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## Case report

## Healthy, regenerative and just: Guiding the development of a national strategy on climate, health and well-being for Australia



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## ABSTRACT

This case report is a reflective narrative, documenting the methods used to develop a policy framework for a National Strategy on Climate, Health and Well-being for Australia. The report aims to guide advocates, communities of practice, and governments in developing a comprehensive policy response to climate change and its health impacts.

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## Introduction

This adapted case study is presented as a reflective narrative, documenting the methods used to develop a policy framework for a National Strategy on Climate, Health and Well-being for Australia. This case study aims to support advocates, communities of practice, and governments in developing a comprehensive policy response to climate change and its health impacts.

Climate change is the greatest public health threat facing humanity today, and could undermine the last 50 years of development and global health gains [1]. Australia is highly vulnerable to the impacts

of climate change, which pose immediate and long-term risks to population health [2,3]. Yet, Australia's climate risks are exacerbated by inadequate governance, growing vulnerabilities, and insufficient investment in mitigation and adaptation efforts [3]. Australia's current climate policies are inconsistent with the Paris Agreement's 1.5 °C limit, and the development and implementation of far-reaching, coordinated policies is urgently needed to address these risks [2,35].

In 2015, the Climate and Health Alliance (CAHA) – a national coalition of health stakeholders in Australia – conducted a Global Survey of National Climate Change and Health Plans, in partnership with the World Federation of Public Health Associations. The survey found that less than half of countries surveyed (49%,  $n = 35$ ) had an adequate national plan in place to protect the health of their citizens from climate change, and Australia lagged behind comparable

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countries in responding to the health impacts of climate change [4]. In response, CAHA developed a policy framework for a National Strategy on Climate, Health and Well-being for Australia. The policy framework was first published in 2017 [5] and updated in 2021 [6].

The policy framework provides Australia's federal government with a roadmap for a whole-of-government approach to adequately address the health risks of climate change, and promote better health and well-being through climate action. It offers a set of policy recommendations and proposes governing mechanisms and targets, underpinned by conceptual principles. It is intended to be adapted in line with political priorities, and formalized and implemented by governments and other stakeholders.

Annual reports of the MJA-Lancet Countdown on Health and Climate Change have repeatedly stressed the need for a national climate change and health adaptation plan in Australia. A national approach is needed in order to ensure coordination across sectors and governments, and CAHA's policy framework has been pointed to as an example for the Federal Government to emulate [7,8].

### *Showing the way forward*

For an effective national health strategy on the complex challenge of climate change, extensive consultation, collaboration, and national leadership are needed [9]. The policy framework was developed through extensive consultation and collaboration. The framework is intended to guide a whole of government approach, with shared responsibility for implementation across multiple levels, sectors, and jurisdictions. The policy framework's implementation will require collaboration both vertically (involving national, state, and local governments) and horizontally (across multiple portfolios and sectors and within the health sector), to support healthy, sustainable, low carbon, climate-resilient communities and health care services.

National leadership is crucial to implement the policy framework. Tackling climate change requires coordination of demands and needs across scales and sectors. In the absence of national leadership, climate mitigation and adaptation plans are likely to be isolated and piecemeal, increasing the risk of maladaptive solutions and unintended consequences, and thus, community vulnerability [3,10]. Adoption of this comprehensive National Strategy on Climate, Health and Well-being ('National Strategy') would allow the Australian government to capitalize on the health, social and economic co-benefits of comprehensive climate policies, while meeting its national and international climate obligations to safeguard current and future generations from climate change [8].

With this policy framework, CAHA aims to bridge the gap between the urgency of climate change and the comparative inaction in Australia to date. This gap is not unique to Australia; the majority of countries today still need a more comprehensive policy and governance approach on climate change and health [11]. By documenting the methods that were used to develop this policy framework, the report aims to guide advocates, communities of practice, and governments in developing a comprehensive policy response to climate change and its health impacts, both in Australia and elsewhere.

## **Methods and results**

### *Development of the 2017 policy framework*

The policy framework is the result of extensive transdisciplinary consultation and collaboration with health stakeholders, policymakers, and various communities of practice in Australia. The development of the first iteration of the policy framework took place in 2016 and 2017 in five different stages, as outlined below.

### *Rapid literature review and proposal for a national strategy*

In 2016, a rapid literature review of the health impacts of climate change in Australia was conducted. This rapid review was done alongside an analysis of national climate change policies in Australia, with a focus on policies relevant to health. The findings were summarized in a discussion paper which proposed that existing policy gaps on climate and health needed to be addressed along the lines of six areas of policy action. Particular focus was given to mitigation and adaptation policies with health co-benefits. The discussion paper also asserted that the effectiveness of a National Strategy lies in its ability to facilitate successful collaboration across government departments, across sectors, and within the health sector [12].

### *Collection of feedback through a survey*

A survey was used to collect feedback on the discussion paper (1.1) from CAHA members ( $n = 350$ ) [12]. The survey gathered demographic data, assessed respondents' awareness of climate-related policies and climate-related health impacts, and gathered opinions on the need for a National Strategy. Quantitative data were analyzed using descriptive statistics, while qualitative data were analyzed thematically [13]. Respondents included doctors, nurses, midwives, public health practitioners, psychologists, alongside representatives from health stakeholder groups and unions. Responses to the survey revealed "strong support" (98%,  $n = 134$ ) for a National Strategy. There was a very high level of awareness about the health risks of climate change (100%) and the health co-benefits of climate mitigation and adaptation strategies (87%). Most respondents considered the Federal Government's climate policies as at 2016 to be ineffective (52% "not at all effective", 0% "very effective").

### *Stakeholder and policymaker engagement*

A nine-day online forum was held to address the ideas raised in the discussion paper. The Delphi method was used to discuss the following areas: the current and preferred future role of the Federal Government in climate change and health; existing policies to protect vulnerable communities from climate change; strategies to drive the low-carbon transition within the health sector; key elements required within a National Strategy; and approaches for advocacy. The online discussion forum had 118 registrations with 42 contributing participants. The resulting data were analyzed thematically [14].

The online forum was followed by a Health Leaders Roundtable and subsequent meeting with federal parliamentarians. The discussion paper (1.1) and results of the survey and online forum (1.2, 1.3) were presented to 40 health leaders (CEOs, presidents, policy directors of health, and medical organizations) and parliamentarians (Assistant Minister for Health, Shadow Minister for Health, Greens Leader, and their advisors) to demonstrate the wide range of support for a National Strategy, and to encourage cross-parliamentary support for its implementation [15]. Both the online forum and Health Leaders Roundtable confirmed a shared concern about the lack of effective policy responses to climate change and health. Stakeholders emphasized the need for a whole-of-government approach, with shared responsibility across multiple sectors and jurisdictions, and expressed strong interest in continued engagement on Australian climate and health policy [14].

### *Development of a policy framework*

The key findings from the evidence review, survey, and stakeholder engagement were combined and analyzed as the starting point of the policy framework. The policy framework was written collaboratively by over 40 national experts, academics, and policymakers. It identified eight overarching principles, in order to achieve "a fair and environmentally sustainable national policy framework that recognizes, manages and addresses the health risks of climate change and promotes health through climate change action." The policy framework also described seven areas of policy action, each with

recommendations for federal, sub-national, and local governments. These included: 1. Health-Promoting and Emissions-Reducing Policies; 2. Emergency and Disaster-Preparedness; 3. Supporting Healthy and Resilient Communities; 4. Education and Capacity Building; 5. Leadership and Governance; 6. A Sustainable and Climate-Resilient Health Sector; 7. Research and Data. In addition, the framework suggested mechanisms for governance, stakeholder engagement, evaluation, monitoring, and reporting [5].

*Public campaign for the policy framework*

In June 2017, CAHA launched a campaign to promote the need for a National Strategy. The campaign, entitled *Our Climate Our Health*, asked organizations to endorse the policy framework, and asked individuals to engage with their political representatives to seek support for a National Strategy. Thirty prominent Australian health and medical organizations supported the campaign and endorsed the policy framework. Approximately 2000 supporters signed on to the campaign, and received tools, resources, training, and actions to promote the framework. Lastly, the campaign was also endorsed by two major political parties, who committed to implementing a National Strategy if elected to govern: the Australian Labor Party and the Australian Greens [16,36]. Three Independent Members of Parliament also endorsed the policy framework. Despite this, the 2019 Australian federal election saw the incumbent Liberal-National Coalition - which had not committed to developing a National Strategy - retain power for a second term [17].

*Development of the 2021 policy framework*

The disruption of the 2019–20 megafire season and a global pandemic significantly shifted the political and policy landscape in Australia which presented a unique opportunity to deliver systemic change. CAHA used this period of disruption to lead a project incorporating futures thinking and strategic imagination methods into the 2021 update of the policy framework. The development of the second iteration of the policy framework took place between 2019 and 2021 in five different stages, as outlined below.

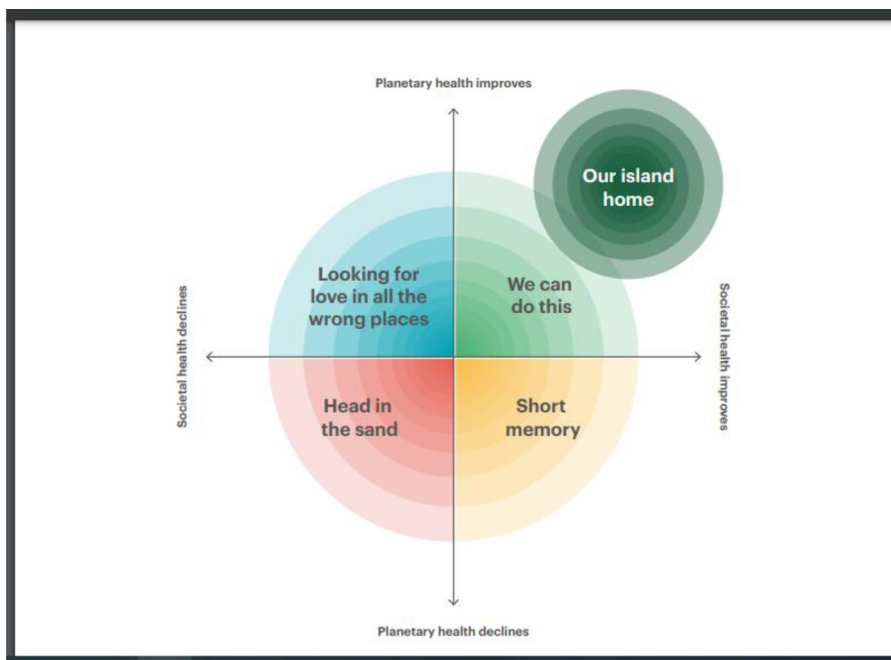
*Rapid literature review*

A new rapid literature review was conducted of research and policy related to climate change and health released between 2017–2020. A list of 118 references were selected, reflecting the progress made on climate change and health research and policy since the initial review. This review included newly available evidence on the intersection of climate change and mental health, the role of ecosystem degradation in zoonotic disease outbreaks, and other areas [6].

*Development of five narrative scenarios for the year 2030*

A series of three roundtables was held over six weeks, entitled *Rewrite the Future*. It brought together over 100 Australian thought leaders from health, futures thinking, social science, environment, human ecology, biodiversity, sustainability, finance, economics, urban design, media, science communication, Indigenous land and fire management, community and patient advocacy, and criminal justice. Guided by futures thinking experts, participants developed four narrative scenarios based on possible future policy decisions. Participants did this by answering the following questions: *What will Australia look like by the year 2030 if policy on climate change and health undergoes: (1) no change; (2) marginal change; (3) maladaptive change; (4) transformative change?* Through this process, participants understood long-term consequences of different policy choices, and developed common narratives to describe these potential futures (see Fig. 1).

A final fifth scenario was created, adopting the desirable elements of the four preceding scenarios. This was 'the future we choose' scenario, entitled *Our Island Home*. By agreeing on a preferred future, attendees achieved a shared narrative and consensus around a positive vision for the future [18]. Fictional case studies, or "day in the life of" stories, were developed alongside the scenarios. These stories brought the scenarios to life, allowing people to imagine the experience of someone living in Australia in 2030 because of various policy decisions now. A process of back-casting was employed to describe the steps to achieve the preferred scenario, *Our Island Home*, guided by futures experts and in consultation with all participants. This process allowed the participating thought leaders to describe the



**Fig. 1.** Narrative development for the 2021 project 'Rewrite the Future'. Five alternative future scenarios were developed for Australia in the year 2030, based on possible future policy decisions on climate change and health. The scenarios were labeled: 1. Head in the sand (No change); 2. Short memory (marginal change); 3. Looking for love in all the wrong places (Maladaptive change); 4. We can do this (Transformative change); and 5. Our island home (Preferred future). Source: [18].

necessary policies to make this preferred future a reality. These steps were summarized into a roadmap document [19].

*Consultation with health stakeholders*

A survey collected feedback on the 2030 roadmap from CAHA member organizations, academics, peak bodies, unions, advocates, and other health experts (n = 73). Survey responses (n = 57) and member dialogues helped to shape specific recommendations. More than 45 local and national organizations endorsed the roadmap prior to its release.

*Development of the 2021 policy framework*

The 2021 policy framework, entitled *Healthy, Regenerative and Just*, was produced by updating the 2017 policy framework (1.4) with the findings from the 2030 roadmap (2.3) [6]. The 2021 policy framework outlines necessary reforms in eight areas of policy action: the seven previously identified in the 2017 policy framework (1.4) and an eighth added in light of COVID-19, related to thriving ecosystems (see Fig. 2). In each policy area, recommendations are outlined for federal, state, and local governments, businesses, community, and the health sector. Each policy area has a set of proposed policy directions and targets, along with overarching principles and recommendations for implementation [6]. Importantly, this updated version of the policy framework also situates Aboriginal and Torres Strait Islander wisdom and knowledge as central to all climate-health action strategies, stating that: “The recognition and inclusion of First Peoples in all decision-making is not just an act of reconciliation, it is self-preservation. We have much to learn, and bringing in the insights available from 60,000 years of custodianship to help tackle the climate challenge is well overdue.”

*Public campaign for the policy framework*

From October 2021 onwards, CAHA again sought support from health and medical organizations, asking them to endorse the updated policy framework and to sign onto an open letter to the Australian Prime Minister and Health Minister [37]. More than 70 health and medical organizations have endorsed the policy framework.

Again, and in the context of Australia’s 2022 federal election, the campaign also achieved commitments from two political parties to implement a National Strategy if elected to govern: the Australian Labor Party and the Australian Greens. Multiple Independent Members of Parliament also endorsed the policy framework.

Taken together, CAHA’s policy and advocacy efforts have secured significant political and health sector support, including a commitment from the current federal government to develop a National Strategy [16], and to make climate change a national health priority area [20]. At present, CAHA is actively collaborating with Australian governments, with CAHA member organizations, and with stakeholders from health and other sectors to roll out the development and implementation of a National Strategy.

**Discussion**

CAHA, as Australia’s largest community of practice on climate change and health, embarked on a consultative and inclusive process to develop a policy framework for a national strategy on climate, health and well-being. Outlined below are general lessons that may be drawn from these experiences to inform the development of comprehensive public policy responses to the health impacts of climate change in other jurisdictions.

*Meaningful stakeholder engagement*

Meaningful stakeholder engagement through bottom-up, participatory processes is critical to ensure the ownership, relevance, and quality of climate policies [21]. Developed through collaboration, the policy framework for a national strategy on climate, health and well-being aligns health voices on climate change and provides an important evidence base for health organizations to advocate for climate action. The policy framework was designed to create a broad support base, and was developed through consultative processes that engaged stakeholders in each step of its development, including through: discussion papers; surveys; forums and roundtables; scenario planning and collaborative co-design; back casting; political



Fig. 2. Healthy, Regenerative and Just, the 2021 Framework for a National Strategy on Climate, Health and Well-being for Australia. Source: [6].

engagement; and campaigning. Dedicated staff provided sustained support and multiple ways for stakeholders to participate.

A trans-disciplinary cross-section of the health professions were included throughout the development of the policy framework: from public health professionals to doctors and nurses, from veterinarians to psychologists, and patient advocates. Expertise from other health-determining sectors were also involved throughout the process, including from: social sciences; environment; human ecology; biodiversity; sustainability; finance; economics; urban design; media; science communication; Indigenous land and fire management; race relations; criminal justice; philanthropy; and futures thinking.

### *Strategic imagination*

The second iteration of the policy framework took place in the context of the COVID-19 pandemic. The second iteration also took place in the context of growing climate-induced extreme weather events, such as Australia's "Black Summer" bushfires of 2019–2020 [22]. To stimulate reflection during this period of disruption, CAHA coordinated an exercise in scenario planning using strategic imagination. This allowed for the development of possible alternative future scenarios for Australia in 2030.

Scenario development is a tool used by communities, agencies, governments, and other groups to discuss possible future scenarios (i.e., stories that cannot be accurately represented in more technical modeling [23]). This tool allows a clearer understanding of the long-term consequences associated with different policy choices, and thus is often used to influence decisions and improve public appreciation. Participatory scenario planning, where scenarios are developed through collaboration between diverse stakeholders, is increasingly being used in environmental and climate change research, as it can foster social learning and facilitate collective action towards a shared vision [24]. This is also described as "strategic imagination", in which individuals and groups envision possible, likely, and desirable futures that can guide decision-making and direct social change [25].

The 2021 exercise in strategic imagination for future scenario planning was effective in bringing to light the shared vision of a healthy, regenerative and just future for all. Participants found the fictional case studies - or "day in the life of" stories - particularly helpful in thinking through the consequences of various policy decisions in a more concrete and granular way. The ultimate goal of this exercise was to describe a preferred future and build support for the action required to achieve it. This demonstrates the utility of strategic imagination in identifying long-term policy goals and building support for action on climate change. Another recent example of strategic imagination by the health community to incite action on climate is the "Healthy Recovery letter", which describes a potential post-pandemic scenario in which world leaders have prioritized climate action and public health [26].

### *Benchmarking and monitoring*

The policy framework for a national strategy on climate, health and well-being contains over 100 specific policy targets, grouped in eight policy areas, and supported by overarching principles and recommendations for implementation [6]. The use of quantifiable targets allows stakeholders to outline best practice on climate and health policy, against which progress can be measured.

One way to keep track of national progress on climate and health policy to date has been through the climate change and health indicators of the Lancet Countdown initiative [27]. Despite the Lancet Countdown's successful efforts in monitoring global progress on climate change and health, more refined indicators are needed, especially when it comes to monitoring national policy progress. We would argue that policy frameworks that are co-designed in a national setting can be an effective tool to capture and monitor the

complex set of interdependent interactions through which a national policy response takes place.

### *Campaigning by trusted professionals*

Public campaigning can facilitate ambitious policy outcomes through securing stakeholder buy-in and providing public accountability. Health professionals are consistently viewed as credible and trusted community members, and there are many examples throughout history where the involvement of the health community in campaigns has resulted in radical policy reform benefiting population health, such as campaigns around nuclear disarmament, tobacco control, and HIV/AIDS [28].

As frontline witnesses to the human toll of climate change, the health community is also ideally placed to advocate for ambitious climate action in the form of adaptation and mitigation policies. Providing guidance and promoting policy options for preventing climate change and for minimizing its health risks may be the most important role that the health community can play [29]. In Australia specifically, the health sector has demonstrated a strong appetite for collaboration and willingness to engage in advocacy that calls for evidence-based policy outcomes. This has helped to deliver a mandate for willing governments to act, and will help ensure climate and health policy is designed and implemented in collaboration with an informed and engaged health sector.

### *Policy implementation and governance*

The policy framework and CAHA's advocacy efforts have gained significant political support from the current federal government, alongside support from the Australian Greens, various Independent Members of Parliament, and all sub-national State and Territory governments. However, there are currently no federal policies on climate change and health in Australia, nor is health considered in the development of climate mitigation policies [30,31].

Nonetheless, the policy framework has informed the development of policy at the level of local and state governments. For example, in 2018, CAHA, in partnership with the National Climate Change Adaptation Research Facility at Griffith University, was commissioned by the Queensland Department of Environment and Science to develop a *Human Health and Well-being Climate Change Adaptation Plan* for the Queensland health sector [32]. The government of Tasmania has also drawn on the policy framework in a 2019 Roundtable on Climate Change and Health, which led to a series of 42 recommendations to respond to the health impacts of climate change in the state [33]. Most Australian states and territories have now adopted significant climate and health policies, including the states of Victoria, New South Wales and Western Australia [30]. However, many sub-national policies are at an early stage of implementation, and often have not yet been consistently incorporated at the more granular level of individual health services. A lack of nationally coordinated policies has further undermined sub-national efforts on climate change and health [8].

In an effort to improve policy coordination, CAHA and the World Health Organization hosted an Australian health leadership roundtable on climate action in June 2022, with the participation of health ministries from federal, state, and territory governments. All jurisdictions agreed to explore closer and more regular collaboration, in order to identify best policy and practice at the intersection of climate change and health [34].

### *Shortcomings and future areas of work*

The methodology described in this paper may provide valuable lessons that can help inform stakeholder engagement and collaborative development of policy frameworks elsewhere. However, it also

presents several shortcomings. First, the policy framework was developed in a specific political and geographic context, and its methodology might render different results, or require additional measures, depending on the policy setting. Therefore, this paper aims to offer broad guidelines and principles that can be adjusted to local circumstances and priorities.

Second, although the policy framework was informed by a review of the scientific literature and extensive consultations and participatory processes, the evidence base could have been further strengthened through modeling and the inclusion of financial and costing data. A more detailed mapping exercise of existing policies and policy gaps would have further strengthened this work. Lastly, there has been limited federal government engagement and uptake of the policy framework to date, mainly due to the display of climate denial and delay tactics during the past two terms of the Liberal-National Party coalition (2016–2019 and 2019–2022). With a new federal government elected in May 2022, and more willing to engage in climate action, the next iteration of the policy framework would ideally be led by policymakers, in consultation with many stakeholders. It would be able to build on the consensus and shared vision established by the two previous iterations, as outlined in this case study.

## Conclusion

In order to build climate resilient and sustainable healthcare systems while protecting people's health from climate change, a whole-of-government approach to climate change and health is needed. Bottom-up approaches and participatory processes are critical to ensure stakeholder buy-in, high quality policies, and to avoid maladaptation.

The framework for a National Strategy on Climate, Health and Well-being in Australia provides a unique case study of community-led policy development. It offers potential guidance on how climate policies can integrate health, social, environmental, and cultural considerations for win-win outcomes. When designed well, climate policies can simultaneously reduce emissions, tackle inequality, strengthen resilience, and improve health outcomes.

## Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Acknowledgement

The authors recognize Aboriginal and Torres Strait Islander People as the traditional custodians of the land on which we live and work, and acknowledge that sovereignty of the land we call Australia has never been ceded. We commit to listening to and learning from Aboriginal and Torres Strait Islander people about how we can better reflect Indigenous ways of being and knowing in our work.

The authors acknowledge the many people who actively contributed to the development of the 2017 and 2021 policy framework.

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