ASTHMA AUSTRALIA

Asthma Australia South Australia Pre-Budget Submission 2024-25

February 2023

Budget Proposals

The Asthma Australia submission focuses on the following funding proposals for consideration in the 2024-25 Budget:

Proposal	Investment
1. Program funding for asthma management in South Australia	The South Australian Government fund Asthma Australia $2,086,000 over three years to deliver services to and improve the lives of people with asthma in South Australia.
2. Contribute funding to a national AirSmart public education campaign to reduce the health impacts of air pollution	The South Australian Government contribute: Option 1: $717,760 (television included) and option 2: $521,760 (television not included) to fund the South Australian component of Asthma Australia's national AirSmart public education campaign to reduce the impacts of poor air quality.
3. Increasing access to local air quality information.	Fund a low-cost air quality sensor pilot program as the first step towards ensuring South Australian communities have access to air quality information. Costs to be determined in consultation with agencies responsible for air quality monitoring.
4. Investing in HEPA (high-efficiency particulate absorbing) air purifiers to improve the air quality in the homes of people with asthma on low incomes	The average cost of an air purifier with a HEPA filter is $500. As an estimate, annual funding of $50,000 would provide approximately 100 air purifiers per year.
5. Supporting people with asthma on low incomes to install cleaner and more efficient forms of heating, cooling and cooking in their homes	Introduce a financial support program for low-income households to replace inefficient methods of household heating and cooking to address indoor and outdoor air quality.

About Asthma Australia

Asthma is a respiratory condition that affects 2.8 million people in Australia[1], with children being the most impacted. Asthma is responsible for at least one Australian death every day, making it a serious health concern. 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.

Asthma in South Australia

Impact on the health system and the community

Asthma is a chronic respiratory condition affecting more than 210,000 people in South Australia, representing 11.8% of the population.[2]

In South Australia in 2022-23, there were over 46,700 Emergency Department (ED) presentations for diseases of the respiratory system, which include asthma.[3] On average, an ED presentation for asthma costs $443,[4] and repeated asthma-related presentations to EDs increases the risk of hospitalisation.[5] In 2021-22, South Australia had 1,784 potentially preventable hospitalisations.[6] Nationally in 2022-23, there were approximately 97,000 ED presentations at public hospitals for asthma, with 45% (44,000) resulting in admissions.[7]

Asthma prevalence in Australia is increasing. In 2023, asthma was the 8th leading contributor to the overall burden of disease in Australia, having risen from 9th place in 2018 and 10th place in 2011. Asthma is the leading cause of total burden of disease in children aged 1–9 years.[8] Asthma can be both caused and exacerbated by conditions related to the warming climate, which means asthma outcomes will likely worsen as climate change impacts increase.

A major concern for South Australia is the number of people with asthma who have died, with a significant increase in the number of deaths in 2022. While 2022 saw the highest number of asthma deaths in Australia in the last 10 years, the number of deaths and the death rates remained similar to the years before the COVID-19 pandemic. In 2020-2021 there were fewer asthma deaths due to COVID-19 public health measures, but asthma deaths resumed in 2022.[9]

There were important variations by jurisdictions, particularly for South Australia which had increased deaths even compared to before the COVID-19 pandemic. There were 49 deaths related to asthma in South Australia in 2022, which was close to a 15% increase compared to the pre-pandemic average (2016-2019) and a more than 80% increase compared to 2021**.** For the rate of death, South Australia had the highest number at 1.8 per 100,000 people, again an 80% increase compared to 2021.[10] This is a significant concern to Asthma Australia as asthma deaths and hospitalisations are largely, if not entirely, preventable.

The home environment

The home environment is particularly important for people with asthma and allergies because they are sensitive to substances we all breathe. These substances are referred to as ‘triggers’ because they can trigger asthma or allergy symptoms. Common triggers in the home include mould, pests such as dust mites, and pollutants produced by heating with gas or wood heaters and using gas cooktops. In addition to causing asthma symptoms and flareups, exposure to certain triggers can increase the risk of developing asthma.[11]

In 2022, Asthma Australia undertook a nationally representative survey of 5,041 people to understand what asthma triggers people in are exposed to in their homes, whether they take action to reduce triggers in their homes, and whether any barriers prevent people from addressing triggers. The resulting Homes, Health and Asthma in Australia report found that homes are not healthy places for all Australians, particularly for people with asthma or allergies. One quarter of Australians (24%) are not happy or are unsure about the air quality inside their homes. Among people with asthma and allergies, three in ten reported that their symptoms are worse after spending time in the home.[12]

Changing weather patterns due to climate change have reinforced the importance of housing in providing protection from cold, heat and other extreme weather events.[13] Governments across Australia in regions that have experienced torrential rain and floods, in particular in Queensland, have recognised the impact of this on people's homes including the increased risk of mould in homes. No amount of mould is considered safe for health[14] and people with asthma, allergies and other breathing conditions are more at risk from contact with mould.[15]

Housing is a key social determinant of health as people spend up to 90% of their time indoors, with the majority of that time spent inside the home[16]. Housing is particularly important for people with asthma as certain housing conditions can influence an individual's asthma symptom control and risk of developing asthma. Additionally, the type of energy used in homes contributes to the health of the indoor environment. Gas and wood appliances such as heaters and cooktops emit harmful pollutants associated with a range of poor health outcomes, including asthma symptoms, flareups, and increased risk of developing the condition.

Asthma, climate change and air quality

Climate change is inextricably linked with air quality. People with asthma are one of the largest population groups vulnerable to the risks associated with climate change.

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 over 12,000 people during the catastrophic 2019–20 bushfires about the impacts they experienced as a result of exposure to bushfire smoke.[17] 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.

In 2023, Asthma Australia undertook a nationally representative survey involving 2,022 respondents to understand what priorities people in Australian want the Federal Government to address in the National Health and Climate Strategy.[18] Two-thirds of respondents live with asthma or another chronic health condition.

Some of the key findings were:

- 70 per cent of Australians think governments should act to protect people whose health is vulnerable to climate change.
- 91 per cent of people with asthma are worried about the impacts of climate change; 71 per cent of people with asthma are concerned about increased air pollution as a climate change impact; and 69 per cent are concerned about more frequent and severe natural disasters.

- One quarter of people surveyed said climate change has already impacted their health. Among those people, breathing issues were the most common impact (49%) followed by poor mental health (39%) and hay fever (39%).

South Australian Budget Priority Areas

Asthma Australia does not receive any ongoing funding from the South Australian Government and relies on Federal funding, donations, bequests and philanthropy to provide services in South Australia which enables us to deliver a basic level of service. Funding through the South Australian State Government would enable increased engagement and improvements to the health and wellbeing of people with asthma in South Australia for this disease which should be largely managed in primary and community care. It is clear from the significant increase in the number of asthma deaths in 2022 in South Australia, that an increased focus and investment is required.

The importance of respiratory health has been highlighted through various recent challenges across Australia including the COVID-19 pandemic and the 2019-20 bushfire crisis, in which 80% of the population was exposed to smoke pollution.[19] The volatility of weather patterns across Australia increases the likelihood of conditions that will impact people's health, particularly from bush fire smoke, and means that investing in measures that improve the safety of people's homes and gives them access to reliable information, will not only assist but save lives.

Addressing air pollution is a strategic priority for Asthma Australia, as even low levels of air pollution area associated with asthma exacerbations and hospitalisations. Certain pollutants can also increase the risk of developing asthma. Ensuring we are addressing asthma risk factors and giving people the tools to make lasting changes to live healthy lives is vital. It is particularly important to ensure people with asthma on low incomes receive the support they need to live in healthy home environments.

People should be empowered and provided with information to make informed choices about their health when it comes to air quality. This is so they engage in their daily activities understanding and knowing what the air quality conditions are, no matter where in Australia they live.

As climate change progresses and extreme weather events increasingly drive people to seek refuge in their homes, housing conditions and the absence or removal of internal health triggers become ever more important. With the harms of gas energy becoming increasingly well known, it is important that people are guided away from replacing gas heaters with wood heaters, which risks increasing pollution and damaging health. Homes utilising efficient and cleaner forms of energy can help improve both indoor and outdoor air quality and contribute to climate change mitigation. Electrification provides higher energy efficiency and reduced consumer costs than either gas or wood.[20]

Asthma Australia's AirSmart public education campaign and proposal on air quality monitoring focus on empowering the community to access information about air quality to understand how it impacts their health, while also recognising we must improve the availability of air quality information.

Asthma Australia's priority areas for the 2024-25 South Australian Budget will support people living with asthma, their carers and health professionals. Addressing these priority areas will contribute to the systemic changes needed to ensure people with asthma can live healthy lives. The 2024-25 Budget proposals we have identified work to deliver savings for the health system, by addressing ways in which we can improve asthma management and the environment in which people live. This means people living with asthma in South Australia can avoid unnecessary hospital visits, stay healthy and lead active and productive lives. Asthma Australia has a proven track record of delivering services in the community and we look forward to being an ongoing part of health service delivery for people with asthma in South Australia.

Proposal 1: Program funding for asthma management in South Australia

Asthma Australia offers a comprehensive suite of digital and telephone services to support people with asthma and their carers in understanding the condition, and building their knowledge, skills and confidence to self-manage their condition effectively.

Asthma Australia has invested in understanding the impact of our work to demonstrate the value of these services. From a sample size of 1698 consumers using our services:

- 84% reported they had and adhered to their preventer medication, compared to 48% of the general population of adults with asthma.
- 72% reported they had seen their healthcare professional for a planned asthma review in the last 12 months compared to 60% of the general population of adults with asthma.
- 65% reported they had a flare up requiring medical intervention in the last 12 months compared to 53% of the general population of adults with asthma

The Centre of Health Economic Research and Evaluation (CHERE), University of Technology Sydney (UTS) conducted an economic analysis of Asthma Australia's telephone self-management education program. There was a clinically and statistically significant improvement in asthma control; evidence of enhanced asthma management; and a statistically significant reduction in hospital inpatient visits. The overall results showed strengthened asthma management by reducing the risk of hospitalisations and ED presentations through improved asthma control and multidisciplinary care.[21]

As a condition that can be well managed in most people, the continuing investment in education on self-management is vital to empower people to manage their asthma and reduce the demand on health services.

With increased funding for South Australians, Asthma Australia would be able to provide more personalised services, tailored to the South Australian population. Improved asthma management reduces the cost burden to the health care system, reduces preventable hospital admissions and improves quality of life. The cost for delivering these services is $662,000 per annum and $2,086,000 over three years (allowing CPI each year).

South Australia can address costs to the health system by addressing the rates of potentially preventable hospitalisations. This is by providing education to empower and support people with asthma to self-manage, through investing in community-based work, and by providing tools to minimise exposure to common and harmful triggers. The investment Asthma Australia is seeking is considerably less than the potential return on investment in keeping people out of hospital.

Support effective self-management practices

For our 1800 phone line service, 10 per cent of callers are from South Australia. This phone line is supported by asthma educators who deliver person-centred, evidence-based self-management information and support. We are currently augmenting our support services using a Customer Experience model. This includes developing a more sophisticated multi-channel customised approach utilising telephone, videochat, email, newsletters, SMS and webchat—to provide the right support through the right channels at the right time in order to encourage a deeper ongoing engagement with people with asthma and their carers, to improve their asthma control and quality of life.

Develop the health professional workforce

Asthma Australia has invested significantly in the development of health care professionals through various means including our partnership with Reed Medical Education to develop and launch the 'Advanced Learning Module *Asthma in Australia: Practical Solutions for challenges in primary care'*.

This online accredited training is free of charge for health professionals including General Practitioners, nurses, pharmacists and allied health professionals. The purpose of the Program is to support health care professionals in providing up to date, evidence-based care, which improves the health and welfare of people

with asthma. As of December 2023, there were close to 9,500 enrolments since commencement of the course in 2020, with 6% being health care professionals based in SA. Over 89% of participants have stated their learning needs were entirely met. We seek support to not only continue this service, but to expand on it by developing new modules and to increase its uptake across the sector.

As an organisation we will continue to work with existing organisations, systems and processes to build a more integrated and connected asthma pathway for people with asthma and their treating healthcare professionals. This includes the better utilisation of evidence-based guidelines, promotion of new practices, engaging and supporting health care professionals around changes to scope of practice and identifying and understanding the patient asthma journey and their pain points associated with interactions with health care services. Supporting this approach is the ongoing development and distribution of resources and asthma updates to health professionals in South Australia via digital and hard copy platforms.

Working with Aboriginal and Torres Strait islander people

Approximately 5.3% of Aboriginal and Torres Strait islander people reside in South Australia.[22] Of the national population, close to 18% of Aboriginal and Torres Strait Islander people have asthma, which is approximately 6% more than non-Aboriginal and Torres Strait people.[23] For Aboriginal and Torres Strait Islander children aged 5-14 years, asthma is the third leading cause of total burden of disease.[24] Asthma is the leading cause of respiratory disease burden among Aboriginal and Torres Strait Islander people aged under 45 (contributing 80% of respiratory burden).[25] Aboriginal and Torres Strait Islander people are almost twice as likely to die from asthma and have poorer outcomes than non-Aboriginal and Torres Strait Islander people.[26]

Asthma Australia is committed to working with Aboriginal and Torres Strait Islander people, organisations and communities to address health inequity experienced in relation to asthma. Asthma Australia's commitment to working with Aboriginal and Torres Strait Islander people is evidenced by the launch of our Reflect Reconciliation Action Plan and the development of a First Nations Asthma Strategy. Through a partnership with the Djurali Centre at Heart Research Institute, Asthma Australia is working with Aboriginal and Torres Strait Islander communities to understand the barriers and enablers to asthma management, using a proven research methodology and codesign approach.

With funding from the SA Government, Asthma Australia will use community engagement and codesign principles and methodologies to understand the barriers to better asthma outcomes with Aboriginal and Torres Strait Islander people, and to identify solutions that can be piloted in partnership with communities. This approach will involve listening and partnering with community and key health stakeholders to determine what works and what does not. Working in a culturally affirming manner, builds trust and improves health outcomes in relation to asthma.

Asthma Australia has links with community in Port Augusta and with the Pika Wiya Health Service Aboriginal Corporation. Work has begun in determining community readiness in Port Augusta and will involve a yarning circle methodology to listen, learn and capture the lived experiences of people with asthma. These insights will lead to the codesigning of interventions that the community believe will work and have impact, based on principles of self-determination. Port Augusta is the fifth highest Local Government Area for Aboriginal and Torres Strait Islander people and has a well-established Aboriginal Community Controlled Health Organisation. Asthma Australia is seeking funding to pilot this approach over three years, with a view to developing a community engagement model that can be replicated at scale, without compromising the principles of place and community.

INVESTMENT REQUESTED: The South Australian Government fund Asthma Australia $2,086,000 over three years to deliver services to and improve the lives of people with asthma in South Australia.

Table 1: Request for program funding – Year 1

Program	Funding request
Support Effective Self-Management Practices	$210,000
Developing the Health Professional workforce	$90,000
Working with Aboriginal and Torres Strait Islander people	$230,000
Subtotal	$530,000
Oncosts and administration	$132,000
TOTAL per annum	$662,000
TOTAL over three years (including CPI)	$2,086,000

Proposal 2: Contribute funding to a national AirSmart public education campaign to reduce the health impacts of air pollution

There is a gap in Australian public health messaging around the impacts of air pollution which disproportionately affect the health and wellbeing of people with asthma. Asthma Australia has taken the lead on developing and piloting a public education campaign and air quality app called 'AirSmart'.

AirSmart fills the need for community education and guidance around air quality which was revealed by the 2019–2020 bushfire smoke crisis. This need was recognised by the Royal Commission into National Natural Disaster Arrangements.[27] The need for access to air quality information and guidance will only increase as climate change continues to increase the frequency and severity of events causing poor air quality.

AirSmart was developed with the guidance of a panel of environmental and public health experts, including experts from the University of Sydney and the NSW (New South Wales) Department of Planning and Environment. AirSmart was piloted in communities across southern NSW, ACT (Australian Capital Territory), and regional Victoria over a six-week period in July and August 2022. The evaluation of the pilot demonstrated strong indications that Australians want access to local, responsive air quality information and tools. Strong engagement in the campaign was evident with over 16,000 app downloads and 23,000 website views in just six weeks, suggests that air quality is an important issue for many Australians.

AirSmart includes an air quality public health campaign which raises awareness about air quality and promotes the AirSmart app as a source of air quality information:

- **The public health campaign** aims to raise community awareness about poor air quality, and how to interpret health advice, so people can protect themselves against exposure to air pollution and the associated health impacts. This evidence-based educational initiative is an Australian-first, using a mix of traditional and digital media channels to reach the full community. The creative process behind the AirSmart campaign included consumer research and was guided by environmental, public health and social marketing experts. The campaign includes 15 and 30 second television commercials, a radio commercial, social and digital assets, a website, billboards, and an app.
- **The AirSmart app** is a consumer tool for accessing local, real-time air quality information and related health advice. Asthma Australia used human-centred design principles to design the AirSmart app. The AirSmart app provides consumers with localised 'real-time' air quality, and strategies to avoid or minimise poor air quality exposure. The app also provides personalised notifications and health advice at specific air quality levels to provide consumers with specific daily advice about the most effective protection.

Asthma Australia is providing two proposed options for funding to roll-out AirSmart across South Australia. Both options include a 10-week advertising campaign in November and December, peak bushfire season, or at a time deemed appropriate by Government. Option 1 includes television advertising and video channels and platforms (such as YouTube), social media and radio; and option 2 excludes television advertising.

INVESTMENT REQUESTED: The South Australian Government contribute: Option 1 $717,760 (television included) and option 2 $521,760 (television not included) for one year to fund the South Australian component of Asthma Australia's national AirSmart public education campaign to reduce the impacts of poor air quality.

Table 2: Option 1 - South Australian Government requested contribution to AirSmart including television advertising

Item	Cost
10-week media campaign commencing	$600,000
Project management	$47,960
App maintenance and updates	$39,800
Evaluation	$30,000
TOTAL	**$717,760**

Cost for year 2 - $754,000

Table 3: Option 2- South Australian Government requested contribution to AirSmart television not included

Item	Cost
10-week media campaign	$420,000
Project management	$41,960
App maintenance and updates	$39,800
Evaluation	$20,000
TOTAL	**$521,760**

Cost for year 2 - $548,000

Proposal 3: Increasing access to local air quality information

People with asthma are among those in the community who most urgently need access to local, real-time air quality information to take steps to protect their health. A key finding from the Federal Government's 2021 State of the Environment report was that better information could reduce the impact of poor air quality.[28] The report recognised that communities need real-time, local air quality information during periods of poor air quality.

However, many communities around Australia do not have access to local air quality information because there are not enough air quality monitoring stations or sensors. South Australia currently has just 10 monitoring stations for the entire state.[29] In comparison, Tasmania currently has 34 monitoring stations.[30] Regional and rural populations commonly lack local air quality monitoring facilities, which can be particularly problematic during bushfires and dust storms where these communities are often closer to the hazard. However, even in metropolitan areas, air quality monitoring stations typically span many suburbs, meaning localised peaks of air pollution are neither detected nor reported on.

Air quality monitoring stations provide highly accurate information, however, they require suitable locations and can be expensive to establish and run. Low-cost air quality sensors offer a useful alternative to fill gaps in the air quality monitoring network due to their lower cost and flexibility in placement, and already are being used in other states.

The need for access to air quality information and guidance will only increase as climate change continues to increase the frequency and severity of events causing poor air quality. With the declaration of an El Niño in September 2023 and the identified increase in risk for bushfires and longer bushfire seasons, the likelihood of conditions that will impact people's health, particularly from bush fire smoke is certain. Investing in measures to give people access to reliable information will not only assist people living with asthma but save lives.

Responsibility for air quality is shared by the federal and state and territory governments, with states and territories having prime responsibility for monitoring and managing air quality. All governments are required to help maintain and improve air quality and deliver on actions through the National Clean Air Agreement, which includes as one of four strategic approaches:

> Better knowledge, education and awareness are essential requirements to inform policy decisions and to help empower communities and individuals to better deal with air pollution. Knowledge, improved through information sharing and research, is critical to plug existing data gaps, identify future trends and help focus efforts in managing air quality, and explore innovative measures to address air pollution. The Agreement's initial work plan also includes a two-year plan for reforms to improve the National Pollutant Inventory.[31]

The National Clean Air Agreement work plan for 2021-23 includes projects on nationally consistent public air quality information and health advice. This project has a framework agreed by jurisdictions and providing guidance on low-cost sensors measuring air pollution to the public led by NSW and SA.[32]

The South Australian Government should fund a low-cost air quality sensor pilot program as an important step towards ensuring communities in South Australia have access to air quality information. The proposed pilot program would enable agencies responsible for air quality monitoring and reporting to trial low-cost sensors. It would also increase understanding of how these sensors can be integrated into the existing monitoring networks and how information can be shared with the public. Investing in this type of technology, which is low cost but has a significant impact, is an investment that will deliver a return for the South Australian Budget.

Investing in increasing access to local air quality information would act on the recommendations of the State of the Environment Report, as well as progressing the National Clean Air Agreement work plan. This

information is critical to ensure that people vulnerable to the health impact of air pollution exposure are able to protect themselves and their families.

INVESTMENT REQUESTED: Fund a low-cost air quality sensor pilot program as the first step towards ensuring South Australian communities have access to air quality information. Costs to be determined in consultation with agencies responsible for air quality monitoring.

Proposal 4: Investing in HEPA air purifiers to improve the air quality in the homes of people with asthma on low incomes

Climate change is increasing the risk of adverse asthma outcomes through declining air quality caused by the burning of fossil fuels, increased ground level ozone and events such as bushfires and thunderstorm asthma. Reducing the adverse health impacts of air pollution should be a priority issue for climate change adaptation strategies.

Health advice during periods of air pollution includes staying inside with doors and windows closed, however, air pollution can enter buildings. This was a significant issue for people across the ACT during the 2019-20 bushfire smoke crisis.

Air purifiers with HEPA (high-efficiency particulate absorbing) filters can be highly effective in reducing indoor air pollution.[33] However, the cost can be prohibitive for many people. The 2022 Asthma Australia survey to looking at homes, health and asthma in Australia found that only 6 out of 10 Australians were confident to make changes to improve the air quality inside their home. Common barriers to taking action included purchasing or using equipment being too expensive and many survey respondents noted the additional pressures of living on low incomes and the cost-of-living crisis.

Investing in HEPA air purifiers for people on low incomes with asthma, or other conditions that make them vulnerable to air pollution exposure, would increase access to an effective measure to improve indoor air quality and ensure homes are safe during air pollution events.

Investment requested: The average cost of an air purifier with a HEPA filter is $500. As an estimate, annual funding of $50,000 would provide approximately 100 air purifiers per year.

Proposal 5: Supporting people with asthma on low incomes to install cleaner and more efficient forms of heating, cooling and cooking in their homes

Replacing gas cooktops and heaters, wood heaters, with efficient, electric alternatives in South Australia will improve indoor air quality, reduce ambient air pollution, improve health outcomes, and reduce greenhouse gas emissions. Cooking with gas cooktops produces a variety of pollutants, including fine particulate matter, nitrogen dioxide, carbon monoxide, and formaldehyde. Exposure to these pollutants can trigger asthma flare-ups and increase the risk of developing asthma. Cooking with gas is estimated to be responsible for up to 12% of the childhood asthma burden in Australia.[34]

Similarly, gas heaters produce pollutants, and unflued gas heaters are particularly dangerous because these pollutants remain inside the home rather than being vented outside. Wood heaters also produce a range of pollutants, including fine particulate matter, which can worsen indoor air quality, as well as contributing significantly to outdoor air pollution. People who rent or live in social housing have limited agency to replace their appliances with efficient, electric alternatives, while people on low incomes may face cost barriers.[35]

In 2022, Asthma Australia undertook a nationally representative survey to look at homes, health and asthma in Australia, which was completed by 5,041 people.[36] The survey asked participants about their current practices and preferences for heating their homes and cooking. The most common type of cooking was gas (48%) followed by electric (41%). Only 7% had an induction cooktop or a combination cooktop. While the preferred type of cooktop was gas, regardless of their cooktop preference, most people's preference is based on cooking preferences, ease of cleaning and affordability. Only 15% of respondents cited their cooktop preference was due to health reasons and 14% noted environmental reasons.

The preferred types of heating were reverse cycle air conditioning and central heating, which are the most efficient options and provide the additional benefit of cooling the air in the warmer months. However, nearly half (43%) of respondents reported they do not currently have their preferred form of heating at home. One in five respondents (22%) regularly use portable electric space heaters, 13% regularly use wood heaters, 8% regularly use flued gas heaters and 7% regularly use unflued gas heaters. For people who do not have their preferred source of heating, the most common barrier to switching is cost (43%), followed by not owning the home (32%).

Pollution from wood heaters contains harmful pollutants including fine particulate matter ($PM_{2.5}$) and known carcinogens. There is no 'safe' level of air pollution and detrimental health effects can occur even at low levels of pollution, well below air pollution standards.[37] Wood heater smoke is a serious risk factor for asthma, both in terms of developing asthma and triggering symptoms in people who already have asthma.[38] It is also a risk factor for other respiratory diseases, certain cancers, cardiovascular disease, neurological disease, premature birth and premature death.[39] These health impacts result in substantial economic costs, which have been estimated at $3,800 per wood heater.[40]

Homes utilising efficient and cleaner forms of energy can help improve both indoor and outdoor air quality and contribute to climate change mitigation. Electrification provides higher energy efficiency and reduced consumer costs than either gas or wood.[41]

Introducing financial support for low-income households to replace inefficient and polluting methods of household heating and cooking would address health impacts associated with poor indoor and outdoor air quality, assist low-income households to address cost of living pressures and reduce greenhouse gas emissions. As noted, this is particularly important for people in situations where they are unable to make these changes due to cost or not owning their home. The scheme should include owners of rental properties to encourage them to make these replacements.

People on low incomes, living with chronic disease and in living situations where they are unable to make changes themselves, are likely to be most impacted by cost-of-living issues. They will also likely benefit the most from reduced power bills and improved living conditions in their homes.

INVESTMENT REQUESTED: The South Australian Government introduce a financial support program for low-income households to replace inefficient methods of household heating and cooking to address indoor and outdoor air quality.

[1] Australian Bureau of Statistics (2023) National Health Survey: Information on health behaviours, conditions prevalence, and risk factors in Australia, Reference period 2022, National Health Survey, 2022 | Australian Bureau of Statistics (abs.gov.au) (Accessed 4 January 2024)
[2] Ibid
[3] Australian Government, Australian Institute of Health and Welfare, Emergency department care 2022-23: Australian hospital statistics, Emergency department care - Australian Institute of Health and Welfare (aihw.gov.au) - Table 4.5: Emergency department presentations by principal diagnosis in ICD-10-AM chapters, states and territories, 2022-23 (Accessed 16 January 2023)
[4] Independent Hospital Pricing Authority, 2016. *National Hospital Cost Data Collection, Australian Public Hospitals Cost Report, Round 18 (Financial year 2013-14)*.
[5] Giangioppo, S. et al., 2020. 'Emergency department visit count: a practical tool to predict asthma hospitalisation in children', *Journal of Asthma*, vol 57(10).
[6] Australian Institute of Health and Welfare (AIHW) (2023) Admitted patients 2021/22: Australian hospital statistics. Canberra: AIHW, Admitted patients - Australian Institute of Health and Welfare (aihw.gov.au) (Accessed 16 January 2024)
[7] Australian Government, Australian Institute of Health and Welfare, Emergency department care 2022-23: Australian hospital statistics, Emergency department care - Australian Institute of Health and Welfare (aihw.gov.au) (Accessed 9 January 2023)
[8] AIHW (2023) *Australian Burden of Disease Study 2023*. Canberra: AIHW. Australian Burden of Disease Study 2023, Summary - Australian Institute of Health and Welfare (aihw.gov.au) (Accessed 9 January 2024)
[9] Australian Bureau of Statistics (2023) Causes of Death, Australia, Statistics on the number of deaths, by sex, selected age groups, and cause of death classified to the International Classification of Diseases (ICD), Reference period 2022, Causes of Death, Australia, 2022 | Australian Bureau of Statistics (abs.gov.au) (accessed 16 January 2024)
[10] Ibid
[11] Asthma Australia (2022) Homes, Health and Asthma in Australia: Understanding who is at risk in their home, what actions people take to protect themselves, and the barriers to action.
[12] Ibid
[13] World Health Organisation, 2018. WHO Housing and Health Guidelines. Geneva: World Health Organization. Licence: CC BY-NC-SA 3.0 IGO.
[14] Asthma Australia, 2022. Homes, Health and Asthma in Australia, Understanding who is at risk of asthma or allergies in their home, what actions people take to protect themselves, and the barriers to action.
[15] NSW Government, NSW Health, Mould fact sheet, https://www.health.nsw.gov.au/environment/factsheets/Pages/mould.aspx (Accessed 13 January 2023).
[16] Institute of Medicine. Climate Change, the Indoor Environment, and Health [Internet]. Washington, DC: The National Academies Press; 2011 [cited 2023 Oct 29]. Available from: https://nap.nationalacademies.org/catalog/13115/climate-change-the-indoor-environment-and-health
[17] Asthma Australia. 2020. Bushfire Smoke Impact Survey.
[18] A summary of the results from the Climate and Health Survey can be accessed at Asthma-Australia-Climate-and-Health-Survey-Key-Findings-August-2023.pdf
[19] Royal Commission into Natural Disaster Arrangements Report 28 October 2020, Commonwealth of Australia 2020
[20] Wood, T., Reeve, A., and Suckling, E. (2023). Getting off gas: why, how, and who should pay? Grattan Institute.
[21] Center of Health Economic Evaluation and Research (CHERE) (2020) Economic Evaluation of The COACH Program for Asthma Management.
[22] Australia: Aboriginal and Torres Strait Islander population summary, Released 1/07/2022, Australian Bureau of Statistics, Australia: Aboriginal and Torres Strait Islander population summary | Australian Bureau of Statistics (abs.gov.au) (Accessed 29 February 2024)
[23] Asthma Data Tables, Australian Institute of Health and Welfare. Chronic Respiratory Conditions: Asthma. https://www.aihw.gov.au/reports/chronic-respiratory-conditions/asthma
[24] Australian Institute of Health and Welfare. Australian Burden of Disease Study: impact and causes of illness and death in Aboriginal and Torres Strait Islander people 2018. Canberra: AIHW; 2022. https://www.aihw.gov.au/getmedia/1656f783-5d69-4c39-8521-9b42a59717d6/aihw-bod-32.pdf.aspx?inline=true
[25] Ibid
[26] Australian Institute of Health and Welfare. Asthma [Internet]. Canberra: Australian Institute of Health and Welfare, 2020 [cited 2022 May. 25]. Available from: https://www.aihw.gov.au/reports/chronic-respiratory-conditions/asthma
[27] Commonwealth of Australia (2020) Royal Commission into Natural Disaster Arrangements Report, 28 October 2020.
[28] Australia State of the Environment 2021, https://soe.dcceew.gov.au/?_gl=1*1s98wwo*_ga*NjY1NjU1NDYyLjE2Njc4NjgxMjQ.*_ga_1M2TBC9WWS*MTY2Nzg2ODEyMy4xLjEuMTY2Nzg2ODk1OC4wLjAuMA..&_ga=2.122277762.820626621.1667868124-665655462.1667868124 (Accessed 8 November 2022)
[29] EPA South Australia, Environmental Info, Air quality monitoring Air quality monitoring | EPA (Accessed 31 January 2024)

[30] EPA Tasmania Environment Protection Authority, All Air Monitoring Stations - Current Data Table All Air Monitoring Stations - Current Data Table | EPA Tasmania (accessed 31 January 2024)
[31] Australian Government (2015). *National Clean Air Agreement: Towards a clean air future for all Australians.* Commonwealth of Australia.
[32] Ibid
[33] Sotiris Vardoulakis, Bin B Jalaludin, Geoffrey G Morgan, Ivan C Hanigan, Fay H Johnston, 2020. 'Bushfire smoke: urgent need for a national health protection strategy'. *Medical Journal of Australia* 212(8), pp. 349-353.
[34] Knibbs, Woldeyohannes, Marks, Cowie, 2018. Damp housing, gas stoves and the burden of childhood asthma in Australia. MJA.208(7):299–302.
[35] Asthma Australia, 2022. Position Statement: Climate Change, https://asthma.org.au/wp-content/uploads/2022/10/AA-CLIMATE-CHANGE-POLICY-POSITION-OCTOBER-2022.pdf (Accessed 3 January 2023)
[36] Asthma Australia, 2022. Homes, Health and Asthma in Australia: Understanding who is at risk in their home, what actions people take to protect themselves, and the barriers to action.
[37] Centre for Air pollution, energy and health Research-CAR (2021a) Position paper there is no 'safe' level of air pollution. Implications for Australian policy, available online: https://www.carcre.org.au/_files/ugd/d8be6e_c7615769a4f646498ed7e5d6fadfe69d.pdf
[38] National Asthma Council Australia, 2022. Australian Asthma Handbook, Version 2.2. National Asthma Council Australia. http://www.asthmahandbook.org.au
[39] Australian Government Department of Agriculture, Water and the Environment, 2005. Wood heaters and Woodsmoke, available online: https://www.environment.gov.au/resource/woodheaters-and-woodsmoke; Borchers-Arriagada, N. et al (2020); Bothwell, J.E. et al (2003) Home heating and respiratory symptoms among children in Belfast, Northern Ireland, Archives of Environmental Health: An International Journal, 58:9, 549-553; Naeher, L. et al (2007) Woodsmoke Health Effects: A Review, Inhalation Toxicology, 19:1, 67-106.
[40] Robinson, D.L., 2011. Australian wood heaters currently increase global warming and health costs. Atmos. Pollute. Res., 2, 267–274.
[41] Wood, T., Reeve, A., and Suckling, E. (2023). Getting off gas: why, how, and who should pay? Grattan Institute.