnerability to climate impacts, which may require measures to ensure thermal comfort, improve indoor air quality (such as ventilation, mould removal, or air filtration), improve energy efficiency, or provide access to renewable energy.

RECOMMENDATION 20: Measuring progress towards adapting the health and social support system under the National Adaptation Plan should include:

- a) Short term asthma outcomes including emergency department presentations and hospitalisations.
- b) Respiratory inhaler trends relative to climate change-driven events.
- c) Long term trends in asthma incidence, prevalence, and burden of disease.
- d) Closing the Gap targets for First Nations Peoples, particularly Targets 1 and 15.
- e) Measuring What Matters indicators.

RECOMMENDATION 21: The National Adaptation Plan should include an action to review and update the National Construction Code to ensure new buildings, including homes, are adapted to climate change, provide healthy indoor environments for occupants, and reduce potential unintended consequences of energy efficiency upgrades in isolation.

RECOMMENDATION 22: The National Adaptation Plan should support improved minimum rental standards that protect the health of renters and improve energy efficiency.

RECOMMENDATION 23: The National Adaptation Plan should:

- a) Recognise the role of housing conditions in mediating both acute and slow onset health impacts of climate change, in addition to the impacts of climate disasters and extreme weather on housing supply.
- b) Recognise the importance of homes that are well designed, built, and maintained in providing a safe environment to shelter from extreme events and protection against slow onset impacts such as heat and air pollution.
- c) Prioritise housing improvements targeting population groups with higher asthma prevalence, other vulnerabilities to climate change health impacts, increased exposure to climate change hazards, and poor housing conditions.

RECOMMENDATION 24: The National Adaptation Plan should support targeted investment in holistic housing retrofits and design to improve both energy efficiency and health outcomes. A holistic approach should include consideration of indoor air quality, thermal comfort, ventilation, electrification, renewable energy, and energy efficiency.

RECOMMENDATION 25: The National Adaptation Plan should recognise the importance of indoor air quality in homes for population groups vulnerable to airborne hazards, including people with asthma, and consider the need for home air filtration in adaptation planning.

Recommendation 26: The National Adaptation Plan should align with the State of the Environment Report 2021 and the National Aboriginal and Torres Strait Islander Health Plan, and focus on fostering meaningful partnerships, respecting cultural knowledge, and actively involving Aboriginal and Torres Strait Islander communities with a strengths-based and collaborative approach.

Recommendation 27: The National Adaptation Plan should engage Aboriginal and Torres Strait Islander leadership through First Nations governance models to develop meaningful and sustainable approaches to climate change adaptations. Planning should be locally designed and developed using place-based approaches to align with local First Nations communities.

CONSULTATION QUESTIONS

Foundations for a National Adaptation Plan

What do you think a well-adapted and resilient Australia looks like? Does the draft vision capture this? Why, why not? Do you agree with the key objectives of the plan? What other suggestions do you have?

A well-adapted and resilient Australia would have a healthy and well population. Population groups more vulnerable to the adverse impacts of climate change, including people with asthma, would receive the support they need to participate all areas of life, including education, employment, volunteering, caring, and recreation.

People would live in affordable, secure homes that provide a healthy indoor environment and protection against climate change impacts. Additionally, investment in environmental health literacy and supports would increase the capacity of individuals and communities to minimise climate change impacts on their health, wellbeing, and livelihoods. Health services would be adequately resourced to respond to increasing demand and provide continuity of care through climate change events. Preventive health would also be adequately resourced to improve health outcomes, in turn reducing the burden on healthcare systems and increasing Australia's climate resilience.

Importantly, a well-adapted Australia would have minimal air pollution from avoidable sources such a vehicle and wood heater emissions. Exposure to natural and climate change-driven airborne hazards would be minimised by a range of measures including access to local, real-time information and actionable health guidance. People with increased risk of air pollution health impacts, including people with asthma, would have the supports they need to protect their health such as targeted education and guidance, healthy homes, and access to air filters.

RECOMMENDATION 1: The National Adaptation Plan's vision should:

- a) Recognise the importance of a healthy and well population.**
- b) Refer to the need to support populations most vulnerable to climate change impacts.**
- c) Incorporate the concept of vulnerability.**
- d) Recognise that supporting communities and environments is foundational to economic management and outcomes and reorder the areas listed in the draft accordingly.**

The plan will respond to the priority nationally significant risks identified in the National Climate Risk Assessment. Within those, what areas should be the Commonwealth's priority for this National Adaptation Plan and why?

Health and social support should be the highest priority risk for the National Adaptation Plan. Good health and wellbeing are foundational across the nationally significant risks identified in the National Climate Risk Assessment, yet climate change impacts are compounding the already growing burden of chronic disease in Australia and deepening health inequities.³⁴ Adaptation planning presents an opportunity to reorient health policy and resource actions that focus on the determinants of health under increased pressure from climate change and potentially improve a range of health outcomes. Within the health and social support system, chronic conditions that increase susceptibility to climate health risks, including asthma, should be prioritised. Adaptation planning should also prioritise air quality (which we discuss in more detail below).

While Asthma Australia welcomes the linking of health and social support in the National Climate Risk Assessment, the National Adaptation Plan Issues Paper primarily focuses on health. To realise equitable health outcomes across all determinants of health, adaptation planning will need to place a greater focus on social supports, such as housing. Secure, affordable, and healthy homes are a critical adaptation need (which we discuss in more detail below).

The National Adaptation Plan Issues Paper refers to housing in both the health and social support and infrastructure and built environment systems. However, it does not recognise the need for an integrated approach to housing adaptation that would connect policies addressing housing access and affordability with energy efficiency programs and interventions to improve housing quality and climate resilience. Further, while the built environment is referenced as a strong interdependency of the health and social support system, health is not referenced in the built environment system.

RECOMMENDATION 2: Health and social support should be the highest priority of the National Adaptation Plan as a healthy and well community is foundational to all other areas of adaptation planning. This system should prioritise adaptation planning for:

- a) **Chronic conditions that increase vulnerability to climate health risks, including asthma.**
- b) **Improving air quality and reducing exposure to airborne hazards.**

RECOMMENDATION 3: Housing should be recognised as a critical adaptation priority in both the health and built environment systems. Adaptation planning should prioritise actions supporting an integrated approach to improve access to secure, affordable homes that are energy efficient, provide a healthy living environment, and are resilient to climate risks.

How should adaptation success be measured?

Health and wellbeing outcomes are an important measurement of adaptation success (which we discuss in more detail below). Air quality measures are also important, including targets for reducing avoidable air pollution, and the ability of the community to reduce their exposure to airborne hazards. Adaptation success should include metrics for housing quality, access, and affordability. Evaluation of adaptation success should include specific measurements for population groups with greater health inequities and increased vulnerability to climate change.

RECOMMENDATION 4: Climate adaptation measurements should include the general population and target population groups with greater health inequities and increased vulnerability to climate change. Success should be measured in areas including:

- a) **Health and wellbeing outcomes.**
- b) **Air quality.**
- c) **Exposure to airborne hazards.**
- d) **Housing quality, access, and affordability.**

Systems section: Health and social support

Risks to health and wellbeing from slow onset and extreme climate impacts

What other existing policies are supporting adaptation for this system?

The National Health and Climate Strategy (NHCS) has the potential to support adaptation for the health and social support system. Asthma Australia contributed to the consultation process supporting the development of the NHCS and welcomed the release of the strategy. Climate change affects health and wellbeing through multiple policy areas and the NHCS' commitment to a health in all policies approach is critical to supporting health and social support adaptation. The NHCS recognises the importance of air quality and housing in protecting health from climate change impacts, which are key priorities for health adaptation. However, existing policies have otherwise largely failed to support climate change adaptation in the health and social support system.

Who should be undertaking action to strengthen adaptation action in this system?

All levels of government and all portfolios should take action to strengthen health and social support adaptation to climate change, combining the health in all policies approach set out in the NHCS with a climate change in all policies approach. Instead of shifting responsibility to other portfolios or levels of government, policymakers must collaborate to achieve holistic approaches that reduce exposure to climate change hazards and health impacts.

With adequate resourcing, health peak consumer bodies with a demonstrated understanding of climate change health impacts, like Asthma Australia, can strengthen adaptation action by educating and empowering their communities to reduce the impacts of relevant climate change hazards.

Medical peak bodies have increasingly recognised the health impacts of climate change and should continue to educate their members around treating these impacts. Healthcare providers must engage with adaptation to meet growing demand and maintain the delivery of care through climate change events. Housing providers can strengthen adaptation by ensuring new and existing homes provide healthy indoor environments and protection against climate change health impacts.

RECOMMENDATION 5: Actions to strengthen health and social support adaptation should be taken by all levels of government and all portfolios, working collaboratively, as well as:

- a) Health peak consumer bodies with a demonstrated understanding of climate change health impacts, like Asthma Australia.
- b) Medical peak bodies.
- c) Healthcare providers.
- d) Housing providers.

What are the barriers to strengthening adaptation? How could the National Adaptation Plan help with these?

Air quality policy inaction

There is inadequate policy action to address air quality in Australia. This is despite the experience of an unprecedented air pollution crisis during the 2019-20 bushfires, in which 80% of the population was exposed to bushfire smoke.³⁵ Australian communities are exposed to a range of airborne hazards, many

of which are increasing due to climate change,³⁶ yet there is no safe level of exposure to air pollution, meaning that health damage can occur from relatively low levels of air pollution.³⁷ While policymakers are aware of, and concerned about, the impacts of airborne hazards, the resources and prioritisation needed to address these impacts is often lacking.

RECOMMENDATION 6: The National Adaptation Plan should recognise airborne hazards as an adaptation priority and identify the agencies responsible for acting on these hazards.

The failure of Australian governments to meaningfully reduce air pollution from avoidable sources, such as wood heaters and vehicles, is a barrier to strengthening health adaptation. The cumulative effect of pollution from avoidable sources and climate change-driven airborne hazards, which are largely unavoidable, will amplify climate health impacts and further strain health resources.

RECOMMENDATION 7: The National Adaptation Plan should recognise the importance of reducing air pollution from avoidable sources to minimise the cumulative impacts on health from increasing climate change-driven airborne hazards.

The lack of infrastructure and data needed to measure air quality, inform communities, or monitor health outcomes is a major barrier to climate health adaptation. The 2021 State of the Environment report found that better information could reduce the impact of poor air quality but also recognised that communities need real-time, local air quality information during periods of poor air quality.³⁸ However, many communities around Australia do not have access to local air quality information. Regional and rural populations commonly lack local air quality monitoring facilities, which is particularly problematic when these communities are affected by smoke from nearby bushfires and grass fires. Even in metropolitan areas, air quality monitoring stations span many suburbs, meaning localised variations in air pollution can be undetected. Low-cost air quality sensors can help to fill the gaps in air quality monitoring networks as they are affordable and easy to install. Additionally, despite recommendations from inquiries into the 2019-20 bushfire smoke crisis, governments have not invested in a public education campaign around air quality. Asthma Australia has developed and piloted an AirSmart campaign in response to this evident need that should be funded by governments to remove this barrier to adaptation.

RECOMMENDATION 8: The National Adaptation Plan should commit to:

- a) **Increasing access to local air quality information, including the use of low-cost sensors.**
- b) **Funding a national air quality public education campaign, such as the AirSmart campaign developed by Asthma Australia.**

The housing crisis

The housing crisis in Australia is a significant barrier to strengthening adaptation to climate change in the health and social support system. Over 90% of our time is spent indoors, with the greatest proportion of that time spent in our homes, and we may be spending more time indoors as a result of extreme weather conditions.³⁹ People experiencing homelessness and housing precarity are among the most vulnerable to climate change impacts;⁴⁰ those living in poor housing conditions have reduced protection against climate change impacts and may be exposed to hazards such as heat and mould when trying to shelter from climate change-driven events. The crisis in housing access and affordability has left many people unhoused, living in precarious housing, or unable to afford their rent or mortgage payments. Further, housing conditions are a barrier to health adaptation, with many homes failing to provide a healthy indoor environment, for example, by exposing people sheltering from extreme events

indoor airborne hazards, or by exposing people to unhealthy indoor heat as climate change drives increasing temperatures.

RECOMMENDATION 9: The National Adaptation Plan should recognise the multifaceted housing crisis as a significant barrier to adaptation and commit to specific actions to address housing access, affordability, security, and conditions.

Inadequate investment in environmental health literacy

Asthma Australia's Climate and Health Survey (see Executive Summary) revealed poor understanding of the health impacts of climate change in the Australian community. Poor climate change health literacy is a significant barrier to adaptation as it prevents people from taking action to reduce their exposure to health risks. The 2016 thunderstorm asthma event in Melbourne illustrated the devastating consequences of a climate change-driven event affecting a population largely unaware of the risk or how to respond, including 10 deaths and over 3,000 emergency department presentations in 30 hours.⁴¹ Asthma Australia has actively engaged in educating communities around a range of climate change hazards, including thunderstorm asthma, bushfire smoke, and mould, yet our funding from governments does not meet the increasing need for these activities.

RECOMMENDATION 10: The National Adaptation Plan should commit to resourcing public education and engagement to increase climate change health literacy, including targeted education to groups with higher risk of adverse health impacts and dedicated resourcing for peak bodies, such as Asthma Australia, which have prioritised environmental health education and literacy.

What policies could be strengthened or added as the highest priorities?

Adaptation planning will need to prioritise action across range of policy areas to ensure individuals, communities, and healthcare provider are prepared to respond to climate change impacts on health and wellbeing in Australia.

National Health and Climate Strategy

While Asthma Australia broadly supports the National Health and Climate Strategy (NHCS), as outlined above, we are disappointed that the NHCS endorses the National Preventive Health Strategy (NPHS), given the inadequacies outlined below. Further, there is a lack of detail around funding or timelines to deliver the NHCS' actions. Implementation should prioritise the NHCS' actions committing to a National Health Vulnerability, Capacity and Adaptation Assessment and a National Health Adaptation Plan. Implementation of the NHCS' housing and air quality actions should also be prioritised, and these areas accordingly recognised in the National Adaptation Plan.

RECOMMENDATION 11: The National Adaptation Plan should recognise and align with the National Health and Climate Strategy, which requires strengthening through adequate resourcing and an implementation plan.

RECOMMENDATION 12: The National Adaptation Plan should build on the National Health and Climate Strategy and set out detailed actions to progress health and social support adaptation, including actions to reduce exposure to air pollution and improve housing conditions, particularly for priority populations such as people with asthma.

RECOMMENDATION 13: Implementation of the National Health and Climate Strategy’s actions should prioritise the National Health Vulnerability, Capacity and Adaptation Assessment and National Health Adaptation Plan.

National Preventive Health Strategy

The National Preventive Health Strategy (NPHS) should be updated if it is to meaningfully support health adaptation. The NPHS not only fails to identify climate change as a focus area, it lists climate change as a “wider” determinant of health “outside of the direct control of the health system” that is outside the scope of the NPHS.⁴² This is an inadequate excuse for failing to prioritise the most significant public health threat of the current century,⁴³ particularly considering the NPHS commits to a range of policies outside the direct control of the health system across its focus areas. Examples include tobacco excise taxes, restricting retailers from promoting unhealthy food and drink, using urban design to increase physical activity, and regulating marketing and promotion of alcohol.⁴⁴

Further, the NPHS fails to recognise air pollution as a focus area. This is despite the United Nations recognising air pollution as one of five major risk factors for non-communicable diseases, alongside unhealthy diet, tobacco use, harmful use of alcohol, and physical inactivity (which are included in the NPHS’ focus areas),⁴⁵ and describing air pollution as “the most important environmental health risk of our time”.⁴⁶

The health impacts of air pollution in Australia are significant; in 2018, 1.3% of the total disease burden in Australia was due to air pollution,⁴⁷ and the annual financial cost of premature deaths due to air pollution has been estimated at \$11 billion to \$24 billion.⁴⁸ A steep increase in the health burden of air pollution is likely as climate change increases exposure to airborne hazards in Australia.

RECOMMENDATION 14: The National Preventive Health Strategy should be urgently updated with the addition of two new focus areas, climate change and air quality, and commitments to respective policy achievements for the decade to 2030.

Climate change health adaptation planning should prioritise increasing investment in preventive health should to reduce health vulnerabilities to climate change. Preventive health has historically been underfunded, and while the NPHS includes a preventive health spending target of 5% of total health expenditure across federal, state and territory governments, it is not clear that jurisdictions are increasing preventive health expenditure accordingly. Climate change impacts all areas of health, affecting respiratory, cardiovascular, neurological, mental health, pregnancy and birth outcomes, as well as infectious diseases, skin conditions and allergies.⁴⁹ Investing in prevention is crucial to reduce avoidable causes of disease in Australia, limit the number of people vulnerable to adverse health impacts from climate change, and minimise the burden of climate change on healthcare.

RECOMMENDATION 15: The National Adaptation Plan should reaffirm the commitment in the National Preventive Health Strategy to increase spending on preventive health to 5% of total health expenditure to reduce vulnerability to climate change health impacts.

National Agreement on Closing the Gap

The National Agreement on Closing the Gap, while committed to overcoming inequalities faced by Aboriginal and Torres Strait Islander peoples, is failing to fully engage with the structural issues that lead to gaps in life expectancy, education and socio-economic status.⁵⁰ The Agreement does not provide a

linkage between connection to Country, health and climate, nor does it reflect the inherent value of the community-controlled sector. Further, it fails to recognise the significance of the impact of climate change on First Nations communities, including the increasing burden of chronic conditions such as asthma.

RECOMMENDATION 16: Adaptation planning should prioritise strengthening the National Agreement on Closing the Gap by addressing the impacts of climate change on First Nations communities and engaging with the structural determinants of disparities in life expectancy, education, and socio-economic status.

National Environment Protection Measure for Ambient Air Quality

Climate change adaptation planning must strengthen existing regulatory and policy approaches to air quality. Air quality is regulated in Australia under the National Environment Protection Measure for Ambient Air Quality (AAQ NEPM), which states its desired environmental outcome is “ambient air quality that minimises the risk of adverse health impacts from exposure to air pollution”.⁵¹ The AAQ NEPM provides standards for six air pollutants, including pollutants associated with climate change impacts such as fine particulate matter (PM2.5) and ozone. However, these standards do not meet the current World Health Organisation’s (WHO) guidelines.⁵² This means Australian communities may be exposed to air pollution levels that meet the national standards but are considered unhealthy by the WHO. Further, air quality experts agree there is no safe level of air pollution and support continuous reduction of air pollution.⁵³ It is critical to reduce air pollution from avoidable sources as climate change increasingly exposes populations to largely unavoidable airborne hazards.

National Clean Air Agreement

The National Clean Air Agreement (NCAA), and its biennial work plans, should be strengthened to support adaptation planning. The effects of climate change on air quality are largely unavoidable and urgent action is therefore needed to both reduce avoidable sources of air pollution and support people to reduce their exposure to air pollution. Accordingly, the NCAA should be reviewed and updated, and the following adaptation actions prioritised under the agreement’s strategic areas.

1. Standards

Australia currently does not have indoor air quality standards. The next NCAA workplan should therefore include and prioritise an action to develop indoor air quality standards. This is necessary to ensure that internal built environments support health and wellbeing and are safe places to shelter during extreme events such as bushfires and floods, particularly for people with asthma and others vulnerable to airborne hazards. Further, as mentioned above, Australia’s ambient air quality standards are weaker than the WHO’s air quality guidelines, and alignment should be prioritised under the next NCAA workplan.

2. Emission reduction measures

The effects of climate change on air quality necessitate urgent action to reduce air pollution from avoidable sources such as wood heaters and fossil fuel production and combustion. While the NCAA mentions wood heaters in reference to actions in the first work plan to reduce emissions, wood heaters remain the largest source of winter air pollution in many parts of Australia.⁵⁴ Further, wood heater

emissions standards are weak and there has been inadequate action to remove wood heaters, or prevent installation of new wood heaters, in residential areas.

3. Cooperation and partnerships/4. Better knowledge, education and awareness

Access to local, near-real time air quality information is an essential component for health adaptation as climate change increases exposure to air pollution from hazards such as bushfires. However, many communities lack access to local air quality information. The next NCAA workplan should prioritise expanding access to air quality information. Increased use of low-cost air quality sensors can help to fill gaps in the monitoring network, particularly for regional and rural communities which are often more exposed to smoke from bushfires and hazard reduction burns.

The NCAA should also prioritise the implementation of a national air quality education campaign. The Royal Commission into Natural Disaster Arrangements (Royal Commission)⁵⁵ and the NSW Bushfire Inquiry (NSW Inquiry)⁵⁶ both identified the need for increased access to protective public health advice and education following their inquiries into the 2019-20 bushfires.

To address this need, Asthma Australia developed and piloted the AirSmart public education campaign and mobile app, under the guidance of an expert advisory committee that included representatives of the Commonwealth and NSW environment departments, with funding from the NSW Government provided funding for a pilot campaign in 2022. Evaluation of the pilot strongly indicated that consumers want access to local, responsive air quality information and tools with for example, over 16,000 app downloads and 23,000 website views in six weeks.

However, despite this demand and the identified need for improved air quality public education, Asthma Australia has not secured funding for a national AirSmart campaign. The National Adaptation Plan should recognise the urgent need for a national air quality education campaign, such as AirSmart, which could be progressed through a partnership with Asthma Australia under the NCAA's next workplan.

RECOMMENDATION 17: Adaptation planning should prioritise strengthening the National Clean Air Agreement, and its work plans, to ensure actions are taken to reduce air pollution from avoidable sources, minimise the cumulative impacts of air pollution from all sources, and reduce exposure to airborne hazards. These actions should include:

- a) **Aligning the National Environment Protection Measure for Ambient Air Quality with the World Health Organisation air quality guidelines.**
- b) **Developing and implementing indoor air quality standards.**
- c) **Reducing air pollution from avoidable sources.**
- d) **Expanding access to local air quality information, including the increased use of low-cost air quality sensors.**
- e) **Implementing a national air quality public education campaign, such as AirSmart.**

Primary Healthcare Reforms

Australia's Primary Health Care 10 Year Plan 2022-2032 makes just two mentions of climate change, which are passing references indicating the type of challenges facing primary healthcare services. The plan does not recognise the magnitude of the impact of climate change on the primary healthcare sector, including the increasing burden of chronic conditions such as asthma.

High quality, affordable, and accessible primary healthcare is critical in asthma management, as the condition can mostly be well-managed by the individual or their carer under the guidance of a primary healthcare professional by using medicines and avoiding triggers. However, asthma care is often suboptimal. Areas for improvement include increasing the proportion of people who receive good quality, personalised healthcare as set out in the Australian Asthma Handbook, and risk management and multi-disciplinary care approaches for people with complex disease.

Embedding a climate in all policies in the Strengthening Medicare reform agenda should be a high priority for health adaptation and reforms should target priority groups most affected by climate change health impacts. Primary healthcare adaptation will need to respond to significant challenges, including how to meet the increased demand for primary healthcare, how to sustain primary healthcare service delivery during and following acute climate change events, and how providers can support consumers to understand and reduce the risks of climate change to their health.

RECOMMENDATION 18: The National Adaptation Plan should embed a climate in all policies approach in the Strengthening Medicare reform agenda and prioritise actions to address the ability of primary healthcare providers to:

- a) **Meet increasing primary healthcare demand from climate change health pressures.**
- b) **Continue to deliver care during and following acute climate change events.**
- c) **Support consumers to understand and manage climate change risks to their health.**

Housing policy

Housing is a critical determinant of positive outcomes in many areas of life: not only health and wellbeing, but also education and employment.⁵⁷ These areas are interlinked, with good health supporting participation in education and employment, and education and employment in turn increasing the ability to maintain good health. Climate change is increasing exposure to asthma triggers which can infiltrate homes while also increasing the frequency of extreme events or conditions requiring people to shelter in their homes. However, Australian homes are often not healthy environments. In addition to the infiltration of external pollutants can enter homes, such as bushfire smoke, homes can harbour hazards such as mould or gas cooktop emissions.

Access to social and affordable housing is essential for people unable to buy a home or rent privately. Australia's housing affordability crisis has increased demand for housing support with nearly 40% of people on waiting lists in 2021 meeting priority criteria for social housing access, according to the National Housing and Homelessness Plan Issues Paper.⁵⁸ Government investment in new social housing, including plans funded by the Social Housing Accelerator fund,⁵⁹ provides a significant opportunity to not only increase the supply of social housing but to ensure that new homes support good health and wellbeing and are climate adapted. Housing adaptation also requires retrofitting existing dwellings, and adaptation should respond to local conditions and risks. Additionally, social and affordable housing retrofits should be holistic and may include measures to ensure thermal comfort, improve indoor air quality (such as ventilation, mould removal, or air filtration), improve energy efficiency, or provide access to renewable energy.

Asthma Australia has identified related policy opportunities to improve housing adaptations in our responses under the infrastructure and built environment system.

RECOMMENDATION 19: The National Adaptation Plan should recognise the need for social and affordable housing to provide protection against local climate change risks and a healthy environment that supports health and wellbeing, including actions to:

- a) **Ensure new dwellings are well designed, built, and maintained to ensure healthy indoor air quality, thermal comfort, energy efficiency, and an indoor environment free of asthma and allergy triggers.**
- b) **Holistically retrofit existing dwellings, prioritising residents with asthma and others with increased vulnerability to climate impacts, which may require measures to ensure thermal comfort, improve indoor air quality (such as ventilation, mould removal, or air filtration), improve energy efficiency, or provide access to renewable energy.**

What measurement and evaluative tools and processes should be implemented to track adaptation progress for this system?

The National Adaptation Plan should track a range of health outcomes associated that would indicate progress in health and social support adaptation, including chronic disease outcomes. Asthma is a helpful indicator as a range of climate change-driven conditions affects the condition and certain outcomes are evident during or immediately after an event, such as emergency department presentations and hospitalisations. Trends in the sale of inhaler medicines can also indicate short term respiratory health impacts. The Australian Institute of Health and Welfare considered a variety of short-term health outcomes occurred during the 2019-20 bushfire crisis that could help inform the development of measurements for this outcome.⁶⁰

Medium and long term health outcomes should also be measured, as climate change impacts can impact the incidence of conditions such as asthma. Data on the relative burden of disease from different conditions should be monitored, noting the rising burden of asthma over the past two decades has coincided with increasing exposure to hazards associated with the condition.⁶¹

The National Adaptation Plan should monitor the impacts of climate change on First Nations Peoples, including disruption to spiritual and cultural connections to Country and impacts on physical, emotional, cultural and spiritual health, including asthma health. The Closing the Gap framework, which evaluates progress against 19 targets, should be incorporated into the evaluation of adaptation progress in health and social support system. Targets with particular relevance to this system include Target 1 (everyone enjoys long and healthy lives) and Target 15 (people maintain a distinctive cultural, spiritual, physical and economic relationship with their land and waters).

Measurement of the National Adaptation Plan's progress should incorporate indicators from the Measuring What Matters framework⁶² across all systems, including health and social support.

RECOMMENDATION 20: Measuring progress towards adapting the health and social support system under the National Adaptation Plan should include:

- a) **Short term asthma outcomes including emergency department presentations and hospitalisations.**
- b) **Respiratory inhaler trends relative to climate change-driven events.**
- c) **Long term trends in asthma incidence, prevalence, and burden of disease**
- d) **Closing the Gap targets for First Nations Peoples, particularly Targets 1 and 15.**
- e) **Measuring What Matters indicators**

Systems section: Infrastructure and built environment

Risks to critical infrastructure that impact access to essential services

There is an overlap in the National Adaptation Plan Issues Paper between the infrastructure and built environment system and the health and social support system, which includes housing support. We urge active consideration of this overlap to ensure adaptation planning for the built environment system prioritises social and affordable housing and embed adaptation considerations into housing policies to improve supply, access, and affordability.

Additionally, the Issues Paper emphasises the risks to critical infrastructure and access to essential services from acute climate change events. While these are important focus areas for the National Adaptation Plan, we urge greater emphasis on the role of housing in climate adaptation. As noted above, we spent around 90% of our time indoors, and most of that time is spent in our homes.⁶³ This means that climate change impacts are largely experienced indoors and, as we continue to encounter heatwaves, heavy rainfall, bushfires, and other climate-driven hazards, it is increasingly urgent to ensure everyone has a safe and healthy home in which to shelter.

What other existing policies are supporting adaptation for this system?

National Construction Code

Climate change presents challenges to building design, as increasing resilience in one area can produce unintended consequences in other areas. For example, requirements around air tightening and insulation to improve energy efficiency may increase temperatures during hot weather and reduce indoor air quality, which is particularly concerning as people spend more time indoors during extreme weather conditions.⁶⁴ The National Construction Code (NCC) sets minimum design and construction standards for buildings that include health and sustainability. The NCC's update in 2022 strengthened the minimum standard for home energy efficiency, with anticipated benefits for thermal comfort. However, a broader review and update would ensure that new buildings, including homes, are adapted to climate change and support the health of occupants.

RECOMMENDATION 21: The National Adaptation Plan should include an action to review and update the National Construction Code to ensure new buildings, including homes, are adapted to climate change, provide healthy indoor environments for occupants, and reduce potential unintended consequences of energy efficiency upgrades in isolation.

Minimum rental standards

Improving rental housing conditions should be a priority action under this system. Renters have a limited ability to adapt their homes as they can't make structural changes. Asthma Australia's research into the prevalence of common asthma and allergy triggers in homes found half the respondents living in rented homes were unable to make the changes needed to reduce their exposure to mould and pests because they did not own their home.⁶⁵ Respondents described their frustration with a lack of action by their landlord or social housing provider and concern about requesting changes in case of rent increases or eviction. Other research has found that renters in Australia are exposed to temperatures below the level considered healthy by the World Health Organisation in winter, and above the healthy limit in summer.⁶⁶ The National Framework for Minimum Energy Efficiency Rental Requirements should establish minimum requirements for rental homes that protect the health and wellbeing of occupants,

while also increasing energy efficiency and reducing emissions. Asthma Australia has endorsed the Community Sector Blueprint: National Framework for Minimum Energy Efficiency Rental Requirements and recommends that the Blueprint inform adaptation in this system.

RECOMMENDATION 22: The National Adaptation Plan should support improved minimum rental standards that protect the health of renters and improve energy efficiency.

New social housing investment

Asthma Australia refers to our earlier response in the health and social support system which recognises the opportunity to ensure new social housing dwellings are climate-adapted and provide healthy living spaces for residents, as well as the need to retrofit existing dwellings.

What policies could be strengthened or added as the highest priorities?

National Housing and Homelessness Plan

The forthcoming National Housing and Homelessness Plan (NHHP) is high priority to support adaptation in this system. It provides an important opportunity to incorporate a health and climate in all policies approach. The NHHP will need to prioritise actions to adapt housing to climate change, including retrofitting existing housing and improving standards for new housing. In [Asthma Australia's submission on the NHHP Issues Paper](#),⁶⁷ we made a series of recommendations to help improve Australia's housing stock to support health outcomes, particularly for people with asthma—and those at risk of developing asthma—or whom a healthy indoor environment is essential. We have adapted the recommendations most relevant to the National Adaptation Plan below.

RECOMMENDATION 23: The National Adaptation Plan should:

- a) **Recognise the role of housing conditions in mediating both acute and slow onset health impacts of climate change, in addition to the impacts of climate disasters and extreme weather on housing supply.**
- b) **Recognise the importance of homes that are well designed, built, and maintained in providing a safe environment to shelter from extreme events and protection against slow onset impacts such as heat and air pollution.**
- c) **Prioritise housing improvements targeting population groups with higher asthma prevalence, other vulnerabilities to climate change health impacts, increased exposure to climate change hazards, and poor housing conditions.**

RECOMMENDATION 24: The National Adaptation Plan should support targeted investment in holistic housing retrofits and design to improve both energy efficiency and health outcomes. A holistic approach should include consideration of indoor air quality, thermal comfort, ventilation, electrification, renewable energy, and energy efficiency.

RECOMMENDATION 25: The National Adaptation Plan should recognise the importance of indoor air quality in homes for population groups vulnerable to airborne hazards, including people with asthma, and consider the need for home air filtration in adaptation planning.

Specific questions for the First Nations' values and knowledges system

First Nations Peoples' Health and Climate Change

Connection and caring for Country, along with access to traditional lands, are key determinants of health and wellbeing for First Nations Peoples⁶⁸, and are interconnected to First Nations Peoples' holistic approach to health and wellbeing. Climate adaptation planning centred on First Nations knowledges and perspectives is well documented and an area of considerable growth and expansion. Traditional Owners at the National First Peoples Gathering on Climate Change in 2021 made a strong statement about climate change, strengthening calls for action made at an earlier national dialogue:⁶⁹

We as First Nation Peoples of Australia recognise that overwhelmingly scientific and traditional knowledge is demanding immediate action against the threats of climate change. When Country is healthy, we are healthy. Our knowledge systems are interconnected with our environment and it relies on the health of Country. This knowledge is held by our Elders and passed on to the next generation. Solutions to climate change can be found in the landscapes and within our knowledge systems. Aboriginal and Torres Strait Islander Peoples have the tools, knowledge, and practices to effectively contribute to the fight against climate change⁷⁰.

Any future action to address climate change, including the National Adaptation Plan, should be grounded in the Gathering's statements and other existing perspectives on climate change and First Nations Peoples. Climate adaptation planning and action presents an important opportunity to listen to, and uplift, First Nations voices. Integrating knowledges and cultural perspectives to develop comprehensive and innovative solutions to climate challenges in Australia will address inequities in the health and wellbeing of Aboriginal and Torres Strait Islander people, including the disproportionate burden of asthma⁷¹.

Aboriginal and Torres Strait Islander organisations have also developed a range of policies on health and climate change, such as the Lowitja Institute's report 'Climate Change and Aboriginal and Torres Strait Islander Health'⁷² and the Indigenous Peoples Organisation report 'Heal Country, Heal Climate: Priorities for climate and environment'⁷³. These policy documents have a range of findings, objectives and actions that should be integrated within the Adaptation Plan. The Plan should also seek to integrate objectives and actions that have been developed through other Government processes including the Measuring What Matters Framework community consultation⁷⁴ and the objectives of the Australian Centre for Disease Control related to Aboriginal and Torres Strait Islander communities⁷⁵.

Asthma Australia recommends the National Adaptation Plan refer to two key frameworks that support integrating First Nations' values and prioritise First Nations Peoples' health and wellbeing. ⁱⁱⁱⁱ

The State of the Environment 2021⁷⁶ includes prioritising the First Nations perspective on key matters around caring for Country and its relationship with human health and environmental health, while the National Agreement on Closing the Gap includes the National Aboriginal & Torres Strait Islander Health Plan 2013-2023 that emphasises the essential role of community in shaping affairs that affect them. Asthma Australia supports the foundational principles provided by these frameworks. Together, they support the involvement of First Nations peoples as essential partners in the development and implementation of climate adaptation planning.

The First Nations Perspective and the State of the Environment Report

The State of the Environment Report privileges First Nations approaches and perspectives as essential in meeting the environmental challenges we all face now and into the future. It highlights empowerment of First Nations people in exercising their stewardship of Country to support the deep interconnection between the health of people and health of Country.

Key findings are:

- The deep interconnections between the health of Country and Aboriginal and Torres Strait Islander people mean that when Country is healthy, people are healthy. Similarly, healthy people can look after Country.
- First Nations connection to Country is deep, tens of thousands of years old, and passed down through generations.
- Elevating First Nations voices is key to facing environmental challenges.
- Self-determination is central to helping restore the environment and First Nations wellbeing.

The Report's key frameworks for action are:

- Indigenous voices in decision-making.
- Further empowerment of Indigenous people.
- Indigenous knowledge rights and practice management.
- Indigenous leadership, governance and partnerships.

The First Nations Perspective and the National Aboriginal & Torres Strait Islander Health Plan 2013-2023

Adherence to the actions in the National Aboriginal & Torres Strait Islander Health Plan 2013-2023 is a key Closing the Gap measure. The National Aboriginal & Torres Strait Islander Health Plan 2013-2023 emphasises the essential role of community in shaping affairs that affect them. First Nations communities have voiced their desire to be involved in all stages of policies to support their health and wellbeing. There are opportunities for Government to grow this involvement, especially through strengthening and optimising community-controlled organisations, who play a unique and holistic approach to health and wellbeing⁷⁷.

Recommendation 26: The National Adaptation Plan should align with the State of the Environment Report 2021 and the National Aboriginal and Torres Strait Islander Health Plan, and focus on fostering meaningful partnerships, respecting cultural knowledge, and actively involving Aboriginal and Torres Strait Islander communities with a strengths-based and collaborative approach.

Along with First Nations Peoples, who should be undertaking action to strengthen First Nations-led adaptation action and partnerships?

Undertaking actions in strengthening First Nations-lead adaptation action and partnerships should recognise that not all First Nations communities are the same, and that not all climate impacts will be experienced in the same way across the country. Responses need to be framed locally, in place-based approaches in a way that aligns with local culture.

First Nations Peoples have significant knowledge and insights that can contribute to, mitigate against, and adapt to, climate change impacts. Addressing power structures and equitable governance models on traditional lands allows for revitalising cultural practices that protect Country while building positive relationships and collaborations that advance climate change adaptation.

Asthma Australia supports recognising and elevating First Nations people's connection to Country and the opportunity to consider and integrate First Nations knowledges and perspectives should be the utmost priority, with unequivocal knowledge of land, water and sustainable practices.

Aboriginal and Torres Strait Islander leadership through Indigenous governance models is key to developing meaningful and sustainable approaches to health for populations affected by climate change. Aboriginal and Torres Strait Islander leadership in adaptation planning provides an opportunity to:

- Address health inequalities and the social determinants of health that affect Aboriginal and Torres Strait Islander people, seeing Country as a key determinant of health for Aboriginal and Torres Strait Islander people.
- Improve health outcomes for Aboriginal and Torres Strait Islander people and empower and support Aboriginal and Torres Strait Islander people to improve their health and wellbeing through awareness, education and engagement.
- Integrate Aboriginal and Torres Strait Islander knowledge with Western science to address climate change – ‘two-way seeing’ - centring Aboriginal and Torres Strait Islander people as leaders in protecting Country.⁷⁸
- Develop culturally appropriate healthcare services equipped to meet increased demand resulting from climate change.
- Strengthen partnerships between Aboriginal and Torres Strait Islander communities and mainstream health care providers.
- Foster greater self-determination and empowerment for Aboriginal and Torres Strait Islander communities.

Key agencies to strengthen First Nations-led adaptation actions include:

- Coalition of Peaks, which represents more than 80 Aboriginal and Torres Strait Islander community-controlled peak organisations and members. It is designed to be a formal partner with the Australian Governments to share in decision making on Closing the Gap
- The National Aboriginal Community Controlled Health Organisation, the national peak body for all Aboriginal Community Controlled Health Organisations. It embodies the aspirations of Aboriginal communities and their aim for self-determination.
- Other Aboriginal Community Controlled Organisations, such as Local Aboriginal Centres/Agencies/Organisations/Land & Sea Councils, which aim to protect the interests and further the aspirations of local Aboriginal communities through creative, innovative and constructive ideas on how to support local community people with place-based approaches.

Other agencies with a leading interest in advancing climate, health and the First Nations sector include⁷⁹:

- CSIRO Indigenous Science, which works with Aboriginal and Torres Strait Islander communities and organisations to create Indigenous-driven science solutions that support sustainable futures for Indigenous peoples, cultures and Country.

- Cooperative Research Centres, in particular those focused on land, energy and climate, which promotes the transformative potential of collaborative, industry-led research through knowledge exchange, professional development, and advocacy.
- State Governments, through partnership with business, community, and other levels of government.
- Local governments, which have a strong and locally connected presence in communities where climate, health and First Nations perspectives meet through action pathways to address the priority forms and socio-economic targets – many of which are inextricably linked with climate and health.⁸⁰
- Community networks and communities of practice, as grass-roots collaborations are key elements in mobilising local connections, resources and capacity building in specific locations.

Recommendation 27: The National Adaptation Plan should engage Aboriginal and Torres Strait Islander leadership through First Nations governance models to develop meaningful and sustainable approaches to climate change adaptations. Planning should be locally designed and developed using place-based approaches to align with local First Nations communities.

What are the barriers to strengthening First Nations-led adaptation action and partnerships? How could the plan help with these?

The State of the Environment Report recognises the following key pressures that may present barriers to action regarding First Nations Peoples:

- **Governance:** governance failures are a key pressure on First Nations communities, which then interact with, and increase the impact of, other pressures.
- **Information:** issues associated with data, information and knowledge are particularly relevant to First Nations Peoples.
- **People and Industry:** development and land use changes affect First Nations cultural sites, landscapes and associated knowledge.

Importantly, strengthening First Nations-led adaptation actions presents significant risk to First Nations Intellectual Property, as historically First Nations knowledge has been taken without benefit to the people who shared their cultural knowledge. In the absence of protection for cultural and intellectual property rights under Australian laws, frameworks such as the Aboriginal Cultural and Intellectual Property Protocol⁸¹ sets a standard for how to engage with Aboriginal and Torres Strait Islander peoples and communities regarding cultural and intellectual property. These frameworks are developed by First Nations peoples as an integral mechanism for working alongside communities to protect and elevate First Nations knowledges and intellectual property.

Protecting First Nations Data Sovereignty may also present as a challenge to the adaptation action and partnerships process, such as failure establish mutually beneficial agreements regarding responsible data sharing. To strengthen and support First Nations Data Sovereignty there are two central premises: the rights of First Nations Peoples over data about them, regardless of where it is held and by whom; and the right to the data First Nations peoples require to support nation rebuilding.⁸²

What First Nations-led adaptation actions and partnerships should be prioritised now to support medium-term (2050) and long-term (2100) adaptation?

The priorities for adaptation actions and partnerships should be set and determined by First Nations communities and should be drawn from existing statements of intent and issues regarding climate, such as the First Nations Gathering on Climate Change (see above). Additionally, Asthma Australia supports investment in establishing a national Aboriginal and Torres Strait Islander Coalition on Climate and Health, as recommended in the Close the Gap Campaign Report 2024.⁸³

What First Nations' knowledges frameworks can support measurement and evaluative tools and processes to track adaptation progress?

The State of the Environment report⁸⁴ acknowledges and incorporates the perspectives of Aboriginal peoples as the traditional custodians in protecting and restoring Country and provides an opportunity for Adaptation Planning to combine scientific, traditional, and local knowledges and evaluation measures, bringing together both Indigenous and non-Indigenous perspectives. The Report includes expert recommendations on how Aboriginal cultural perspectives can be more effectively incorporated into approaches to environmental protection.

For First Nations communities the concept of knowledge about the environment is embedded in a holistic model which encompasses not only the physical environment, but also cultural societal practices and responsibilities connected with Country. These notions have intensely local nuances across the nation, reflecting the diversity of First Nations culture, but share important cornerstones. They are functionally different from the often compartmentalised non-First Nations and are interwoven in all aspects of First Nations culture, in which there are strong obligations to protect and sustain the health of the environment as central to sustaining the community's own physical and spiritual health.

What are the biggest opportunities for First Nations Peoples in the context of the National Adaptation Plan?

The National Adaptation Plan provides significant opportunities to connect Aboriginal and Torres Strait Islander Peoples and stakeholders with adaptation planning and action. Adaptation planning can expand the Aboriginal and Torres Strait Islander workforce and investment in Aboriginal and Torres Strait Islander communities, which have positive benefits to health and wellbeing. There is also an opportunity to empower Aboriginal and Torres Strait Islander communities to address current and future climate challenges through resourcing and empowering communities to lead place-based climate adaptation strategies. This is likely to have significant environmental, health and wellbeing benefits.

The Australian Institute of Aboriginal and Torres Strait Islander Studies⁸⁵ has considered the benefits of caring for Country, scoped what caring for Country means within our intercultural society, and explored why connection with Country is important. Its discussion of the influential literature on the benefits of caring for Country included health and wellbeing, cultural and socio-political, economic and environmental benefits.

While the impacts of climate change are potentially devastating to Indigenous communities, there are also opportunities to contribute to adaptation and mitigation efforts and develop 'culture based' economies.⁸⁶ There is significant scope to further develop these culture-based economies, as part of emerging climate change responses which include emissions offsetting and carbon trading.

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