National Health and Climate Strategy – July 2023

Newtown Climate is a community climate organisation based in Newtown in Sydney's Inner West. We work with local people, businesses, organisations and Government with the aim of making the local transition to a zero emissions community faster, fairer and more fun.

We thank you for the opportunity to comment on the National Health and Climate Strategy. We support the introduction of a National Health and Climate Strategy, noting the profound effect that climate change will have both on the health and wellbeing of the population, and on the sustainability of the health system. It is imperative that the National Health and Climate Strategy respond to the latest climate science both in its plans for emissions reduction (which must include an urgent move away from fossil fuels) and for ensuring continued health of the community (which must account for expected increases in extreme heat and the frequency and severity of natural disasters over the coming decades).

We recommend that the Government adopt the principles and approach set out in the Climate and Health Alliance's Healthy, Regenerative and Just: Framework for a national strategy on climate, health and wellbeing for Australia. This Framework was the product of extensive consultation with experts across the health sector, as well as experts on climate change, and has been endorsed by 73 health sector organisations.

Importantly, we recommend that the National Health and Climate Strategy take a holistic approach that:

- prioritises population-level health and wellbeing
- recognises and aims to address social, cultural, economic and environmental determinants of health
- identifies and supports systemic, whole-of-government and whole-of-society solutions to complex health and climate issues
- aligns with climate science, including a target of achieving net zero emissions across the health sector by 2035, with any offsetting limited to genuinely hard-to-abate emissions.

We also recommend that the National Health and Climate Strategy:

- Clearly articulate a nationally integrated approach to implementing and embedding the National Health and Climate Strategy across Government and in collaboration with states and territories
- Prioritises and clearly supports systemic changes e.g. a mode shift to active travel, and a move away from high-polluting energy sources, that have direct and immediate benefits for human health as well as indirect benefits via reduced greenhouse gas emissions
- Clearly describe the risks and likely consequences of continued climate change, including risks to the health of the population and to the resilience of the health system
- Includes the human right to health and intergenerational justice, in line with Australia's commitment under the Paris Agreement to ensure a healthy, just and safe climate for the benefit of current and future generations
- Include clear targets and milestones and a plan for monitoring implementation and outcomes
- Create space for extended, open and honest engagement with communities across Australia to ensure communities understand the likely health impacts of climate change and determine what action is required to achieve genuine resilience for communities and the health system.

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LOWITJA INSTITUTE

Australia's National Institute for Aboriginal and Torres Strait Islander Health Research

National Health and Climate Strategy consultation submission

Submission to the Department of Health and Aged Care

The Lowitja Institute, July 2023

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Health Climate Consultation
National Health, Sustainability and Climate Unit
Department of Health and Aged Care

Dear National Health, Sustainability and Climate Unit,

Re: National Health and Climate Strategy consultation

The Lowitja Institute is Australia's national institute for Aboriginal and Torres Strait Islander health research, named in honour of our Patron, Dr Lowitja O'Donoghue AC CBE DSG. We welcome the opportunity to provide a submission to the Independent Review Panel's NDIS Review.

Climate and Aboriginal and Torres Strait Islander health and wellbeing is a policy priority for Lowitja Institute. Since we held a roundtable and published our discussion paper, *Climate Change and Aboriginal and Torres Strait Islander Health and Wellbeing* in 2021, we have been advocating for further action. We are encouraged by the Department's commitment to working across portfolios on this existential issue and developing a specific strategy to address health and climate.

We are further encouraged by the Department's prioritisation of our peoples' wisdom, knowledge and leadership. We encourage the Department to deeply consider what supporting Aboriginal and Torres Strait Islander leadership and governance looks like. We have made recommendations to this effect. Our peoples' have a long history of caring for country, waterways and seas; we have always understood that when we care for country, country cares for us. When country is sick, so are we. Whilst the focus on emissions reduction in the consultation paper is worthwhile, we encourage the Department to view this issue holistically and give equal weight to preventing and mitigating the severe health impacts caused by the changing climate. Further, we cannot understate the importance of taking a strengths-based approach in this strategy and any associated future actions.

Please find our submission attached. We would welcome the opportunities to further discuss our recommendations therein.

Warm regards



Dr Janine Mohamed
CEO, Lowitja Institute

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About the Lowitja Institute

The Lowitja Institute is a national Aboriginal and Torres Strait Islander Community Controlled Organisation working for the health and wellbeing of Aboriginal and Torres Strait Islander peoples through high impact quality research, knowledge translation, and by supporting Aboriginal and Torres Strait Islander health researchers.

Established in January 2010, we operate on the key principles of Aboriginal and Torres Strait Islander leadership, a broader understanding of health that incorporates wellbeing, and the need for the work to have a clear and positive impact.

The Lowitja Institute has a longstanding commitment to the National Agreement on Closing the Gap, as members of the Coalition of Peaks, National Health Leadership Forum and the Close the Gap Steering Committee, including authoring the Close the Gap Report over the past 4 years.

Based on this experience we offer the following general comments and note some specific issues for consideration.

General preamble

Before responding to the consultation paper, we appreciate that the Department has acknowledged our peoples' roles as Traditional Custodians of country, waterways, and seas. The Department has clearly acknowledged the role that colonisation has played in climate change and the need to include our leadership in the strategy. We encourage the Department to include this acknowledgment in the opening pages of the completed Strategy.

It is important that such an acknowledgment is strength based and notes that despite the traumatic and ongoing consequences of colonisation and institutional racism, we have maintained and continue to develop our sophisticated and diverse cultures and knowledge systems. We have continued to care for country, water and sea. A strength-based approach is important in ensuring that this strategy moves beyond reactivity and enables system transformation in line with a Health in All Policies approach and our peoples holistic approach to health and wellbeing. We must act urgently on health and climate, but we can also use this urgency as an opportunity to improve our society and systems for the better.

It is also important to explicitly note in the strategy that the health inequity imposed on our peoples since colonisation persists to this day, with profound health impacts across multiple generations. As noted in *Climate Change and Aboriginal and Torres*

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Strait Islander Health, "Climate change is compounding these historical injustices, increasing inequities and feelings of powerlessness as communities despair over the desecration of their land-, water- and seascapes."[1] This is a sentiment that Lowitja Institute is seeing first hand in our community engagement.

Colonisation is ongoing in this country; one of its methods was and still is locking our peoples out of decision-making regarding Country (e.g. resource exploration and mining licensing). In this way, we can view climate change as a direct consequence of colonisation and colonial practices and policies. In the most recent International Panel on Climate Change (IPCC) report, the connection between climate change and colonisation was explicitly recognised.

> *"Vulnerability of ecosystems and people to climate change differs substantially among and within regions (very high confidence), driven by patterns of intersecting socioeconomic development, unsustainable ocean and land use, inequity, marginalization,* ***historical and ongoing patterns of inequity such as colonialism, and governance*** *(high confidence).*[2] *(emphasis added)*

Indigenous experts have identified anthropomorphic climate change as an extension of ongoing colonisation and "climate change impacts as the intensification of a sustained colonial process."[3] Addressing climate change therefore requires climate justice, redress, and decolonisation. There is a role that the Strategy can play in this.

Climate change has many health impacts on our peoples; to physical, individual and community health, and to social and emotional wellbeing. There are many indirect impacts because climate change adversely influences many social and cultural determinants of health and wellbeing. For example, forced migration off Country and displacement from home and community can cause significant harm to our peoples' social and emotional wellbeing. The consultation paper rightly points to this. However, in terms of the objectives and principles outlined in the paper, it is unclear how the strategy will address this.

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[1] HEAL Network & CRE-STRIDE, 2021, *Climate Change and Aboriginal and Torres Strait Islander Health,* Discussion Paper, Lowitja Institute, Melbourne p. 9.
[2] IPCC, 2022: Summary for Policymakers [H.-O. Pörtner, D.C. Roberts, E.S. Poloczanska, et.al (eds.)], in: *Climate Change 2022: Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press, Cambridge, UK, p. 12.
[3] HEAL Network & CRE-STRIDE, 2021, *Climate Change and Aboriginal and Torres Strait Islander Health,* Discussion Paper, Lowitja Institute, Melbourne p. 6.

It has also been noted that the solutions to the problem of climate change are not just related to the identified ecological tipping points that are commonly discussed. There are also "relational tipping points" that require consideration:

> *[W]e need to invest in restoration of relationships – between humans and between humans and our more than human relatives. There is a need to balance urgent and incremental change and ensure action does not perpetuate existing inequities. Climate action, mitigation, and adaptation will not be enough on their own. Climate justice, including the cultural and social determinants of health, must be the goal.*[4]

This strategy can play a significant role in the restoration of relationships through enabling and respecting our peoples' leadership. We speak to this below.

Consultation paper questions

Question 1: How could these objectives be improved to better support the vision of the Strategy?

The strategy would benefit from a clearly articulated vision that includes emissions reductions but also looks beyond this. Lowitja Institute encourages a holistic vision that strives to mitigate the short-, medium- and long-term impacts of climate change, and also harnesses opportunities for systemic transformation that would see our peoples and all peoples thrive. We endorse CAHA's Framework for a National Strategy on Climate, Health and Wellbeing and the Health in All Policies (HiAP) approach called for therein – noting that this approach is also included in the consultation paper.

The vision should include Aboriginal and Torres Strait Islander leadership and true partnerships with Aboriginal and Torres Strait Islander peoples, as implied by principles 1 and 6 in the consultation paper.

We recommend that the strategy includes alignment with international human rights frameworks. This includes alignment with and implementation of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP),[5] and the recently

[4] HEAL Network & CRE-STRIDE, 2021, *Climate Change and Aboriginal and Torres Strait Islander Health,* Discussion Paper, Lowitja Institute, Melbourne p. 6.

[5] See Lowitja Institute's submission to the Australian Human Rights Council regarding Australia's implementation of the UNDRIP: Lowitja Institute 2022, Inquiry into the Application of the United

internationally recognised human right to a clean, healthy and sustainable environment. This human right was recognised last year by the UN General Assembly and the UN Human Rights Council in a resolution for which Australia voted in favour.

Further, it is important that the strategy includes a defined scope as to which organisations and structures are included within the strategy. Specifically, are Aboriginal Community Controlled Health Organisations, Aboriginal Medical Services, and other Aboriginal Community Controlled Organisations and Aboriginal organisations included within the strategy? Clarity around the inclusion of our services and organisations is important because when decisions are made, actions are taken and funding is allocated according to this strategy, there is a risk that we are left out.

Question 2: How could these principles be improved to better inform the objectives of the Strategy?

It is encouraging to see the inclusion of Principle 1: First Nations Leadership in the consultation paper: *First Nations knowledge and experience must be central to decision-making on health and climate policy at all levels.*

It is important to note that there is a distinction between collaboration, co-design, partnership, and leadership as these terms are all used in the strategy at various points in reference to Aboriginal and Torres Strait Islander peoples. Ensuring that our peoples' knowledge and experience is central to decision making is not the same as empowering our peoples' leadership. At worst, it could perpetuate harmful unethical extractive practices of policymakers taking and using our peoples' knowledge and wisdom without reciprocity. This harmful approach is often experienced by our communities. To avoid this unintended harmful consequence, the strategy should clearly spell out what First Nations Leadership means as well as how and which objective it supports and how it will be supported.

We recommend that Principle 1 be amended to explicitly include Aboriginal and Torres Strait Islander leadership: *First Nations knowledge, experience* ***and leadership*** *must be central to decision-making on health and climate policy at all levels.* It would also be useful to consider how Principle 1 and Principle 6 interact. As above, it is important to be clear in terminology; if "working closely" means working in partnership, this should be explicitly stated. This would better support each objective.

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Nations Declaration on the Rights of Indigenous Peoples in Australia, Submission to the Senate Legal and Constitutional Affairs Reference Committee, accessed on 25 July 2023 at < https://www.lowitja.org.au/content/Image/UNDRIP_submission_Lowitja_Insitute_FINAL.pdf>.

The Department can refer to the former Department of Environment and Energy's guideline on this,[6] which was developed in 2019.

We also encourage the Department to review the objectives themselves. **We recommend that the Department include an objective that works towards Aboriginal and Torres Strait Islander leadership**, rather than this being a guiding principle alone. For example, Objective: Aboriginal and Torres Strait Islander peoples are actively involved in leading action on health and climate at all levels of government, including having decision making powers, developing and implementing policy and programs, and making funding decisions. This would ensure the development of tangible actions that empower our leadership.

We also recommend including a strength-based objective of system transformation and preventative healthcare that harnesses opportunities in a proactive manner to fundamentally improve our health system.

Lowitja Institute operates on the principle of evidence-informed policy making and we are therefore pleased to see the inclusion of proposed principle 5. However, we caution that a cost-effectiveness analysis can sometimes lead to inequitable decision-making. It is vital that our peoples are included in such decision-making processes and that decision making not just considers, but prioritises upholding our peoples' rights under the UNDRIP.

Further, building a comprehensive evidence base requires investment in Aboriginal and Torres Strait islander led research. This research should align to an Aboriginal and Torres Strait islander research agenda. To ensure that the evidence base is inclusive of our knowledge, wisdom and expertise, **we recommend dedicated funding for a specific Aboriginal and Torres Strait Islander research agenda and for a specific funding stream for Aboriginal and Torres Strait Islander researchers to engage in projects looking at health and climate.** We suggest engaging with Lowitja Institute to do this work as this is our area of expertise and we have significant experience in developing research agendas that are led by our communities. This would help to inform priorities and drive strategic action. The proposed principle 5 in the consultation paper promotes evidence-informed policymaking, and this would enable such an approach, as well as support proposed principles 1, 2, 3 and 4.

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[6] Department of Environment and Energy 2019, Partnering with Indigenous orgnisations for a sustainable environment, Commonwealth of Australia, Canberra accessed on 24 July 2023 at <https://www.dcceew.gov.au/sites/default/files/documents/partnering-indigenous-organisations-guide.pdf>

Question 3: Which of the various types of greenhouse gas emissions discussed above should be in the scope of the Strategy's emission reduction efforts?

We agree with the inclusion of scope 1, 2 and 3 emissions within the strategy.

Question 4: What existing First Nations policies, initiatives, expertise, knowledge and practices should the Strategy align with or draw upon to address climate change and protect First Nations country, culture and wellbeing?

Firstly, there are a broad range of policies and programs funded at the commonwealth level that have various strategies sitting within them. We encourage the Department to look more broadly for alignment with this strategy, beyond health. This is consistent with the Health in All Policies approach. For example, policy relating to workforce, housing, and land management are all relevant to health and climate.

It is positive that the consultation paper includes reference to the National Agreement on Closing the Gap (National Agreement) and Priority 7 of the National Aboriginal Health Plan. It is important to note however, that the National Agreement on Closing the Gap has little direct relevance to climate. While the changed climate will continue to significantly impact on the socioeconomic targets and the priority reforms will assist in mitigating this, it would be useful to spell out the connection being made to the National Agreement in the strategy.

Further, as climate change does have such a significant impact on our peoples' health and wellbeing,[7] we **recommend the inclusion of a specific target relating to health and climate in the Closing the Gap targets.** To ensure our peoples leadership in relation to this, **we also recommend a new policy partnership** on health and climate.

Aboriginal and Torres Strait Islander peoples' approach to health and wellbeing is holistic, placing equal emphasis on physical, social, emotional and cultural wellbeing, which are interconnected.[8] Policy relating to climate, country, waterways

[7] HEAL Network & CRE-STRIDE, 2021, *Climate Change and Aboriginal and Torres Strait Islander Health,* Discussion Paper, Lowitja Institute, Melbourne.
[8] Salmon et al., 2019, Defining the indefinable: descriptors of Aboriginal and Torres Strait Islander Peoples' cultures and their links to health and wellbeing, Aboriginal and Torres Strait Islander Health Team, Research School of Population Health, The Australian National University, Canberra, p. 1.

and seas also needs to be understood through this holistic lens, which centres culture, community and Country. Our peoples understand individual and community health as intrinsically connected to the health of country, waterways, seas.

Principle 4: One Health, outlined in the consultation paper opens space for this type of understanding in policymaking. Our peoples have had this approach for millennia and our leadership can ensure policy approaches align with this.

Further, it is widely acknowledged by Aboriginal and Torres Strait Islander experts and peak health organisations that 'social and cultural determinants' impact significantly on the health and wellbeing of our peoples and communities. These factors are key to closing the gap on our peoples' health and wellbeing outcomes, which has been acknowledged by the National Agreement on Closing the Gap 2021.[9]

> *Our culture comes from our lore, a very deep and sacred place. The cultural determinants of our health provide many of the remedies for Aboriginal and Torres Strait Islander health equity and these determinants should be respected, understood and embraced by all.*
>
> *June Oscar, Aboriginal and Torres Strait Islander Social Justice Commissioner 2020*

We recommend that the strategy acknowledge the cultural, social, environmental and political determinants of health and wellbeing and they ways that they uniquely apply to our peoples in the context of health and climate.

Further, another important practice to align with relates to research and data. We note that the consultation paper implies that the strategy will commit to 'First Nations data sovereignty'. However, it is unclear what is meant by this.

Indigenous Data Sovereignty (ID-SOV) is a specific term that "refers to the right of Indigenous people to exercise ownership over Indigenous Data. Ownership of data can be expressed through the creation, collection, access, analysis, interpretation, management, dissemination and reuse of Indigenous Data."[10] This is an internationally recognized term and it is not interchangeable with other terms. The inclusion of "First Nations data sovereignty" adds no value to the strategy.

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[9] It is worth noting that there is no specific target for disability in the National Agreement on Closing the Gap 2021. Some Aboriginal and Torres Strait Islander Stakeholders –the First Peoples' Disability Network is a leading voice – are calling for a disability-specific target.

[10] Maim nayri Wingara n/d, *Defining Indigenous Data Sovereignty and Indigenous Data Governance*, accessed 10 July 2023 at <https://www.maiamnayriwingara.org/definitions>

Additionally, **Indigenous Data Governance** (ID-GOV), is another specific term, which refers to "the right of Indigenous peoples to autonomously decide what, how and why Indigenous Data are collected, accessed and used. It ensures that data on or about Indigenous peoples reflects our priorities, values, cultures, worldviews and diversity."[11]

Both are vital to ensuring ethical data practices. It is important to note that Priority Reform 4 under the National Agreement on Closing the Gap does not commit to ID-SOV. However, many of our leaders and experts are actively advocating for government departments to take up ID-SOV and ID-GOV practices. This was discussed at the recent National Indigenous Data Governance Summit hosted by Maiam Nayri Wingara, Lowitja Institute, and the Australian Indigenous Governance Institute.

We recommend that the Department lead the way by including ID-SOV and ID-GOV in the strategy as guiding principles and non-negotiable components of related data ecosystems and processes. The strategy should focus on how to create a data ecosystem that looks at health and climate holistically, in line with these principles and practices. This connects with workforce, leadership and training (enabler 1), because there is a need for increased funding for Aboriginal and Torres Strait Islander peoples to be involved in this work. For example, the Aboriginal and Torres Strait Islander investigators could be trained and employed to be on Country, assessing how it is changing and reporting on this through Aboriginal and Torres Strait Islander led research programs.

For guidance on how to implement these important principles, Maiam Nayri Wingara has done some excellent work in this space. Lowitja Institute has also developed an Indigenous Data Sovereignty Assessment and Evaluation Toolkit to support researchers, governments, and communities, to strengthen community control use and protection of Aboriginal and Torres Strait Islander data and information. Further, solutions need to be driven locally; the strategy should be promoting place based and community led approaches.

There are also Aboriginal and Torres Strait Islander academics and environmental scientists, community leaders and health experts who are already speaking out. The strategy should ensure that policymaking centers their voices and includes their leadership.

As noted above, the Department can refer to the former Department of Environment and Energy's 2019 partnerships guideline.

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[11] Maim nayri Wingara n/d, *Defining Indigenous Data Sovereignty and Indigenous Data Governance*, accessed 10 July 2023 at <https://www.maiamnayriwingara.org/definitions>

Question 5: What types of governance forums should be utilized to facilitate co-design of the Strategy with First Nations people to ensure First Nations voices, decision-making and leadership are embedded in the Strategy?

It is important to recognise that this is an important goal that cannot be fully realised in the first iteration of the strategy. This is why it is important to include our peoples' leadership as an outcome and actively work towards it.

We strongly support the co-design of this strategy. However, this is a challenge in practice because there is an issue of double handling and over-consulting our communities on issues relating to climate, health and the intersection. It is therefore important to ensure that the strategy taps into existing governance forums, such as the Coalition of Peaks; although, we note that the Coalition is not a directly relevant forum. There is no specific forum at present that is Aboriginal and Torres Strait Islander led and resourced to focus on health and climate – this is a huge governance gap that needs to be filled.

There are a range of jurisdictional bodies, networks, groups and organisations, which include Aboriginal and Torres Strait Islander experts and community leaders that are working on health and climate, or which are working tangentially. However, these individuals and groups are so stretched and under-resourced, there needs to be a streamlined process for meaningful engagement that does not over-burden. Engagement needs to be done with key principles of:

- Respect
- Accountability (there needs to be meaningful action, not just listening)
- Deep listening
- Cultural safety
- Resourcing their engagement

Lowitja Institute is already in the process of engaging with Aboriginal and Torres Strait Islander peoples nationally and we are assessing the feasibility of a national governance body, such as a national Aboriginal and Torres Strait Islander Coalition on Health and Climate. Lowitja Institute has invested significant time and resources into this project, including future plans to publish a policy position paper, establish a business case and proposed design, and hold a national roundtable on the topic later this year. The more that we engage with our communities, the stronger our conviction becomes that such a body would significantly enhance our peoples' voices and leadership on this important policy issue.

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Such a body could work alongside government and the Department to co-design the Strategy, as well as other policy documents, and implementation. It could work to ensure that government policy on health and climate aligns with other Aboriginal and Torres Strait Islander policies.

We recommend committing funding for the establishment and operation of a Coalition or like body a body that is designed and led by Aboriginal and Torres Strait Islander peoples. We also recommend that the Department engage directly with Lowitja Institute about the establishment of a Coalition or like body.

There is also a need for specific governance regarding data, as noted above.

Question 8: What do you think of these proposed focus areas for emissions reduction? Should anything else be included?

We strongly agree with the inclusion of prevention and optimising models of care as a proposed focus area.

An additional area to consider is food production. Traditional food sources in Australia are often low emissions options. Investment into and support for the Aboriginal and Torres Strait Islander led development of a traditional food sources economy would benefit Aboriginal and Torres Strait Islander health and wellbeing, and would have broader benefits for the whole population, as well as reducing emissions.

Another area for emissions reduction is local service provision. This connects-up with travel but it is broader than this. Keeping services local benefits Aboriginal and Torres Strait Islander peoples, especially those in regional, remote and rural communities.

There is also a need for workforce development and capability building for Aboriginal and Torres Strait Islander peoples working in this space. For example, for local ACCHOs to implement emissions reduction activities, they require internal capability building for all staff as well as people with specialist knowledge within the organisation to provide advice and assist with implementation. The success of any emissions reduction in the sector will depend on this.

Question 9: Which specification areas should be considered relating to the built environment and facilities

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(including energy and water), over and above any existing policies or initiatives in this area?

ACCHOs and AMSs are already stretched for resources. Easily accessible specific funding for the renovation or construction of energy efficient buildings would be beneficial. For example, we saw during the early years of the COVID-19 pandemic how ill-suited many organisations' buildings and facilities were. Organisations tried to create safer environments for staff through reactive renovations. In Victoria, for example, grants were made available.

A significant difference, in the case of health and climate, is that we already know what some of the impacts will be (e.g. increased air pollution) and organisations can plan accordingly. Specific funding for this would support organisations to be proactive.

Question 14: Which specific action areas should be considered relating to prevention and optimizing models of care, over and above any existing policies or initiatives in this area?

There is a big opportunity for prevention if we can understand and mitigate the impacts that the changed climate has and will have on the social and cultural determinants of health and wellbeing for our peoples. We note that cultural and environmental determinants are included under the paper's discussion about a Health in All Policies, however it is important to tie these directly to prevention as well. Aboriginal and Torres Strait Islander leadership will enable this.

We also recommend increased funding for the National Aboriginal Health Plan and for ACCHOs who do vital preventative health work in their communities.

Another worthwhile initiative to consider is to fund the establishment of Aboriginal and Torres Strait Islander led community healing centres that can support whole communities before, during and after times of crisis, such floods or fires. These centres would provide safe places for whole communities in easily accessible and safe locations. For example, the Northern Rivers Community Healing Hub played a key role in supporting the local community after the recent floods.[12]

[12] University of Melbourne 2022, *Northern Rivers Community Healing Hub*, accessed on 24 July 2023 at https://mspgh.unimelb.edu.au/centres-institutes/centre-for-health-equity/research-group/indigenous-health-equity-unit/research/apprise-grant/activities/northern-rivers-community-

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The Healing Foundation already supports 13 Indigenous Healing Centres nationally. A cost-benefit analysis conduction by Deloitte Access Economics found that these centres provide significant savings for government in terms of savings from reduced incarceration.[13] Lowitja Institute is confident that Healing Centres would also provide savings to government by increasing community resilience building, providing post-event trauma support, and by acting as central hubs where community members can access services and supports. These centres could also support communities with mitigation and adaptation planning.

Question 17: What 'quick wins' in relation to emissions reduction should be prioritised for delivery in the twelve months following publication of the Strategy?

As recommended above:

- Commit to ID-SOV and ID-GOV in this strategy.
- Work with Lowitja Institute and commit funding for the establishment and operation of an Aboriginal and Torres Strat Islander Coalition on Health and climate, or like body.

Question 18: What health impacts, risks and vulnerabilities should be prioritized for adaptation action through the Strategy? What process or methodology should be adopted to prioritise impacts, risks and vulnerabilities for adaptation action?

Priorities should be determined by communities at the local level. As noted above, communities are being over consulted on this issue, so there is a need to resources communities, and for a centralized governance process where community representatives can represent their community priorities in one forum.

There is a need to consider long term health impacts as well as short and medium term. Involving community in adaptation planning that includes short, medium and

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healing-hub; Sandra Fulloon 2022, *The Indigenous trauma specialists working to ease a growing mental health crisis in flood-affected NSW,* SBS, accessed on 24 July 2023 at <https://www.sbs.com.au/news/small-business-secrets/article/the-indigenous-trauma-counsellors-working-to-prevent-a-mental-health-crisis-in-flood-affected-nsw/c5map6g1f>

[13] Healing Foundation 2014 , *Prospective Cost Benefit Analysis of Healing Centres*, accessed on 24 July 2023 at <https://healingfoundation.org.au/app/uploads/2017/01/CBA-final-SINGLES-for-screen.pdf>

long term planning is essential. Adaptation should also be expanded to harness opportunities for the healing and regeneration of country. There are also opportunities here for workforce development and economic improvement within impacted communities. Communities would benefit from capability building to enable them to plan.

Local ACCHOs and AMSs should be funded to develop adaptation plans, including the funding of specific roles within organisations to do this, as well as towards reducing emissions, and advising on health and climate policy. There should be emergency funds easily available to these services so that they can continue operations and deliver vital and flexible services to community when there are climate related extreme weather events and disasters, such as floods.

We also encourage the strategy to not just look at prioritisation of specific vulnerabilities, but also to elevate and include strengths. For example, our peoples have shown great adaptability, ingenuity and innovation in responding to recent events, such as the NSW floods. A strengths-based approach is important so that the strategy can move away from reactivity and become a blueprint for positive system transformation.

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Australian Government
Department of Health and Aged Care

NATIONAL HEALTH AND CLIMATE STRATEGY

Detailed submission form

This form allows you to provide responses to the full set of questions in the Consultation Paper available here.

Alternatively, you may wish to complete the briefer online survey available here.

Please submit this form in Word format to Health.Climate.Consultation@health.gov.au.

Respondent details

What is your name?
[redacted]
What is your email address?
[redacted]
What is your organisation?
Medicines Australia
Have you read and agreed to the Privacy Statement? (NB we will not be able to use your submission unless you tick this box)
☒ I have read and agreed to the Privacy Statement
Do you identify as Aboriginal and/or Torres Strait Islander? (Yes/No/Prefer not to say)
[redacted]
Please select which applies to you: ☐ Individual citizen ☐ Health Service Provider ☒ Industry and Life Sciences Organisation or Representative ☐ Academic or Researcher ☐ Primary and/or Allied Health Peak or Advocacy Organisation or Representative ☐ Aged Care Service Provider ☐ First Nations Health Service Provider ☐ First Nations Community Group ☐ First Nations Peak or Advocacy ☒ Medical College or Peak professional body

Questions for feedback from the Consultation Paper

Introduction

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1. How could these objectives be improved to better support the vision of the Strategy?

The four proposed Objectives of the Strategy provide useful guidelines to enable the vision of protecting the health and well-being of Australians from the impacts of climate change.

Whilst sound, these Objectives could be improved by:

1. Defining different 'parts' of the health system, in order to quantify greenhouse gas emissions.
    - It is encouraging that Objective 1 identifies that greater granularity is needed in the measurement of emissions in the health system. This could be improved by identifying the different roles and capabilities of each individual part of the health system and their ability to identify their greenhouse gas emissions, such as public and private hospital systems, research and development companies, manufacturers and transport.
2. Identifying existing schemes or agencies that are best placed to measure the impact of other parts of the health system that sit outside of the Federal Government's responsibilities, such as the pharmaceutical industry.

These Objectives could also be improved by the identification of different targets for different greenhouse gases. '*Measuring health system greenhouse gas emissions'* is a sound objective. However, carbon dioxide makes up a vast majority of greenhouse gas emissions, methane and nitrous oxide also separately makeup 'greenhouse gas' emissions. Identifying the different gases and their interaction can help bring greater accountability in realising the vision of the Strategy.

Medicines Australia ('MA') note that in Australia, it is estimated that the healthcare sector represents 7.2% of the nation's total CO_2 emissions, with more than one-third of these emissions produced by public hospitals; this amount is further increased when capital expenditure is included. [Carbon emissions and public health: an inverse association? Peng Bi, Alana Hansen.]

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2. How could these principles be improved to better inform the objectives of the Strategy?

The Principles could be improved to better inform the Objectives of the Strategy through an expansion of Principle 6.

Whilst this Principle states that the Strategy will be informed by partnership-based working across all levels of government and beyond, this could be expanded into two separate Principles of:

1. *Partnerships between all levels of government* and,
2. *Partnerships of all levels of government with communities, patients, First Nations, not-for-profit organisations, peak bodies, private industry and education and research institutions.*

It is a necessary yet significant undertaking to ensure partnerships between all levels of government are implemented.

This would also ensure resources are better allocated to partnerships with the other external stakeholders, as mentioned above (such as state and territory-based mechanisms for the Objectives of the Commonwealth Strategy, following a federated agreement).

Additionally, Principle 6 could better inform the Objectives of the Strategy by including regular reporting provisions or consultation timelines.

Finally, Principle 4 - One Health, could be further expanded to specifically recognise the health of the environment, people and animals through the circular economy and increased focus on reducing the use of plastics in packaging, as well as improving pathways for recycling.

1. Action in this area will stand alongside climate change mitigation and adaptation to ensure that health for all can be achieved, not inhibited.
2. Following the recent release of The World Wildlife Fund Australia and Australian Marine Conservation Society's *Carbon Emissions Assessment of Australian Plastics Consumption* Report, it should be noted that plastic use is a significant contributor to climate change and impacts the health of the environment, people, and animals.

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3. Which of the various types of greenhouse gas emissions discussed above should be in scope of the Strategy's emission reduction efforts?

Nearly every industry around the world has one thing in common: the focus towards net zero. Medicines Australia (MA) members have been on this journey for several years.

The approach to meeting these commitments is multifaceted, noting that, as medicines and vaccines innovators, the footprint of many companies includes not just traditional office space but also research and development (R&D) laboratories, large-scale modern manufacturing, and extensive supply chain networks.

Across scopes 1 and 2, many members are adopting approaches that combine direct emissions reduction and energy efficiency with the decarbonisation of energy supplies.

This may include global initiatives that promote renewable energy while reducing and optimising energy consumption, designing new factories with low environmental footprints, and engaging employees in local action around the world.

Best practice examples from members include action as part of the RE100 initiative with public commitments to source 100% renewable electricity across all operations by 2030, investments in large-scale solar farms at R&D and manufacturing sites, and implementation of eco-fleets with investments in biofuel, hybrid and electric vehicles.

In addition, many MA member companies are working directly with global partners to reduce indirect or scope 3 emissions. Despite the complexity of scope 3 emissions, MA members report that many of their global parent companies have been taking action to understand and deliver change within scope 3 for several years.

The complexity of developing a robust methodology to determine scope 3 emissions should not be underestimated.

In 2021, a number of global pharmaceutical companies including those who are members of Medicines Australia, launched the ENERGIZE program. This aims to help global pharmaceutical supply chains to adopt 100% renewable electricity and reduce greenhouse gas emissions. This first-of-its-kind industry program enables pharmaceutical suppliers to learn more about renewable energy adoption and contracting. It gives suppliers – who may not otherwise have the internal resources or expertise available – the opportunity to participate in the market for power purchase agreements (PPAs).

Further to ENERGIZE, the global parents of six Medicines Australia members - AstraZeneca, Bristol Myers Squibb, GSK, Johnson & Johnson, Pfizer, and Sanofi - who are also Active Pharmaceutical Ingredients (API) suppliers have joined with Manufacture 2030 to deliver 'Activate' – an innovative new program to accelerate the decarbonisation of shared Active Pharmaceutical Ingredients (APIs) supply chains.

APIs, a key constituent in medicines and vaccines that produce the intended health effects, can be resource-intensive to manufacture due to material use, energy-demanding processes and waste recovery. The program, which begins with onboarding API suppliers, capturing footprint data, establishing a reference point baseline, and tackling the most prominent areas of environmental impact, supports the decarbonisation of a key segment of the pharmaceutical value chain through measurement, provision of practical tools, expert advice, and access to green financing.

Additionally, the *Sustainable Markets Initiative's Health Systems Taskforce* has identified several opportunities to deliver effective emissions reduction in these settings.

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In summary, Medicines Australia has identified that all 3 scopes of greenhouse gas emissions should be in scope of the Strategy's emissions reduction efforts in a staggered approach.

4. What existing First Nations policies, initiatives, expertise, knowledge and practices should the Strategy align with or draw upon to address climate change and protect First Nations country, culture and wellbeing?

MA supports the recognition, within the National Health and Climate Strategy Consultation Paper, of First Nations peoples' unique connection with the land and waters, which is central to their spirituality.

We acknowledge that climate change has and will continue to exacerbate the health inequities experienced by First Nations people, including damage caused to the environment and disconnection from culture and spirituality.

The *Close the Gap Campaign Report 2022* notes that climate change is already having a disproportionate impact on the health and well-being of Aboriginal and Torres Strait Islander peoples and exacerbating health inequity.

As an industry, we understand our position to support the unique health and climate change challenges that Aboriginal and Torres Strait Islander peoples will face over the coming decades. We also recognise that the expertise and knowledge to identify culturally appropriate solutions must be self-determined and Aboriginal and Torres Strait Islander-led.

5. What types of governance forums should be utilised to facilitate co-design of the Strategy with First Nations people to ensure First Nations voices, decision-making and leadership are embedded in the Strategy?

Medicines Australia (MA) and many of its member companies support a constitutionally enshrined First Nations Voice to Parliament, as outlined in the *Uluru Statement from the Heart*. This is one forum which could be utilised to co-design the Strategy with direct input from First Nations peoples.

Medicines Australia also note the call, within the *Close the Gap Campaign Report 2022*, for large-scale systemic reform and a paradigm shift in policy design and delivery to truly empower Aboriginal and Torres Strait Islander peoples. MA supports these reforms and policy changes as an additional means to facilitate co-design of the Strategy.

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Proposed Objective 1: Measurement

6. Beyond the schemes already noted above, is your organisation involved in any existing or planned initiatives to measure and report on health system emissions and/or energy use in Australia?

Medicines Australia (MA is the peak industry association for the research-based medicines industry in Australia. Medicines Australia has a dedicated Medical Sustainability Group of member companies that meets regularly, with focus areas of:

- emissions reduction;
- waste reduction;
- sustainability of supply chains;
- supporting the Australian Government in achieving its targets under the *Paris Agreement*; and,
- partnering with the Australian Government Department of Health and Aged Care.

The Medicines Australia Medical Sustainability Group's first meeting in June 2023 included members from AstraZeneca, Sanofi, Bayer, Novo Nordisk, Roche, Alexion, Amgen, Bristol Myers Squibb, AbbVie, Novartis and Organon.

These members have agreed to share examples of sustainable adaptation measures on an in-company basis. This is to facilitate peer-based knowledge sharing within the pharmaceutical sector. In doing so, the industry strives to be a leader in implementing sustainability metrics, specifically with regard to climate and health.

The MA Medical Sustainability Group seeks to position the pharmaceutical sector as a leader within Australia's healthcare industry in striving for emissions mitigation and adaptation and to optimise human health in response to climate change-related health challenges.

Additionally, Medicines Australia members have been on this journey for several years.

Across scopes 1 and 2, many MA members are adopting approaches that combine direct emissions reduction and energy efficiency with the decarbonisation of energy supplies.

This may include global initiatives that promote renewable energy while reducing and optimising energy consumption, designing new factories with low environmental footprints, and engaging employees in local action around the world.

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7. What additional data and information is required to support targeted emissions reduction efforts within health and aged care?

Noting existing research, which estimates that the healthcare sector represents 7.2% of the nation's total CO_2 emissions, with more than one-third of these emissions produced by public hospitals, more so if capital expenditure is included [Carbon emissions and public health: an inverse association? Peng Bi, Alana Hansen], Medicines Australia (MA) supports the government's focus on understanding the importance of addressing scope 1 and 2 emissions.

Additionally, MA notes the impact the government can have on addressing scope 1 and scope 2 emissions within the primary and community care, secondary and tertiary care, and aged care sectors.

Regarding MA member emissions, we note the extensive work already underway within industry globally and locally to reduce emissions and overall impact on the planet. This work is occurring across four key areas:

1. Pharmaceutical companies' domestic footprint – energy efficiency, vehicle fleet parameters, travel considerations and waste policies.
2. Research and development and manufacturing – package design, facility-level energy efficiency, workforce considerations and investment.
3. Distribution – transportation efficiency, packaging, and storage.
4. Post-consumer responsibility – education and recycling.

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Proposed Objective 2: Mitigation

8. What do you think of these proposed focus areas for emissions reduction? Should anything else be included?

The Consultation Paper already outlines a number of opportunities for Australian hospitals and other health service providers to reduce emissions. Further to those noted, the *Sustainable Markets Initiative's Health Systems Taskforce* has identified a number of opportunities to deliver effective emissions reduction in these settings.

Of particular relevance to the Strategy are opportunities related to Digital Healthcare and Patient Care Pathways. Digital innovation and technology may represent an opportunity to accelerate the shift to net zero across the sector. Areas of focus may include incentivising innovation and increasing regulatory harmonisation for digital technologies used in healthcare delivery.

Regarding patient care pathways, areas of focus for the Strategy may include opportunities for greater investment in prevention, early detection and diagnosis, and optimising care to improve outcomes for patients, health systems, the environment and society at large.

In Australia, it is estimated that the healthcare sector represents 7.2% of the nation's total CO_2 emissions, with more than one-third of these emissions produced by public hospitals, more so if capital expenditure is included [Carbon emissions and public health: an inverse association? Peng Bi, Alana Hansen].

MA recognises the impact of medicines and device supply chain emissions within the healthcare industry and is supportive of the extensive work already underway globally and locally by its members to reduce supply chain-associated emissions.

Any future considerations to develop transparency or other reporting requirements related to supply chain emissions should be considered in close partnership with the industry to confidently understand the unique features of Australia's medicines and vaccines supply chain challenges, as well as the work already underway by the industry to reduce associated emissions.

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9. Which specific action areas should be considered relating to the built environment and facilities (including energy and water), over and above any existing policies or initiatives in this area?

Medicines Australia (MA) commends the Australian Government's work on several initiatives, including the *Trajectory for Low Energy Buildings* national plan under the *National Energy Productivity Plan* (NEPP), as well as *National Australian Built Environment Rating System* (NABERS), *Commercial Building Disclosure* (CBD), and *Small-scale Renewable Energy Scheme* (SRES).

As has been suggested to the Department of Health and Aged Care and summarised in the Consultation Paper, the identification and use of policy levers to decrease emissions from the operation of the built environment and facilities through transitions towards renewable energy sources is highly prudent. This should be considered above other existing policies or initiatives in the area.

There is a significant opportunity for Australian hospitals and other health service providers to reduce direct emissions via programs that many private sector organisations have long been embracing. These may include:

- Capital programs to improve the overall energy efficiency of built environments;
- Reducing energy consumption;
- Harnessing green energy, and utilising green patient transportation fleets;
- Embracing digital technologies, prevention, early detection, and care programs to reduce emissions within patient care pathways.

The Strategy should consider the additional specific action areas of encouraging innovation in medicines, medical equipment manufacturing and storage facilities. These facilities sit outside the built environment specifically noted by the Consultation Paper (public hospitals and residential aged care facilities) yet are areas of significant capability for innovation.

10. Which specific action areas should be considered relating to travel and transport, over and above any existing policies or initiatives in this area?

Medicines Australia (MA) notes the important work undertaken by the Australian Government in releasing Australia's first National Electric Vehicle Strategy in 2023 and echoes calls for the adoption of national Fuel Efficiency Standards.

As prioritised by South Australia's chapter of the National Electric Vehicle Strategy's detailed *State and Territory Actions,* policymakers should aspire to fully electric commercial fleets to be a 'normal part of doing business.' Furthermore, the Australian Capital Territory Government's commitment to incentivise zero-emission vehicle purchases could be adopted at a national level, specifically for commercial fleet vehicles.

Already, MA's member company AstraZeneca has announced that all field-based employees in Australia will be transitioning to battery electric vehicles (BEVs) at the change over time of their current vehicle. Similarly, member company Sanofi completed its fleet transition to hybrid electric vehicles in 2022. Furthermore, many other MA member companies are in the process of switching their company owned fleets to 100% electric vehicles in addition to providing an incentivisation scheme for privately owned vehicles to switch away from combustions engines. These significant steps could be replicated across health-adjacent industries at a rapid pace with incentivisation programs for commercial fleets of a certain capacity. This may also assist with more rapid implementation of infrastructure related to electric and hybrid vehicles, such as the proliferation of charging stations, which will have a flow-on impact on greenhouse gas emissions nationally.

11. Which specific action areas should be considered relating to supply chain, over and above any existing policies or initiatives in this area?

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The Australian medicines and pharmaceutical market will always depend on global supply chains, as was evident during the COVID-19 pandemic. Supply chains are an integral consideration for all manufacturing, industry, and commercial undertakings. The pharmaceutical industry is required to manage multiple temperature-controlled environments, the need to expedite access for sometimes lifesaving therapies despite large distances, and disruptions resulting from geopolitical or global market forces. These are just some of the challenges managed by Australian supply chain experts daily.

Supply chains are particularly exposed to the effects of climate change, such as increasingly frequent and intense natural disasters, heightened geopolitical tensions, water shortages and more. However, due to the relatively small size of the Australian pharmaceutical market (representing just 1–2% of the global market), the nation will continue to be reliant on an efficient, resilient, and appropriately regulated global supply chain for medicines and vaccines.

Disruptions to this global supply chain will have impacts on logistics decisions within the local market. For example, a disruption to the supply of a lifesaving therapy in Europe may create global supply chain disruption that would require speed to access to become a primary goal once the product reaches Australia. In this instance, a faster but potentially more emissions-intensive transport option may be chosen to meet patient needs. Aligned with the aims of Australia's National Medicines Policy, supply chain decisions will always be made with a 'patient safety first' lens.

Medicines Australia members are already reducing their scope 3 supply chain-related emissions.

To minimise the environmental footprint relating to transportation, medicines companies actively consider a range of approaches, including:

- Choosing sea instead of air freight for long-distance consignments;
- Increasing the level of occupancy for truck and sea containers;
- Utilising railway transportation; and
- Consolidating flows to reduce the number of trucks on the road.

12. Which specific action areas should be considered relating to medicines and gases, over and above any existing policies or initiatives in this area?

Medicines Australia notes several instances of pMDIs manufacturers taking steps to launch new innovations that achieve a significant reduction in the carbon footprint onset by manufacturing the inhalers.

Additionally, the Strategy should prioritise the education of primary care practitioners and patient and consumer advocates on these ambitions, as well as the safety of these ambitions.

Finally, funding allocation towards such education and training would increase the speed and confidence with which such alternatives were recommended or advocated for in a clinical setting.

13. Which specific action areas should be considered relating to waste, over and above any existing policies or initiatives in this area?

Medicines Australia (MA) recognises the opportunities for some aspects of waste management to be addressed by circular solutions so that material historically viewed as

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waste is reused, recycled, or recovered. However, we believe the primary goal should be the removal of hard-to-recycle materials from product design.

As an industry, the pharmaceutical sector is committed to the mitigation of waste streams, both non-hazardous (packaging, sanitary items and food and drink) and hazardous (including pharmacy-specific products including discarded sharps, IV fluid and unused medicines, and anatomical waste).

We support the recommendation put forward in the Strategy Consultation Paper that innovative approaches to the responsible management and minimisation of waste within the health system should be explored, as has been proposed to the Department of Health and Aged Care.

Within the framework of safety, quality, and regulatory requirements, several MA member companies are still delivering significant, globally leading eco-design programs to reduce the environmental footprint of different packaging options.

Eco-design can be measured by Life Cycle Assessments (LCAs) – a standardised international method for assessing the quantifiable effects on the environment of a service or product from the extraction of materials up to the end-of-life. LCAs provide a common basis for consistent, robust, and quality-assured life cycle data, methods, and assessments.

The outcomes of these eco-design programs may include new packaging options that no longer include hard-to-recycle materials, such as blister packs, a shift to recycled or more easily recyclable materials, and a reduction in overall packaging size and weight.

For example, member company Sanofi's most recent vaccine launched in Australia does not contain traditional plastic blister packing. Instead, it uses eco-design packaging that is more compact and uses recycled cardboard that can be recycled again after use.

As an industry, we seek to move towards a mature circular economy that is assisted by the facilitation of a commercially sensitive, collaborative taskforce between our sector, the Australian Government, the Department of Health and Aged Care and community representatives.

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14. Which specific action areas should be considered relating to prevention and optimising models of care, over and above any existing policies or initiatives in this area?

In relation to preventative care, some of the largest innovative vaccine researchers, developers and manufacturers are members of Medicines Australia. This makes them well-positioned to provide scientifically sound insights into the links between the triple

planetary crisis (pollution, climate change and biodiversity loss) and the increased threat of vaccine-preventable diseases.

There is no doubt that pressure on ecological systems is causing changes to vector ecology. More favourable conditions caused by warm temperatures and changes in human behaviours infringing on natural habitats are encouraging vectors to spread to new geographic areas. Outbreaks of diseases are becoming more persistent and frequent. It has been estimated that, over the next 30 years, nearly half a billion more people could be at risk of contracting mosquito-borne diseases worldwide.

In addition, pandemic pathogens from zoonoses, such as coronaviruses and influenza viruses, are directly impacted by the environment. Loss of well-established ecological frameworks, biodiversity degradation, and the continued rise of intensive animal farming has led to increased human-to-animal interactions and a growing trend of emerging zoonotic diseases. It is estimated that 75% of emerging diseases are zoonotic.

Vaccines remain the best public health response to this challenge. Australia's ability to access both current vaccines and new or emerging vaccines within a competitive global market will be important as the impacts of the triple planetary crisis are more keenly felt in the coming decades.

Given that the overarching purpose of the Strategy will be to protect the health and well-being of Australians from the impacts of climate change, sharing relevant insights related to the increasing risks associated with vaccine-preventable disease and how ongoing health technology assessment (HTA) related access challenges may impact Australia's readiness to respond, will be important.

The establishment of an Australian Centre for Disease Control (CDC) should seek to emulate the United States CDC so that it becomes a source of truth and expertise in optimising public health and climate policies.

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15. What can be done to involve private providers within the health system in the Strategy's emissions reduction efforts?

The involvement of private providers within the health system in the Strategy's emissions reduction efforts should be grounded in a holistic view of the Australian health system. There are several ways in which parts of the health system interact and intersect that could serve as a mechanism for the involvement of private providers.

The pharmaceutical industry interacts with both public and private health providers. Initiatives at the pharmaceutical manufacturing, transport and organisational level can assist private providers to gain an understanding of the mechanisms available to them.

Additionally, both public and private health providers can be encouraged to make investments in low-emissions operations through government support. Such support would be best placed to incentivise the uptake of low-emissions technologies at a private facility and organisational level.

When multiple stakeholders are involved in the development of lower emissions models of care, this can be replicated across the various models of health system provision.

16. Where should the Strategy prioritise its emissions reduction efforts?

a. How should the Strategy strike a balance between prioritising emissions reduction areas over which the health system has the most direct control and prioritising the areas where emissions are highest, even if it is harder to reduce emissions in these areas?

b. Which of the six sources of emissions discussed above (on pages 13 to 18 of the Consultation Paper) are the highest priorities for action?

a. The Strategy should prioritise its emissions reduction efforts in evidence-informed policy changes that can be replicated across multiple sectors. For example, there is an outsized and present opportunity for hospital and care providers to reduce emissions within their scope 1 and 2 frameworks.

b. Medicines Australia notes that *built environment and facilities* and *waste* are the highest priorities for action.

17. What 'quick wins' in relation to emissions reduction should be prioritised for delivery in the twelve months following publication of the Strategy?

It is clear that Australians are already experiencing the impacts of climate change on health and well-being.

As noted by the Strategy, air pollution attributed to climate change exacerbates a variety of respiratory conditions, including asthma and lung cancer. Additionally, climate change

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is expected to affect health outcomes across a number of disease states including inflammatory diseases such as severe dermatological and respiratory illness, non-communicable disease, vector borne infectious diseases, zoonoses, and a rise in allergies. It is also expected to impact on mental health, productivity and workforce conditions, housing, infrastructure, and population displacement.

As the Australian Government is undertaking sector-wide reform, from the National Cancer Plan to the National Mental Health & Suicide Prevention Strategy, the Health Workforce Strategy implementation, and the Health Technology Assessment (HTA) Review, there are multiple opportunities for climate change impacts and mitigation considerations to be included at the forefront of reform.

For example, Australia has already acknowledged that its HTA, which hasn't been formally reviewed in 30 years, requires review. The current Review of Australia's HTA represents an important opportunity for the nation to not only consider modernisation for today but also readiness over the coming decades as the impacts of a changing climate are more keenly felt.

It will be important that the Australian Government and the Department of Health and Aged Care work closely with industry in this regard. A modernised HTA, effective horizon scanning for emerging innovations, and a collaborative culture of working towards shared value outcomes will support Australia's success as a first-launch market, able to attract and retain access to medicines and vaccines in a changing world.

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Proposed Objective 3: Adaptation

18. What health impacts, risks and vulnerabilities should be prioritised for adaptation action through the Strategy? What process or methodology should be adopted to prioritise impacts, risks and vulnerabilities for adaptation action?

As noted in the Consultation Paper, climate change can impact health directly through injury and death resulting from extreme weather events and indirectly through increased vector-borne diseases and mental health issues.

From the list of negative health outcomes related to climate change outlined in the Consultation Paper, Medicines Australia recommends the following be prioritised:

- Zoonoses and vector borne disease;
- Respiratory illness (and other inflammatory diseases);
- Heat-related illness;
- Non-communicable diseases; and
- Mental and psychosocial health.

19. Should the Australian government develop a National Health Vulnerability and Adaptation Assessment and National Health Adaptation Plan? If yes:

a. What are the key considerations in developing a methodology?

b. How should their development draw on work already undertaken, for example at the state and territory level, or internationally?

c. What are the key areas where a national approach will support local/jurisdictional vulnerability assessment and adaptation planning?

Noting the Roles and Responsibilities for Climate Change Adaptation in Australia Framework, which guides cross-government cooperation, Medicines Australia supports the development of a National Health Vulnerability and Adaptation Assessment and the National Health Adaptation Plan.

a. As noted in the Consultation Paper, it is essential that an effective health system adaptation plan be grounded in a clear understanding of:

- Extreme climate events;
- Gradual climate changes; and
- Direct and indirect climate health and wellbeing impacts.

b. Through established mechanisms, such as National Cabinet and Ministerial Councils, guidance and information sharing on how to test and implement a National Health Vulnerability and Adaptation Assessment and the National Health Adaptation Plan could be achieved.

c. As outlined in the Roles and Responsibilities for Climate Change Adaptation in Australia framework, information sharing, setting the right conditions, and appropriate management of public assets and services are key areas where a national approach will support local/jurisdictional vulnerability assessment and adaptation planning.

20. Would there be value in the Australian government promoting a nationally consistent approach to vulnerability assessment and adaptation planning for the health system specifically, for instance by issuing guidance and associated implementation support tools for states, territories and local health systems? If yes, what topics should be covered to promote a nationally consistent approach? What examples of existing guidance (either from states/territories or internationally) should be drawn from?

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Vulnerability to climate change varies across time and location, across communities, and among individuals within communities. It reflects variations and changes in macro-scale non-climatic factors (such as changes in population, economic development, education, infrastructure, behaviour, technology, and ecosystems) and individual or household-specific characteristics (such as age, socioeconomic status, access to livelihood assets, pre-existing health condition's ability) (US Global Change Research Program, 2016; Chapter 1).

The Australian Government's commitment to measuring what matters to improve the lives of Australians through a 'Wellbeing Budget' could provide a nationally consistent approach. The Department of the Treasury notes that several countries have developed ways to measure progress and wellbeing. While methods vary, they tend to assess similar economic, social, and environmental outcomes. Some countries are experimenting with more direct processes by linking progress indicators to priority and policy setting.

Currently, the Australian Government and state and territory governments publish many indicators in reports, agreements, and dashboards. These publications support decision-making and accountability for policy areas.

Possible topic areas – as outlined in the Federal Government's Wellbeing Budget (2022).

- Exposure to outdoor air pollution;
- Greenhouse gas emissions;
- Access to green space; and
- Red List Index of threatened species.

In summary, there is significant value in the Australian government promoting a nationally consistent approach to vulnerability assessment. Medicines Australia proposes that this is best facilitated through the Australian Government's Wellbeing Budget.

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21. What immediate high-priority health system adaptation actions are required in the next 12 to 24 months?

Medicines Australia (MA) commends the Strategy's commitment to increased collaboration between key stakeholders, including the adoption of best practice approaches and reducing duplication of effort.

Noting existing research, which estimates that the healthcare sector represents 7.2% of the nation's total CO_2 emissions, with more than one-third of these emissions produced by public hospitals, more so if capital expenditure is included [Carbon emissions and public health: an inverse association? Peng Bi, Alana Hansen], MA supports the government's focus on understanding the importance of addressing scope 1 and 2 emissions.

MA notes the impact the government can have on addressing scope 1 and scope 2 emissions within the primary and community care, secondary and tertiary care and aged care sectors.

Many MA member companies are working directly with global partners to reduce indirect or scope 3 emissions. Despite the complexity of scope 3 emissions, MA members report that many of their global parent companies have been taking action to understand and deliver change within scope 3 for several years.

Expanding capabilities to tackle waste at both the manufacturing and post-commercial level is a 2 to 3 year ambition.

MA notes that the Strategy's identified enablers of *communication and engagement* and *collaboration* are key drivers to the actioning of such ambitions.

Discussion and close collaboration with all industries in the healthcare sector will be key.

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Proposed Objective 4: Health in All Policies

22. What are the key areas in which a Health in All Policies approach might assist in addressing the health and well-being impacts of climate change and reducing emissions?
A Health in All Policies approach would incorporate the broader determinants of health in policymaking across government.

It would assist in addressing the health and well-being impacts of climate change and reducing emissions by considering the linkages between the wider determinants of health.

Additionally, Medicines Australia notes the World Health Organization (WHO) Health Impact Assessment (HIA) tool and methodology outlined in the Consultation Paper. The establishment of a governance mechanism that understands and can effectively assess health impact across broader policy (such as transport, infrastructure and education) will lead to more effective and holistic policy development, implementation and assessment.

Furthermore, we commend the Strategy's acknowledgement of the important overlap between a Health in All Policies framework and the Principle of One Health. The One Health approach to mobilising multiple sectors, disciplines, and communities to ensure that, among other priorities, environmental degradation is mitigated should be a key area of focus for a Health in All Policies approach.

23. What are the most effective ways to facilitate collaboration and partnerships between stakeholders to maximise the synergies between climate policy and public health policy? What are some successful examples of collaboration in this area?

The health of the planet and the health of people are intrinsically linked.

As the climate changes, human health will be directly and indirectly impacted by the increased prevalence and severity of existing or emerging diseases. This global threat requires action from all key stakeholders, including academics, policymakers, civil society, and business leaders. At present, more than 60 countries have committed to achieving sustainable low-carbon health systems by 2030 and net zero in 2045 through the WHO Alliance for Transformative Action on Climate and Health. Pharmaceutical companies are playing a key role through innovation and access to essential immunisation solutions and medicines.

In our experience, the most effective way to facilitate collaboration and partnerships between stakeholders to maximise the synergies between climate policy and public health policy is through a shared understanding of the common ways in which stakeholders would like to see change in the health sector.

An example of such work is the Medicines Australia Medical Sustainability Group. Collaboration at an industry level ensures greater efficiencies when collaborating with the government on its key priorities, such as its legislated targets under the *Paris Agreement*.

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Enablers

24. How could these enablers be improved to better inform the objectives of the Strategy? Should any enablers be added or removed?

Each of these enablers are sound indicators of the work needed to be done.

We suggest that formal collaboration should not just be instituted between cross-jurisdictional government policy spaces but with industry, consumer organisations, and businesses.

Enabler 2: Research

- Through the formation of a collaborative taskforce, which facilitates peer-based knowledge sharing of innovative emission reduction measures.

Enabler 5: Monitoring, Evaluation and Reporting

- Through the formalisation of indicators that monitor the deliverables of collaborative initiatives, such as the monitoring of data and knowledge sharing between industries.

25. For each of these enablers:
a. What is currently working well?
b. What actions should the Strategy consider to support delivery?

Enabler 1:

a. There have been positive steps taken towards raising public awareness of the health impacts of climate change.
b. The Strategy should consider facilitating training.

Enabler 2:

a. Through the consideration of health and climate research as an investment, the Strategy is well-placed to develop evidence-based policy.
b. The Strategy should consider commissioning a landscape assessment of the Australian health landscape and its emissions.

Enabler 3:

a. N/A
b. The Strategy should consider establishing an advisory committee to support communication pathways to the public, business leaders, patient groups, and consumer organisations.

Enabler 4:

a. The facilitation of working partnerships is commendable.
b. These partnerships should be a priority of the Strategy.

Enabler 5:

a. The recommendations pertaining to the final enabler are sound.
b. N/A

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Thank you for taking the time to complete this survey – your feedback is greatly appreciated!

Please submit this form in Word format to Health.Climate.Consultation@health.gov.au.

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SaxInstitute

24 July 2023

National Health, Sustainability and Climate Unit
Department of Health and Aged Care
GPO Box 9848
Canberra ACT 2601
Via email: Health.Climate.Consultation@health.gov.au

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To the National Health, Sustainability and Climate Secretariat,

Re: Consultation on the National Health and Climate Strategy

The Sax Institute welcomes the Australian Government's proactive approach to climate change and health, and we are supportive of the establishment of the National Health, Sustainability and Climate Unit to drive the development of Australia's first National Health and Climate Strategy.

The Sax Institute – who we are

The Sax Institute is an independent, not-for-profit organisation that improves health and wellbeing by driving better use of evidence in policies, programs and services. The Sax Institute has an international reputation as an evidence specialist and is a world leader in driving the use of research evidence in policy making. The Institute works with governments, health organisations, research organisations and a network of experts nationwide to analyse policy problems and find the best evidence-based solutions. The Sax Institute recognises the enormous impact that climate change could have on human health and the health sector more broadly. We will continue to work closely with our partners, health decisions makers and all levels of government to identify and respond to the challenges of climate change.

Consultation Paper Comments

Vision, objectives and principles

- We support the proposed Strategy's overarching purpose – to protect the health and wellbeing of Australians from the impacts of climate change.
- We are supportive of the proposed high-level principles for the Strategy. The principles could be strengthened through incorporating a whole-of-system lens. The complexity associated with protecting the health and wellbeing of Australians while developing a climate resilient health sector cannot be understated. Any approach underpinned by well-established systems science will not only reduce complexity and generate insights but will provide a framework to help optimise the response while minimising unintended consequences. The inclusion in the Consultation Paper of the One Health principle and Health in All Policies, and consideration of the wider determinants

of health, reflect this kind of thinking but we believe it will be useful to specifically articulate systems thinking and complexity science concepts in the approach.

Greenhouse gas emission sources

- We support the inclusion of Scope 1, Scope 2 and Scope 3 emissions so that a complete assessment of the health sector's contribution to greenhouse gas emissions can be understood, and mitigation measures can be prioritised and targeted most effectively.
- Setting appropriate and practical system boundaries will be essential when measuring emission sources, and it will be important for the Strategy to provide health-sector specific advice on this issue.

First Nations health and climate change

- We acknowledge the role of colonisation in driving climate change and health inequities for First Nations peoples in Australia and we are strongly supportive of First Nations knowledge and experience being central to decision-making on climate and health policy at all levels. The Sax Institute has a longstanding commitment to improving First Nations communities. We believe privileging their knowledge and expertise will be essential to co-create responses to climate health challenges that directly and effectively meet the needs of First Nations communities and policy makers. For these reasons we suggest the following:
    - First Nations representation should be made mandatory on all working groups and panels addressing the health and climate strategy. A dedicated First nations Advisory Group should be established to review and provide input into each iteration of the strategy.
    - The Government should support existing, community-led, low carbon footprint initiatives and priorities at a local level aimed at improved health outcomes and closing the social equity gap.
    - The role of Aboriginal Community Controlled Health Services cannot be overstated. During COVID, ACCHSs delivered appropriate targeted responses. ACCHSs have a role in ensuring social housing is climate-safe (recent exemplars include Tharawal ACCHSs becoming a Tier 3 housing provider) as well as in improving food insecurity through traditional ways of caring for country, thereby building resilient communities.
    - The First Nations health workforce must be strengthened both to improve health outcomes through participation in preventative programs and understand and be prepared to deal with climate change. Prioritising First Nations ways of knowing, being and doing in land use management is one example of how this can be done.
    - Since transport is a significant enabler for community participation in preventive (and curative) health, strategies to reduce emissions in primary health care vehicles in urban and regional areas would be an important step. Increasing Telehealth opportunities are also important; being able to deliver video consultations with specialists in regional centres mitigates the need to travel long distances or a consult.

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Objectives 1 and 2 – Measurement and Mitigation

- We are strongly supportive of the need to measure and mitigate emissions from the health system, noting that it will be important to ensure that any mitigation measures implemented as part of the Strategy be designed so that there is no impact on the quality of care provided to patients. Systems science and participatory modelling can be particularly effective in designing and understanding the effectiveness of mitigation measures while balancing safety and quality of care.
- Rigorous evaluation approaches for all proposed measures will also need to be implemented as part of project design. This will help evaluate the effectiveness, impact and cost benefit of any mitigation measures while demonstrating the importance the Government place on outcomes.
- To support the measurement and mitigation approach outlined in the paper, we suggest a specific health sector emissions target be developed. A clear, well communicated health sector emissions target could provide a unifying focus for the Strategy, allow more precise development and implementation of actions against timeframes and provide an objective metric by which to measure success.
- Any measurement and mitigation measures should leverage the work already being done in jurisdictions around Australia and by the private sector. There are also many examples of proactive emissions mitigation efforts in international jurisdictions from which valuable lessons can be learned. The United Kingdom's National Health Service for example, is a leader in this regard.

Objective 3 – Adaptation

- As the purpose of the proposed Strategy is to protect the health and wellbeing of Australians from the impacts of climate change, it is suggested that 'adaptation' be given greater prominence in the strategy. Without understating the importance nor urgency of measurement and mitigation measures, addressing and adapting to climate change health threats will arguably be the most pressing challenge in coming years as more frequent and extreme weather events impact a health sector that is largely underprepared.
- The Consultation Paper lists examples of acute and chronic climate change impacts on human health and the healthcare sector, but there is very limited mention of transitional risks. These risks reflect the way in which the health sector manages and adapts to the transition to a lower emission future. Depending on the rate of adaptation, transitional risks may influence structural change in the health sector which could have negative flow-on effects. The Strategy would benefit from considering some of these risks and the impact they may have on patient outcomes.
- Climate change could result in substantial negative human health impacts and risks the effective delivery of health services. There is however currently no national risk and vulnerability assessment that clearly articulates the frequency, magnitude and specific characteristics of these risks. For these reasons we are strongly supportive of the development of a National Health Vulnerability and Adaptation Assessment and National Health Adaptation Plan. It is important that this work be coordinated with existing processes underway such as the existing vulnerability assessments undertaken by other jurisdictions and the National Climate Risk Assessment and the National Adaptation Plan. As part of this work, and where possible, harnessing local climate data

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to inform region-specific models of the potential impact of climate change (as these currently rely on the downscaling of global climate model data) will be beneficial. The use of locally relevant and practically useful climate data to predict the frequency and severity of extreme events will inform the best adaptation approaches.

- Health services will need to be aware of local population vulnerabilities and develop genuine partnerships with at-risk communities to improve inclusive planning and health system resilience. It will require local data and knowledge to characterise regional population health risks as well as increased collaboration and integration across different levels of the health system (population health, health promotion, primary care, hospitals) and across different levels of government - drawing on existing climate adaptation planning by other departments to ensure a whole-of-system approach.
- There is also currently a lack of modelling to provide practical guidance on the additional surge capacities required of the health system across key service areas: ambulance, emergency and acute care, routine care, and primary, population and preventive health - at local, regional, state and national levels.
- Research and evaluation on effective approaches to strengthen the adaptive capacity and resilience of the community and individuals will be an important area of future research. Central to this requirement will be the need to leverage and translate the existing evidence research base and to synthesise and communicate outputs to health decision makers to inform evidence-based solutions.
- Improved surveillance systems covering extreme weather e.g. arbovirus environmental monitoring and heatwave warning systems, along with appropriate public health messaging, will facilitate preparation and planning for health system surge capacity. Given the need for multi-sectoral approaches, clear governance processes will be required along with strategic allocation of resources and flexibility in their distribution across departments and administrative boundaries.
- With regard to what methodology should be adopted to prioritise the impacts, risks and vulnerabilities for adaptation action, we would recommend the use of dynamic simulation modelling. System dynamics, discrete event simulation and agent-based modelling are all forms of simulation modelling that are based on systems science theory. They are simplified, computer-generated representations of complex systems which let us explore the way those systems behave and change over time along with the impact of different interventions. These modelling techniques provide a clearer understanding of how complex systems might behave under different conditions. Dynamic simulation models not only can be used to identify risks and vulnerabilities but can be used to test scenarios and assess the outcome of changes to policies and the introduction of new initiatives.

Objective 4: Health in All Policies

- We are strongly supportive of the inclusion of the Health in All Policies objective. As stated in the Consultation Paper, climate change will impact many elements associated with 'the wider determinants of health' for which many decisions are made outside of traditional health policy. By taking a holistic view of how health fits into broader Australian society, we will have the best chance to identify levers and priority areas for action that will drive the greatest changes.

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Importantly, a Health in All Policies approach will help ensure that decisions taken beyond the health sector reduce the impact of unintended consequences when new policies are implemented across different agencies.

- A coordinated Health in All Policies approach could also help identify and realise co-benefits for the health sector that could accrue as part of its transition to a carbon constrained future. These co-benefits could see efficiencies in health service delivery that could ultimately save money and improve patient outcomes.

Enablers

- We support the inclusion of the Enablers listed in the Consultation Paper. The Sax Institute has a long history of developing, delivering and evaluating best-practice approaches to health research and decision-making and we recognise that the proposed Enablers - workforce, leadership and training, research, communication and engagement, collaboration, monitoring and evaluation – will all be essential in supporting the broader aspirations of the Strategy and enabling successful implementation of any measures that are developed.
- We recommend that evaluative considerations be included in the development stage of any proposed action to ensure clarity of outcome measurement, data collection and data availability. We also suggest that evaluation activity incorporate, where possible, emerging systems-informed evaluation methods and approaches.

Thank you again for the opportunity to provide a submission to the National Health and Climate Strategy Consultation Paper. If you have any questions regarding our submission, [redacted]

Yours sincerely



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NATIONAL HEALTH AND CLIMATE STRATEGY

Detailed submission form

This form allows you to provide responses to the full set of questions in the Consultation Paper available here.

Alternatively, you may wish to complete the briefer online survey available here.

Please submit this form in Word format to Health.Climate.Consultation@health.gov.au.

Respondent details

What is your name?
[redacted]
What is your email address?
[redacted]
What is your organisation?
First Peoples Disability Network
Have you read and agreed to the Privacy Statement? (NB we will not be able to use your submission unless you tick this box)
☒ I have read and agreed to the Privacy Statement
Do you identify as Aboriginal and/or Torres Strait Islander? (Yes/No/Prefer not to say)
[redacted]
Please select which applies to you: ☐ Individual citizen ☐ Health Service Provider ☐ Industry and Life Sciences Organisation or Representative ☐ Academic or Researcher ☐ Primary and/or Allied Health Peak or Advocacy Organisation or Representative ☐ Aged Care Service Provider ☐ First Nations Health Service Provider ☐ First Nations Community Group ☒ First Nations Peak or Advocacy ☐ Medical College or Peak professional body

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Questions for feedback from the Consultation Paper

Introduction

1. How could these objectives be improved to better support the vision of the Strategy?
Measurement: Measurement needs to be timely, transparent in its processes, and available to stakeholders and the broader Australian population. The measurement is to be ongoing and regular evaluations on the measurement process need to occur to ensure that the right objectives are being measured. **Mitigation:** Adequate and sustainable funding needs to be available and accessible to healthcare services, particularly Aboriginal Community Controlled Health Organisations (ACCHO's). Likewise, education and training around how the funding can be used needs to be provided so that greenhouse gas emissions can be reduced from the health system. **Adaptation:** To achieve resilience within communities, Traditional Owners of Country should have greater authority over resilience and adaptation measures adopted on their Country, compared to those of others' Country. This is particularly important for First Nations (Aboriginal and Torres Strait Islander) communities who are often marginalised and disadvantaged when it comes to health care and the impacts of climate change. When engaging with First Nations communities it is important to do this in a culturally safe manner, building trust over time and develop a mutually beneficial relationship, and to provide information back to community about how the outcomes of co-design are going to be used. Information must be accessible to local communities in language, including First Nations languages and Auslan. Co-design is to be ongoing, transparent, and each member has equal status and voice. **Health in all policies:** Best practice principles need to be developed so that objectives and goals are visible and achievable. These principles include: • anti-racism principles • trauma-informed care • preventative care
2. How could these principles be improved to better inform the objectives of the Strategy?
First Nations leadership: It is vital to recognise First Nations people as custodians of the land possessing knowledge passed down through generations and communities that is specific to the area that they live on. This intergenerational knowledge is in the best interests of the land, the community, and the broader Australian population in managing and mitigating the effects of climate change.

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Acknowledging First Nations leadership and working with First Nations leaders needs to be done in a culturally safe manner and with respect. Each First Nations community may have different ideas of cultural safety and it is important to be aware of this before engaging with community.

First Nations Disabled Leadership also needs to be acknowledged. The disabled community is most at risk in pandemics and through climate change. Listening to, and learning from, this cohort is of vital importance as the issues of climate change directly impact this group.[1]

Both past and ongoing experiences with government continue to disempower First Nations people and lead to intergenerational trauma and dispossession of land, culture, language and family. By engaging in a culturally safe manner, government can show a commitment to reconciliation with First Nations people.

Health inequities:
First Nations people are often marginalised and discriminated against within the health system, leading to a lower life expectancy than non-Indigenous people.[2] This discrimination is compounded for First Nations people with disability, who are consistently treated differently and failed by health systems. For example, in 2017, NSW Deputy State Coroner Hugh Dillon found that "the death of a young, intellectually disabled Aboriginal woman in a Sydney emergency department was the tragic conclusion to a 'cluster of mistakes and failures' in a system meant to care for her."[3]

These inequities are perpetuated by institutional racism and ableism that remains embedded within healthcare services. Strategies to reduce health inequities need to be sought in conjunction with First Nations individuals and communities so that the strategies are specific and culturally relevant. An example of a culturally responsive framework is the IAHA Cultural Responsiveness Framework which strengthens the capabilities of individuals and agencies around responsive care and services.[4]

Population health and prevention:
Hight quality health services need to be readily available in all communities, including those in regional, rural and remote areas across Australia with staff that are committed to the communities and have low levels of staff turnover. By enabling First Nations people to stay on Country and in community, health outcomes are better.[5]

Similarly, high quality health services that are culturally responsive and community controlled must be provided to First Nations people within all places of detention across Australia, such as prisons, forensic disability units, residential aged care and out of home care. Models such as Winnunga Nimmityah Aboriginal Health and Community Services (Winnunga AHCS)'s standalone coordinated health care services within the ACT's Alexander Maconochie Centre (AMC) should be looked to.[6]

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[1] United Nations Climate Change, 'Disability Caucus – High-level Segment Statement COP 26,' 2021, accessed 24 July 2023.
[2] Australian Government, 'Closing the Gap Report 2020,' accessed 20 July 2023.
[3] NITV, 'Not 'normal': Allegations disabled Aboriginal woman died after being treated differently,' 2017, accessed 24 July 2023.
[4] Indigenous Allied Health Australia, 'Cultural Responsiveness in Action Framework,' 2015, accessed 24 July 2023.
[5] A Ferdinand et al., 'Understanding disability through the lens of Aboriginal and Torres Strait Islander people – challenges and opportunities,' University of Melbourne Centre for Health Policy.
[6] Winnunga Nimmityah Aboriginal Health and Community Services, 'AMC Clinic', accessed 24 July 2023.

One health:
One health goes beyond the principles of health of people, animals and environment and encompasses social and emotional wellbeing which are foundational to overall health.[7]

Evidence-informed policymaking:
Specific data needs to be gathered around the intersection, or overlap, of health for First Nations people. In particularly, there is a lack of data around First Nations people and disability.[8] Without data that addresses the intersection around First Nations peoples' experiences of health and disability, the impacts on wellbeing, education, housing, food security and employment are unclear.

Data collection and sharing around First Nations people with disability should operate in support of the principles of First Nations data sovereignty, recognising that data should only be used as a tool for improving the lives of First Nations people with disability and not as a means of surveillance.

Partnership-based working:
Co-design needs to underpin all stages of developing strategies and solutions. Co-design, which is the process of collaborative design, involves all stakeholders and ensures that each stakeholder has a voice that has equal weight and influence.[9] Co-design goes beyond the initial working groups and is longitudinal where measuring and evaluation are part of the co-design scope.

Partnership-based working must be genuine and include the development of partnership agreements, enabling First Nations communities to hold Government accountable to their commitments.

3. Which of the various types of greenhouse gas emissions discussed above should be in scope of the Strategy's emission reduction efforts?

The scope of the Strategy's emission reductions efforts should include each of the scope types listed in the consultation paper.

Scope 1 emissions – direct emissions: are to be reduced as the health system has direct influence over these.

Scope 2 emissions – energy-related emissions: the health system should strategically choose suppliers of energy who can prove that they are striving toward lower emissions and not using fossil fuels. Supplier choice should also take into consideration the impact different sources and providers of energy have on First Nations communities, Country and Culture.

Scope 3 emissions – indirect emissions: the health sector has influence in their procurement process. When the health sector deliberately chooses medical equipment that reduces the impact on the climate, then the market will change to compete in this space. Similarly, by choosing environmentally friendly methods of waste management, industry will adapt to meet this need.

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[7] AIHW, 'Indigenous health and wellbeing,' 2022, accessed 20 July 2023.
[8] M Bennett and V Hodgson, 'The missing voices of Indigenous Australians with autism in research,' *Autism,* 2017, 21 (1): 122-123
[9] NCOSS, 'Principles of co-design,' 2017, accessed 20 July 2023.

4. What existing First Nations policies, initiatives, expertise, knowledge and practices should the Strategy align with or draw upon to address climate change and protect First Nations country, culture and wellbeing?

Cultural burning:
Incorporating First Nations practices around fire management that are led by community, such as Firesticks Alliance Indigenous Corporation. Using the techniques of cultural burning, bushfire disasters can be reduced and healthy landscapes can help to support healthy communities.

Housing that supports kinship models without overcrowding:
In remote and rural communities housing is often substandard and subject to overcrowding. By factoring in the kinship model into housing design, new houses can be designed and built that have adequate bedrooms. When overcrowding occurs, illness often follows.

Likewise, housing in remote and rural communities needs to factor in appropriate insulation and cooling systems. When subject to extreme heat, as is the case in some of the northern parts of Australia, individuals' health and wellbeing can be compromised. By engaging in co-design with First Nations people in remote and rural communities, health risks can be lowered as houses are fit for purpose.

Stewardship of natural resources including traditional foods on Country:
Supporting the leadership of First Nations communities around land management ensures that traditional food sources are protected. Additionally, engaging First Nations people to educate the broader Australian community about growing and eating traditional foods will contribute to staving off food insecurity as foods that are endemic to the local area are grown and eaten in a sustainable way.

Community-controlled renewable resources are important. For example, the First Nations Clean Energy Network uses renewable energy to transition to a carbon-neutral solution and the elimination of fossil fuel extraction on Country.[10]

Co-design around disaster and pandemic planning and recovery:
Consultation is needed within First Nations remote communities around disaster and pandemic planning and recovery with the aim to have culturally appropriate resources and strategies in place. This is of particular importance for First Nations people with disability who have additional support needs when it comes to disaster and pandemic planning and recovery, particularly those living or detained in institutional settings such as prisons and disability group homes.

Diverse leadership and representation within emergency services and disaster response teams must also be invested in, increasing the likelihood that cohorts such as First Nations people with disability have their needs and perspectives met. For instance, one recent positive example from the 2019/2020 bushfire crises included an article run by *Australian Women's Weekly* on the Lake Tyers Aboriginal Trust CFA all-First Nations all-women fire brigade.[11]

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[10] First Nations Clean Energy Network, 'The Citizen: As renewables run hot, Indigenous network plugs in to power up,' 2021, accessed 24 July 2023.
[11] National Women's Alliances (NWA's), 'Disaster Recovery, Planning and Management for Women, their Families, and their Communities in all their Diversity', 2020, p. 10, accessed 24 July 2023.

5. What types of governance forums should be utilised to facilitate co-design of the Strategy with First Nations people to ensure First Nations voices, decision-making and leadership are embedded in the Strategy?

Meaningful co-design is essential to ensuring stewardship of the land, reducing environmental risks and emissions, and authorised sharing of cultural knowledge.

This type of co-design might look like:

- Entering into partnership with Fire to Flourish, a five-year transdisciplinary program led by Monash University and First Nations leaders at the intersection of disaster resilience and community development
- Yarning circles in communities facilitated by local Elders
- Consulting with Peak organisations and First Nations advocacy groups
- Working parties with a cross-section of First Nations representatives: First Nations youth, gender diverse people, Elders, and in various geographical locations
- Engaging with Seed Mob who focus on climate justice[12]

Cross-sectional governance should also be utilised to ensure the Strategy works towards meeting both the Closing The Gap Targets[13] and policy priorities within Australia's Disability Strategy.[14]

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[12] Seed Mob, 'Seed Mob,' accessed 24 July 2023.
[13] Australian Government, 'Targets under the National Agreement on Closing the Gap', accessed 24 July 2023.
[14] Australian Government Department of Social Services (DSS), 'Australia's Disability Strategy 2021-2031', 2021, accessed 24 July 2023.

Proposed Objective 1: Measurement

6. Beyond the schemes already noted above, is your organisation involved in any existing or planned initiatives to measure and report on health system emissions and/or energy use in Australia?
First Peoples Disability Network does not engage in this type of measurement.
7. What additional data and information is required to support targeted emissions reduction efforts within health and aged care?
As the average life span of a First Nations person is lower than that of their non-Indigenous cohort,[15] aged care should start earlier than that of non-Indigenous people groups. Similarly, health outcomes are compromised for First Nations people where cardiovascular disease, cancer, and mental health conditions are of significant concern.[16] Data around the intersection of ageing, health and First Nations people should be collected in a transparent and culturally appropriate manner to help facilitate health equity for First Nations people. Data collection needs to adhere to the principles of First Nations data sovereignty where data sharing is only used as a tool for improving the lives of First Nations people.

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[15] AIHW, 'Indigenous health and wellbeing,' 2022, accessed 20 July 2023.
[16] AIHW, 'Indigenous health and wellbeing,' 2022, accessed 20 July 2023.

Proposed Objective 2: Mitigation

8. What do you think of these proposed focus areas for emissions reduction? Should anything else be included?
The proposed focus areas are a good starting point. It is likely that after initial focus in these areas further areas will become visible which can then be acted upon in a strategic manner.
9. Which specific action areas should be considered relating to the **built environment and facilities (including energy and water)**, over and above any existing policies or initiatives in this area?
Buildings need to be fit for purpose regarding heating and cooling. This is particularly urgent in all places of detention across Australia. For example, in the Pilbara prison, where outdoor temperatures reach 50 degrees Celsius, air conditioning has been denied to inmates.[17]
10. Which specific action areas should be considered relating to **travel and transport**, over and above any existing policies or initiatives in this area?
Whilst electric vehicles are a positive response to the environment, these vehicles are not practical in remote or rural areas where people travel long distances away from charging stations. Likewise, as electricity is still largely produced through fossil fuels, this is not a sustainable option long-term, and the benefit of the electric vehicle is offset by the detrimental practices of coal burning used to create electricity.[18]
11. Which specific action areas should be considered relating to **supply chain**, over and above any existing policies or initiatives in this area?
Consult with First Nations communities, particularly in remote and rural areas, to determine what specific needs relating to supply chain need to be considered. This is important as supply to remote areas has different logistics than in urban areas.
12. Which specific action areas should be considered relating to **medicines and gases**, over and above any existing policies or initiatives in this area?
Invest in research around producing new forms of inhalers that have lower global warming risks.
13. Which specific action areas should be considered relating to **waste**, over and above any existing policies or initiatives in this area?

[17] WA Today, 'Refusal to put airconditioning in Pilbara prison where temperature hit 50.5C is racist: ALS,' 2022, accessed 24 July 2023.
[18] Geoscience Australia, 'Overview,' accessed 18 July 2023

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Provide appropriate and sustainable waste management systems that are specific to remote and rural communities. This in turn can create new jobs in rural and remote communities.
However, it is important to consult with communities, and particularly those in the disability communities around what is waste and what is not. For example, banning plastic straws has placed a serious burden on people with disability who need plastic straws for daily liquid consumption.[19]

14. Which specific action areas should be considered relating to **prevention and optimising models of care**, over and above any existing policies or initiatives in this area?

Provide greater access to healthcare in remote and rural communities for First Nations people. Currently First Nations people in rural and remote communities have to choose between medical care and staying in community.[20] Leaving community and Country causes financial stress, has logistical issues with transport and housing, and can trigger trauma caused by intergenerational dispossession of land due to colonisation.
Likewise, preventative care and healthcare needs to be provided in places of detention.

15. What can be done to involve private providers within the health system in the Strategy's emissions reduction efforts?

Incentives can be provided to include private providers in the Strategy's emission reduction efforts. This can be coupled with ongoing education and training for private providers to enhance understanding and purpose around the Strategy.

16. Where should the Strategy prioritise its emissions reduction efforts?
    a. How should the Strategy strike a balance between prioritising emissions reduction areas over which the health system has the most direct control and prioritising the areas where emissions are highest, even if it is harder to reduce emissions in these areas?
    b. Which of the six sources of emissions discussed above (on pages 13 to 18 of the Consultation Paper) are the highest priorities for action?

a. The balance will be more achievable when there are strategic short and long-term goals. Having some quick wins embedded in longer-term goals will help achieve the desired results.

b. Each of the six sources are of high priority. However, when factoring in quick wins, the following order is suggested:
Prevention and optimising models of care
Travel and transport
Waste
Supply Chain

[19] Eater, 'The Last Straw: I need plastic straws. Banning them puts a serious burden on people with disabilities,' 2018, accessed 24 July 2023.
[20] I Wiesel and D Habibis, 'NDIS, housing assistance and choice and control for people with disability,' *Australian Housing and Research Institute*, 2015, Final report 258.

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Built environment and facilities Medicines and gases
17. What 'quick wins' in relation to emissions reduction should be prioritised for delivery in the twelve months following publication of the Strategy?
1. Meaningful consultation and action with First Nations communities around preventative models of care. 2. Electric vehicles to be used in urban locations. 3. Develop electronic processes for patient communication. These must be done in accessible form including Easy Read, multimedia, and compatible with screen readers. Hardcopy documents are to be available for individuals who do not have access to technology. 4. Identify up to three specific packaging types that need to replace existing packaging types and source this through supply chain. 5. All new buildings must be designed with environmental sustainability and low emissions in mind. 6. Commission research into alternative forms of inhalers to reduce emissions.

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Proposed Objective 3: Adaptation

18. What health impacts, risks and vulnerabilities should be prioritised for adaptation action through the Strategy? What process or methodology should be adopted to prioritise impacts, risks and vulnerabilities for adaptation action?
First Nations people, including peak bodies and advocacy organisations, should be engaged in meaningful consultation around the issues of health, disaster management and climate change. The knowledge of First Nations people and communities needs to be valued and utilised to mitigate the effects of climate change. Frameworks such as the Sendai Framework for Disaster Risk Reduction[21] can help outline how disaster management can occur. Also, events such as the National Indigenous Disaster Resilience Summit[22] can also be utilised.
19. Should the Australian government develop a National Health Vulnerability and Adaptation Assessment and National Health Adaptation Plan? If yes: a. What are the key considerations in developing a methodology? b. How should their development draw on work already undertaken, for example at the state and territory level, or internationally? c. What are the key areas where a national approach will support local/jurisdictional vulnerability assessment and adaptation planning?
If the Australian government develops a National Health Vulnerability and Adaption Assessment and Plan, this needs to be co-designed by the people that it is aiming to protect. For example, Torres Strait Islander communities are at risk of land and cultural loss because of rising sea levels. Likewise, people with disability need to be consulted in this process, for although disability is not an illness, many of the physical, social, emotional and cognitive impairments are shared across both cohorts.

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[21] United Nations Office for Disaster Risk Reduction, 'Implementing the Sendai Framework,' accessed 18 July 2023.

[22] Australian Institute for Disaster Resilience, 'National Indigenous Disaster Resilience Summit,' accessed 18 July 2023.

20. Would there be value in the Australian government promoting a nationally consistent approach to vulnerability assessment and adaptation planning for the health system specifically, for instance by issuing guidance and associated implementation support tools for states, territories and local health systems? If yes, what topics should be covered to promote a nationally consistent approach? What examples of existing guidance (either from states/territories or internationally) should be drawn from?
The benefits of having a nationally consistent approach to vulnerability assessment and adaptation planning is that funding is likely to be consistent for each state and territory as would the framework for each state and territory. However, the variations between climate, geographical distances, socioeconomic factors and lifestyles need to be taken into account in a national plan. One method of doing this is to have a high-level framework and funding and allow each state and territory to tailor the plan to meet the needs of the people in that state or territory.
21. What immediate high-priority health system adaptation actions are required in the next 12 to 24 months?
1. Undertake research to determine effective health system adaptations globally. 2. Determine which best practices from global adaptations are suitable for Australia broadly and each state or territory in detail. 3. Secure funding to implement best practice within a high-level framework.

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Proposed Objective 4: Health in All Policies

22. What are the key areas in which a Health in All Policies approach might assist in addressing the health and wellbeing impacts of climate change and reducing emissions?
A collaborative approach to health through a Health in All Policies framework brings together experts in each domain – such as housing, transport, food and agriculture – which can only benefit the broader Australian population. Within each of these domains, First Nations communities, and the intersection of First Nations people with disability, need to be consulted and the feedback embedded into policies and procedures.
23. What are the most effective ways to facilitate collaboration and partnerships between stakeholders to maximise the synergies between climate policy and public health policy? What are some successful examples of collaboration in this area?
Collaboration with First Nations communities needs to be done in a culturally appropriate manner. This might mean that specific protocols are observed, specific Elders are included, and timing and structure of the collaboration is led by First Nations people. Resources for the collaboration also need to be culturally appropriate both in language and visuals.

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Enablers

24. How could these enablers be improved to better inform the objectives of the Strategy? Should any enablers be added or removed?
Each of the enablers are sound.
25. For each of these enablers: a. What is currently working well? b. What actions should the Strategy consider to support delivery?
When collaborating and communicating with First Nations communities and individuals, it is important to take time to build trust and to show that the collaboration is mutually beneficial and ongoing.

Thank you for taking the time to complete this survey – your feedback is greatly appreciated!

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BURNING NEED FOR CHANGE

How pharmacists can help mitigate climate change impacts on patients.

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Quadrivalent influenza vaccine
(surface antigen, inactivated, prepared in cell cultures)

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to WHO-selected influenza strains.[3-6]

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MINIMUM PRODUCT INFORMATION Flucelvax® Quad (Inactivated Quadrivalent Influenza Vaccine (prepared in cell cultures)) - Suspension for injection. **Indication:** For the prevention of influenza caused by Influenza Virus, Types A and B contained in the vaccine, for use in adults and children 2 years of age and older. **Contraindications:** Individuals with known severe allergic reactions (e.g. anaphylaxis) to any component of the vaccine or to a previous dose of any influenza vaccine. **Precautions:** Treatment and supervision for anaphylactic reactions should be available. Antibody response in immunocompromised patients may be lower. Careful consideration for use in history of Guillain-Barré syndrome within 6 weeks of previous influenza vaccination. Postpone immunisation in patients with febrile illness or acute infection. A protective immune response may not be elicited in all vaccine recipients. **Use in Pregnancy (Category B1):** The safety of Flucelvax® Quad in pregnancy has not been assessed in clinical trials. There are no reproductive and developmental toxicity studies with Flucelvax® Quad. Reproductive and developmental toxicity data from cell-based trivalent influenza vaccine (TIVc) do not predict an increased risk of developmental abnormalities. **Use in Lactation:** Not been evaluated in nursing mothers. **Interactions:** No data available on co-administration with other vaccines. Based on clinical experience with TIVc, Flucelvax® Quad can be given at the same time as other vaccines (in separate limbs) (adverse reactions may be intensified). **Adverse Effects:** Local - pain, erythema. Systemic - headache, fatigue, irritability (children 2-6 years), upper respiratory tract infection, nasopharyngitis (See full PI). **Dosage and Administration:** Intramuscular injection only: single 0.5mL dose (children <9 years may require 2 doses - see full PI). **Presentation:** 0.5mL single-use syringe. Storage: Store at 2°C to 8°C; must not be frozen; protect from light. Based on Approved Product Information.

REFERENCES: 1. ATAGI. Statement on the administration of seasonal influenza vaccines in 2022. www.health.gov.au/resources/publications/atagi-advice-on-seasonal-influenza-vaccines-in-2022. **Accessed February 2023. 2.** FLUCELVAX® QUAD Approved Product Information. **3.** CDC. Cell-based flu vaccines. Available from: www.cdc.gov/flu/prevent/cellbased.htm. Accessed February 2023. **4.** Rajaram S *et al. Ther Adv Vaccines Immunother.* 2020;8:2515135520908121. **5.** Mabrouk T *et al. Dev Biol (Basel).* 2002;110:125–134. **6.** WHO. Influenza A(H3N2) lineage cell culture-derived CVVs for development and production of vaccines for use in the 2022 SH influenza season; Available from: https://cdn.who.int/media/docs/default-source/influenza/cvvs/cvv-southern-hemisphere-2023/summary_a_h3n2_cvv-cell_sh23.pdf Accessed Feb 2023.

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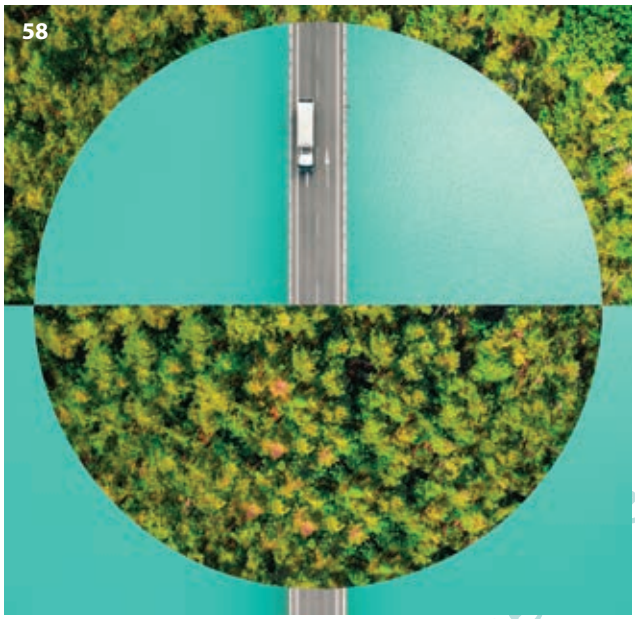
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In the spirit of reconciliation, the Pharmaceutical Society of Australia (PSA) acknowledges the Traditional Custodians of Country throughout Australia and their connections to land, sea and community. We pay our respect to their Elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

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Commit to be a part of the future of pharmacy practice

I understand the past few months have been a very stressful and anxious time for many of us in our beloved profession.

Following the Federal Government's 60-day dispensing budget measure in April – announced without adequate consultation with the profession – the entire PSA team has been working to respond to these changes, limit its far-reaching consequences, and maximise our opportunities.

> "Despite multiple policy changes in the past, we prove time and time again our resilience and adaptability."



On behalf of pharmacists, I was part of your PSA team walking the halls of Parliament House during Federal Budget week, meeting with dozens of parliamentarians from across the political spectrum to discuss the impacts of this policy on our profession. I was heartened that there is support for pharmacists across the Parliament. We will continue to engage with politicians to drive the best outcomes for pharmacists and our patients. The Australian healthcare system and our communities will always need pharmacists and pharmacies. The demand for health professionals will continue to grow as our population's health needs grow exponentially in coming years. Despite multiple policy changes in the past, we prove time and time again our resilience and adaptability. We must continue to be there for our communities, especially during this time of uncertainty. This time, it is no different. We have the opportunity to leverage the paradigm shift in our practice and enable our profession to be remunerated to practise to top of scope. During times of challenge, it is essential we stay committed and united as a profession.

It is with this in mind that I hope you will join me and a world-class line-up of pharmacy experts at PSA's flagship national conference – PSA23 – in Sydney next month. There has never been a more vital time to be connected with our profession. PSA23 will have a significant focus on 60-day dispensing, the future of pharmacy practice in Australia, actions that every pharmacist should take to ensure a successful career in pharmacy, and the opportunity to hear directly from government officials.

Key clinical policy sessions will deep dive into the 2023–24 Federal Budget, and the measures that directly affect you and your practice. From the expansion of the National Immunisation Program (NIP), to 60-day dispensing and Opioid Treatment Programs, PSA23 is an unmissable opportunity to elevate your clinical knowledge and drive our profession into the future.

And we will launch the reimagined PSA Professional Practice Standards which sets the standard for the profession and provides flexibility for our future growth.

While this is a difficult time for our profession, it is also an opportunity to drive our practice to new heights, and play a greater role in primary care. I hope you will join us at PSA23 to be part of the future.

DR FEI SIM FPS
BPharm (Hons) PhD FHEA GAICD FPS
Follow Dr Fei Sim FPS on Twitter at @drfeisim and connect on LinkedIn via Dr Fei Sim

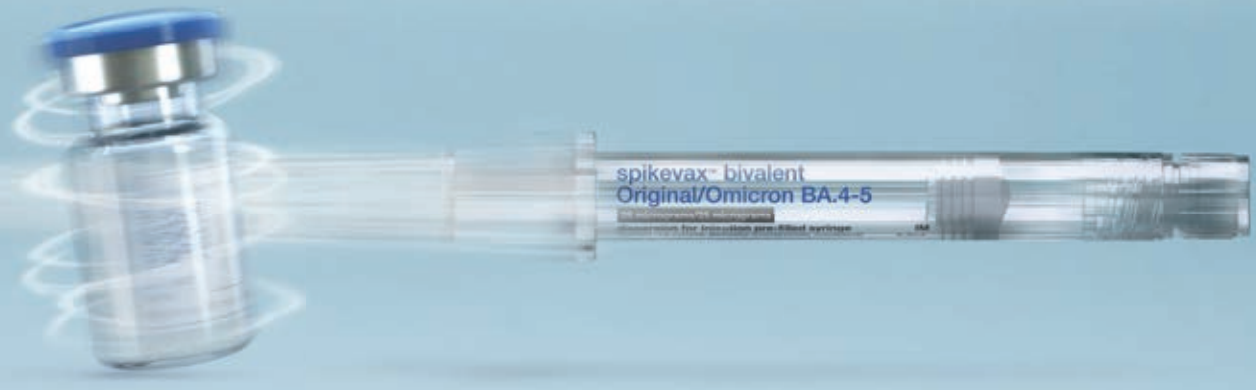
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Boosters provide additional protection against COVID-19

including against symptomatic infection and severe disease when given 6 months after a previous COVID-19 vaccine[2-4]

The Pre-Filled Syringe is now available to order for your patients

PBS Information: This product is not listed on the National Immunisation Program (NIP) or the PBS.

▼ This vaccine is provisionally approved and is subject to additional monitoring in Australia. This will allow quick identification of new safety information. Healthcare professionals are asked to report any suspected adverse events at www.tga.gov.au/reporting-problems.

BEFORE PRESCRIBING, PLEASE REVIEW PRODUCT INFORMATION AVAILABLE BY SCANNING THE QR CODE, OR FROM HTTPS://MODERNACOVID19GLOBAL.COM/EN-AU OR FROM MODERNA AUSTRALIA ON 1800 344 018.

Product Information

References: 1. Spikevax Bivalent Original/Omicron BA.4-5 Product Information, February 2023. **2.** Chalkias S *et al.* A bivalent Omicron-containing booster vaccine against COVID-19. Available at: https://www.medrxiv.org/content/10.1101/2022.06.24.22276703v1. Accessed April 2023. **3.** Andersson NW, *et al.* Comparative effectiveness of the bivalent BA.4-5 and BA.1 mRNA-booster vaccines in the Nordic countries. *medRxiv.* Published online 2023:2023-01. **4.** Link-Gelles R *et al. MMWR Morb Mortal Wkly Rep* 2022;71:1526–30.

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moderna



2023

Women dominate elections

Congratulations to the incoming PSA branch committee members for 2023

The largest number of women ever were elected last month to PSA state and territory branch committees. They will serve with all office bearers from 1 July until 2026. MIMS Consultant Pharmacist of the Year Deborah Hawthorne is among the new members. Former PSA NSW state manager Simone Diamandis FPS joins the NSW branch committee while National President Dr Fei Sim FPS was re-elected in Western Australia. Natalie Soulsby (SA/NT), Amanda Cross (VIC) and Helen Benson (NSW) are among new Board Directors elected. Tasmania is expected to hold its elections this month.



ACT

- Olivia Collenette [P]
- Erin Cooper (pictured)
- Kayla Evans
- Andrew Kelly [VP]
- Jess Leung
- Alicia Martin
- Mark Naunton
- Kara Sellwood [VP]
- Kirstin Turner



NSW

- Helen Benson [BD]
- Peter Carroll
- Karen Carter
- Jack Collins (pictured)
- Simone Diamandis
- Caroline Diamantis
- Chelsea Felkai
- Luke Kelly [P]
- Nicholas Logan
- Rebekah Moles [VP]
- Lily Pham [VP]
- Lachlan Rose



QLD

- James Buckley
- Susan Carson
- Emma Conway
- Caitlin Davies
- Christopher Freeman
- Hannah Knowles [VP]
- Shane Macdonald [P]
- Tim Roberts
- Bridget Totterman (pictured) [BD]
- Karla Wright [VP]



SA/NT

- Manya Angley [P]
- Vicky Dimitriadis
- Adam Forrest (pictured) [VP]
- Lauren Fraser
- Jess Hsiao
- Colleen Niland [VP]
- Rebecca Rogers
- Natalie Soulsby [BD]
- Tobias Speare
- Tien Bui



TAS

- Juanita Breen (pictured)
- Nicole Dilworth
- Joanne Gross
- Daniel Hoyle
- Shane Jackson
- Kate Jamrozik
- Helen Kruup
- David Peachey
- Mackenzie Williams
- Mark Kirschbaum

** TAS office bearer elections to be held this month*



VIC

- Atinuke Abraham
- Maria Apostolopoulos
- Esa Chen [VP]
- Amanda Cross [BD]
- Taren Gill [VP]
- Deborah Hawthorne
- Benjamin Marchant
- Bobby Mehta
- Amy Page [P]
- Kellie Saunders
- Brooke Shelly
- Kate Wang (pictured)



WA

- Negar Almassi
- Kerry-Anne Casanova
- Craig Clark
- Phuong Nguyen (pictured)
- Ayomide Ogundipe [VP]
- Alyssa Pisano [VP]
- Kristian Ray [P]
- Lusi Sheehan
- Fei Sim [BD]
- Keegan Wong

New committee members P = President VP = Vice-president BD = new Board Directors elected so far

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Budget confirms 60-day dispensing is a reality

The federal Government's new provision allowing 60-day dispensing on 325 commonly prescribed medicines – announced only last month and then included in its latest Budget – has caused great concern in the profession.

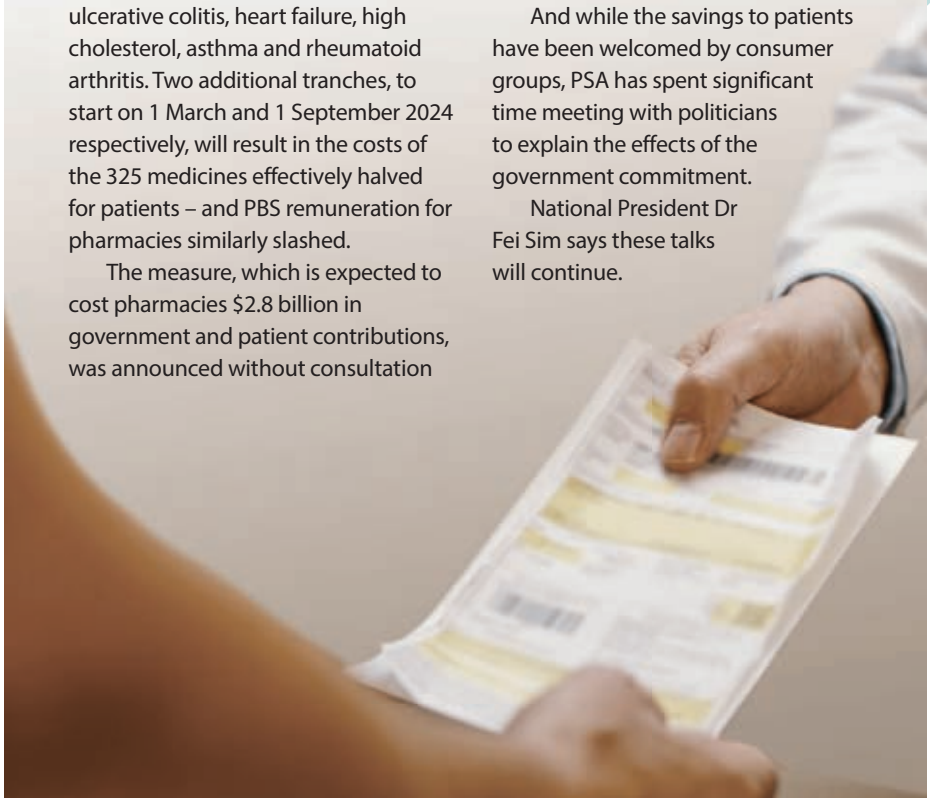
From 1 September 2023, patients can receive double the supply of 100 Pharmaceutical Benefits Supply (PBS) medicines, including some used to treat diabetes, depression, reflux, ulcerative colitis, heart failure, high cholesterol, asthma and rheumatoid arthritis. Two additional tranches, to start on 1 March and 1 September 2024 respectively, will result in the costs of the 325 medicines effectively halved for patients – and PBS remuneration for pharmacies similarly slashed.

The measure, which is expected to cost pharmacies $2.8 billion in government and patient contributions, was announced without consultation with peak pharmacy bodies.

While these measures address long-term cost barriers to patients for opioid therapy and pharmacist vaccination that the Government has announced it will re-invest in, they do not effectively offset the remuneration funding gap to pharmacists and risks to the viability of opening hours, staffing and, in some cases, the continuing existence of some community pharmacies.

And while the savings to patients have been welcomed by consumer groups, PSA has spent significant time meeting with politicians to explain the effects of the government commitment.

National President Dr Fei Sim says these talks will continue.



At a glance

TED CROOK MPS AWARDED HONORARY DOCTORATE

Former PSA ACT Branch President Ted Crook MPS has been awarded an honorary doctorate in pharmacy by the University of Sydney for his contributions to pharmacy, innovation and technology.

In the 1970s Mr Crook and pharmacist Colin Trevena led the implementation of computer systems in pharmacy, which included medicines information and drug interaction checking alongside the dispensing service.

Among his many contributions to pharmacy, Mr Crook helped support the development of a herb-drug interaction database for computer-based checking of potential interactions, still used today, and implemented in eMIMS software.

COVID-19 BOOSTERS IN 65+ POPULATIONS WORK WELL

Australian researchers[1] have found COVID-19 vaccination is highly effective against virus mortality among older adults, although effectiveness wanes with time following the most recent dose.

In one of few studies to analyse the effectiveness of COVID-19 vaccines and death rates across different 2022 pandemic periods, survival analysis estimates for 3.8 million residents aged >65 years were made against whole-of-population data from the 2021 Australian Census, death registrations, Australian Immunisation Register and other national data sets. Mortality risk was reduced by at least 84% with a recent booster dose.

1. Liu B, Stepien S, Dobbins T, et al. Effectiveness of COVID-19 vaccination against CovidD-19 specific and all-cause mortality in older Australians. Lancet 2023. Epub 2023 May 16.

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The Comirnaty Original/ Omicron BA.4/5 vaccine **is now available in Australia**[2]

As SARS-CoV-2 constantly evolves and vaccine immunity naturally wanes, booster doses are important to help provide continued protection against COVID-19.[1]

Discuss a COMIRNATY bivalent booster with your eligible patients to help restore protection against COVID-19[2]

As per the latest ATAGI statement, all adults aged ≥18 years are eligible for a 2023 COVID-19 vaccine booster dose, if their last vaccine dose or confirmed infection was ≥6 months ago, preferably with a bivalent mRNA vaccine. Some children or adolescents aged 5-17 years who are at an increased risk of severe COVID-19 are also eligible.[3]

Please refer to the latest Australian Government COVID-19 Immunisation Program guidance for more information: www.health.gov.au/initiatives-and-programs/covid-19-vaccines.

Most frequent adverse reactions with a COMIRNATY booster dose include injection site pain, fatigue, headache, myalgia, chills and arthralgia. There have been very rare reports of myocarditis and pericarditis.[2] Refer to the COMIRNATY Approved Product Information for a full list of adverse reactions and management recommendations.

▼ This vaccine is subject to additional monitoring in Australia. This will allow quick identification of new safety information. Healthcare professionals are asked to report any suspected adverse events at: www.tga.gov.au/reporting-problems.

PBS Information: This product is not listed on the PBS and is not listed on the National Immunisation Program.

Please review the full Product Information (PI) before prescribing. Product Information can be accessed at www.pfizer.com.au or on 1800 675 229. Scan QR code to see full COMIRNATY Product Information.

References: 1. Andrews *et al. N Engl J Med* 2022;386:1532–46. **2.** COMIRNATY Approved Product Information. **3.** ATAGI statement on COVID-19 booster vaccination from 08 February 2023. Available at: www.health.gov.au/news/atagi-2023-booster-advice. Accessed February 2023.

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Photo credit: Benjamin Liew

Register now for PSA23 at **www.psa23.com.au/registrations**

A Churchill Fellowship pharmacist

Helen Stone MPS is PSA's South Australian and Northern Territory manager. Finalising her Churchill Fellowship on palliative care, she is a speaker at PSA23.

AS TOLD TO **JENNIFER COOKE,** AP's Editor

How did you get into pharmacy?
I think pharmacy chose me. I started an arts degree when I left school, then discovered science and pharmacology and biochemistry. My first job was as a self-employed gourmet food cook. Then I worked in soil science studying the swelling properties of cationic clays. It wasn't very exciting, so I got a job working in the School of Pharmacy at the then South Australian Institute of Technology (now UniSA) for Lloyd Sansom AO FPS. And so began my love of pharmacy.

What are your favourite things about being a pharmacist?
Medicines and the use of medicines is fascinating – how they work, where they work, how they are formulated – with all the complexity of humans thrown in. I find the science part as a pharmacist interesting but more so the human part, being able to support people at their most vulnerable time. And now, it's being able to influence professional practice models – GP practice, aged care, disability care and palliative care – to provide alternative career options for pharmacists, where they are most needed.

In recent times, my work has included advocacy for immunisation in community pharmacies in SA, voluntary assisted dying, urinary tract infection treatments in pharmacy, as well as supporting intern training and immunisation training. PSA was recently awarded a contract to deliver mental health training for pharmacists and pharmacy workers across the next 3 years.

Tell us about your Churchill Fellowship?
I've completed my travel and I'm working on my report. I've changed my thinking on pharmacist prescribing and how it would work in an Australian context. For pharmacists in palliative care teams and in aged care and pharmacists in community palliative care teams prescribing now makes sense to me. Sometimes, changes to medicines are needed quickly and a GP or a GP locum can't be sourced. Palliative care pharmacists should be able to make changes as necessary to increase a dose, to change a formulation, for symptom management in terminal phase, to stop medicines no longer required.

Palliative care is true interdisciplinary care relying on health professionals working collaboratively. Everybody needing palliative care is taking medicines and could benefit from pharmacist support.

I met pharmacists in hospices in the United Kingdom and saw pharmacist-led walk-in clinics in Canada. Everywhere, I saw the same problems with workforce capacity, with hardworking health professionals trying to do more with less.

All of us need to work to our full scope. The pandemic helped people consider end-of-life care at home rather than being admitted to a hospital where they could not be surrounded by family and friends. Access to medicines and pharmacist support can help people to stay at home, and focus on the life they are living now.

What insights on palliative care will you deliver at PSA23?
In South Australia we've delivered projects with palliative care pharmacists in aged care, in community palliative care, and in an Aboriginal Health Service. We have learned a lot from those projects and together with my Churchill learnings, there is a huge opportunity for pharmacists to contribute to palliative care outside tertiary hospitals and in supporting their communities.

Any advice for ECPs?
As a community, we have medicalised death and now many are frightened of it, worried about using medicines like opioids and maybe causing someone harm. It is a privilege to support people through palliative and end-of-life care. Start by accessing available learning packages – through PSA, the Gwandalan National Palliative Care project, through the Program of Experience in the Palliative Approach (PEPA and iPEPA) placements through Palliative Care Australia. These can help ECPs gain confidence in providing palliative care. Consider applying for a Churchill Fellowship if you have a passion for a project. It's a fabulous experience. I'd be happy to help anyone with the application process.

The 4-decade remote rural pharmacist

This Rhonda White MPS opened her pharmacy in the opal mining town of Lightning Ridge, New South Wales in 1983, and never wants to leave.

AS TOLD TO **JENNIFER COOKE,** AP's Editor

What led you to pharmacy?
Lightning Ridge is my home. My parents moved here when I was a teenager, so it's where I grew up. When I finished school I completed a year of a music degree, but preferred a science-oriented degree with a job at the end of it. I had enjoyed a short school work experience at Walgett Pharmacy. When I finished my pharmacy degree my dad was not well, so I moved close to home, working at Walgett Pharmacy and then Towers Drug Co at Bourke, until the Lightning Ridge community pressured me to build and open a pharmacy in the Ridge, which I did with much help from my parents and husband.

What good changes came in that period?
Computers! This meant not having to use typewriters for labels or handwrite repeats AND handwrite patient history cards for regulars. Nor did I need to manually code scripts for the Pharmaceutical Benefits Scheme (PBS) claim which had to be posted once a month. Computers meant proper patient histories to work with, and interaction checking, and so much more like online connection to Medicare and ability to check instantly if all aspects of a script were correct to enable a claim.

What changes have created challenges?
Patient contribution discounting is a big one. This has increased the divide between remote and urban pharmacy practice. It has decreased remuneration per script and increased the administration burden for claiming what we once did as part of the PBS fees. Also, generic prescribing has confused consumers. And then there are supply shortages – they disadvantage remote patients more than most others.

What gaps do you plug for professional healthcare workers not locally available?
Continuity of care. Most GPs don't stay long. We also get veterinary problems such as animals wounded from fights with other animals. And poisoning with *Ratsak* needs vitamin K, not easily obtainable in tablet form any longer, so have to refer owners to the closest vet in Coonamble, more than 2 hours drive away. The vet visits the Ridge a couple of times a week but is often not here when things happen.

What challenges do you face that colleagues in city areas do not?
Stock deliveries have a long way to come. Delays, due to floods and other road problems, or breakdowns push time to the limit to get one order in before having to send the next order.

Then, if the delivery is put on the wrong truck it will be 24 hours late and people waiting for medicines are "not happy". It's not like there's another pharmacy nearby. Walgett and Collarenebri are each about 70 kilometres away. Power outages are not uncommon, which stop script processing. Till transactions need to be written down to be rung up later. If the power is out for longer than 30 minutes, fan-forced fridges do not hold the temperature, so stock must be put into eskies with ice bricks – even after hours.

What do your patients battle that metropolitan-based patients may not?
Distance, which means time and expense to travel to get scans or see specialists. Lack of opportunity to get a "second opinion" or to see the same doctor 2 months in a row.

Storing medicines without good air-conditioning when the outside temperature is closer to 50 ºC than 40 ºC is another hurdle. Some people living on the opal fields in camps need to use a pit toilet – even these days.

What about those 40 years?
We opened on 7 February 1983. During the 40th celebrations in February this year a customer said: "Congrats on 40 years. You've saved quite a few lives in that time." It took me back a bit and made me think, but I suppose I have.

It's been both a duty and an absolute privilege and honour to have done what I do, with a few more [years] to come, thanks to the full support of my family, the community – and some wonderful staff.

In rural pharmacy you really can make a difference to health outcomes.

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Explore new paths at
psa.org.au/career-and-support/career-pathways/

A TYPICAL DAY IN THE LIFE OF

Rhonda White MPS, owner, White's Pharmacy, Lightning Ridge, New South Wales.

9.00 am

And it starts

Computers and tills up and running, dispensary tech checks the fridges, doors open and in they come, mostly putting in scripts for later. Sort out a DAA change so it can be packed, and keep checking and counselling as patients collect.

11.00 am

Orders and deliveries

Breaks over (always better after a second coffee)! Store order made, delivery truck at the back door, sign in dispensary order.

11.30 am

Tracheotomy complications

Patient from 60 kms away presents with a script for tiotropium capsules, salbutamol inhaler and metronidazole tablets. He has a tracheotomy! Prescriber called away to the hospital, could be gone for hours and patient needs to leave town by 1 pm. Consult *Don't Rush to Crush* and advise options to take metronidazole tablets (suspension out of stock), but need new authority script for tiotropium respimat.

12.30 pm

Mail truck finally arrives

Check Remote Prescription Collection Service scripts for mail truck to Goodooga.

1.00 pm

Doctor still away

No answer re tiotropium by 1 pm but learn later doctor prescribed *Spiolto Respimat*.

1.05 pm

Alleged lunch break

Last customer gone, door locked, staff at lunch. Check store and dispensary orders, and/or NDSS. Grab a biscuit for my 5 minutes left as nearby cafe closed for renovations.

3.00 pm

Busy, busy, busy

Orders have made 3 pm cut-off, but dispensary is banked up and the printer has a paper jam.

5.30 pm

Still busy

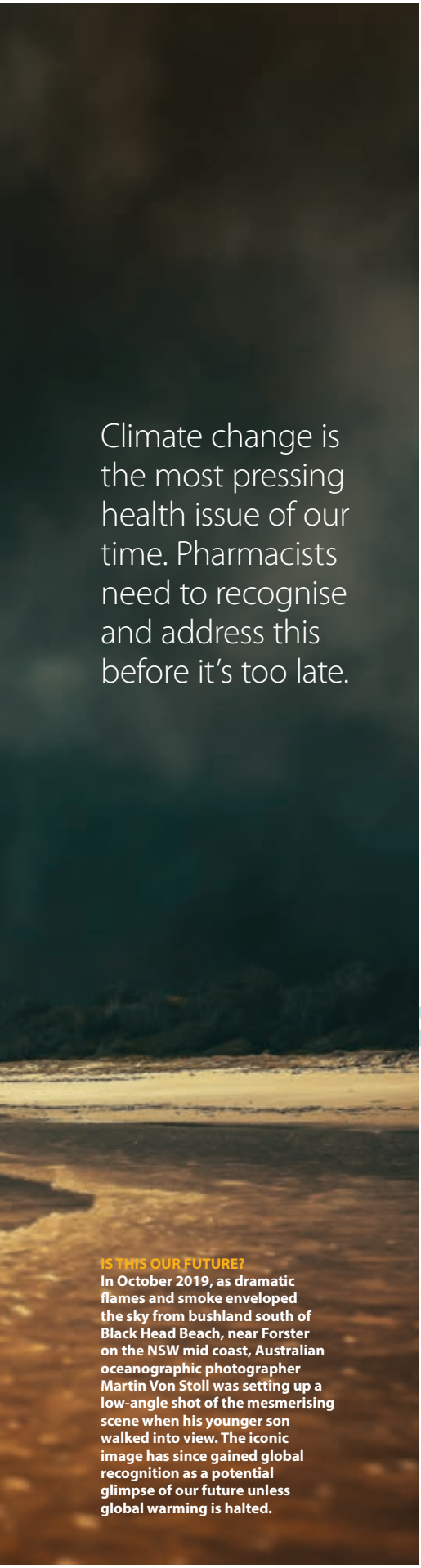
Last-minute patients sorted; door closed. Tills to ring off and count. Disinfect surfaces. DAAs and scripts still to check, DDs to enter, mail to open and reconcile, bills to sort to take home and pay. Get to supermarket before 7 pm closing or little to eat tonight!

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BURNING NEED FOR CHANGE



See PSA's first Environmental sustainability statement at https://bit.ly/3MgUzdo



Climate change is the most pressing health issue of our time. Pharmacists need to recognise and address this before it's too late.

IS THIS OUR FUTURE?
In October 2019, as dramatic flames and smoke enveloped the sky from bushland south of Black Head Beach, near Forster on the NSW mid coast, Australian oceanographic photographer Martin Von Stoll was setting up a low-angle shot of the mesmerising scene when his younger son walked into view. The iconic image has since gained global recognition as a potential glimpse of our future unless global warming is halted.

BY **CHLOE HAVA** (she/her)

Climate change, according to the World Health Organization (WHO), is the 'single biggest health threat facing humanity'. Between 2020 and 2050, it is expected to cause around 250,000 excess deaths from malnutrition, malaria, diarrhoea and heat stress.[1]

'Climate change is already impacting health in a myriad of ways, including by leading to death and illness from increasingly frequent extreme weather events, such as heatwaves, storms and floods, the disruption of food systems, increases in zoonoses and food-, water- and vector-borne diseases, and mental health issues,' the WHO states.

The link between human health and the environment is something pharmacists don't often think about in their day-to-day work, says hospital pharmacist at Western Health and founder of Pharmacists for the Environment Australia (PEA) Grace Wong.

But as public health advocates and medicines experts, pharmacists have a vital role to play in environmental sustainability.

'From advocating for pro-environmental changes, providing evidence-based information to patients and colleagues, to making everyday positive choices – there is no limit on pharmacists' potential to stimulate change in this area,' Ms Wong says.

Wild weather events

Last year, Australia experienced record-breaking climate extremes. Three consecutive La Niña's led to severe rainfall and a series of devastating floods in eastern Australia, while in the west, the nation's hottest-ever temperature was matched, with the mercury peaking at 50.7 °C.[2]

And in the first time the effects of bushfires have been studied on a global scale, researchers from the US-based National Centre for Atmospheric Research revealed last month in *Science Advances* that the devastating Black Summer bushfires – particularly the smoke pollution likened to that in a volcanic eruption which blew over the south-west Pacific Ocean and cooled the surface of the sea – likely influenced the formation of the rare triple La Nina weather pattern that resulted in the massive flooding of subsequent years.[3]

Australia is on track to experience some severe climate change effects. Should the earth warm another 3 °C this century, the already arid country could expect annual bushfires on the scale of Black Summer in 2019–20. Temperatures in major capital cities such as Sydney and Melbourne could soar to 50 °C, with heatwaves likely lasting up to 16 days. After unrelenting storms and floods, Australian coastlines would be left unrecognisable, with ecosystems such as the Great Barrier Reef wiped out.[4] If this bleak future sounds scary, our present – where the global temperature is now 1.1 °C warmer than it was in pre-industrial times – is also confronting. The World Meteorological Organization's latest update predicted last month a 67% likelihood that 1 year in the next 5 will temporarily surpass the 1.5 ºC global warming threshold.[5]

However, with the healthcare sector responsible for 7% of Australia's carbon emissions,[6] health care is part of the problem, and the industry must also grapple with its own contribution, says Dr Jacqueline Small, President of the Royal Australasian College of Physicians (RACP).

'Australia's health system must confront the dual challenge of dealing with human impacts of climate change and reducing its own substantial contributions to the »

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country's carbon footprint,' she says. And stepping up to address the climate challenge should coincide with pharmacists' increasing scope of practice and expanding roles, says early-career pharmacist academic Dr Esa Chen.

'If we want a seat at the table in health discussions, we have the responsibility to advocate climate change as a public health matter,' she says.

In its 2022 *Environmental Sustainability* statement, PSA recognised climate change as an urgent issue affecting the nation's health, calling on governments to take drastic action to reduce the impacts.[7]

Understanding health impacts

The fundamental elements of human survival, such as air, food and water, have been largely overlooked in wealthy countries like Australia, says cardiologist and climate advocate Dr Arnagretta Hunter. 'Historically, we've assumed those elements will always be available and of good quality. But the last couple of years have shown the relationship between the environment and our health and wellbeing is much more complex than we've given space for previously.'

Seasonal variation, bushfires and hot summers have always been expected.

But the changing extremes of our climate variability is leading to widescale health impacts.

'Since 2019, around 50% of the Australian population has been impacted by an extreme weather event,' says Dr Hunter. 'Twelve million of us breathed the air pollution from the bushfire smoke of Black Summer.'

In Australia, heatwaves are the natural disasters with the highest associated mortality rates.[8]

'High temperatures, with or without humidity, can cause heat stroke, dehydration, kidney disease and heart failure,' says Dr Hunter.

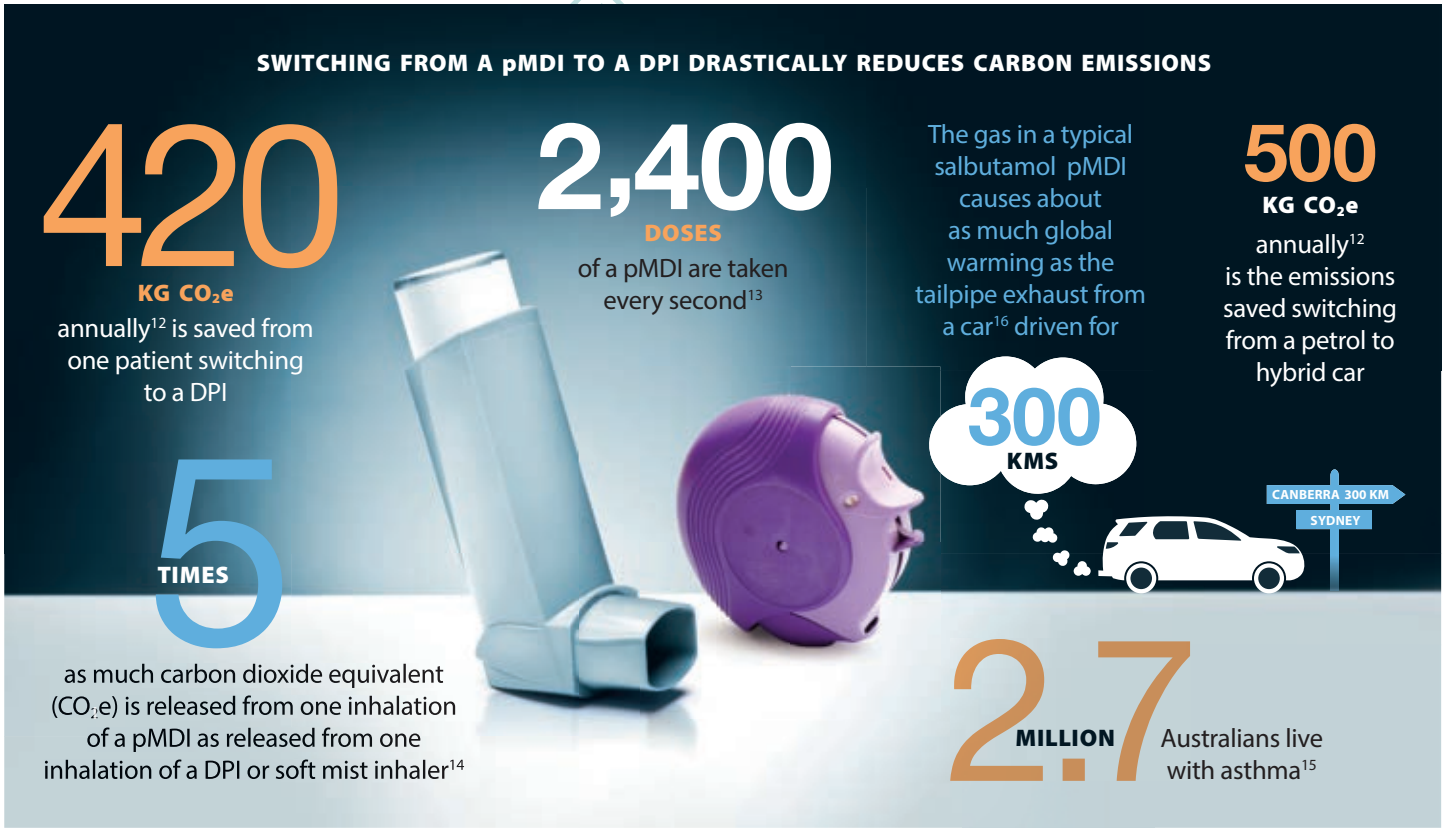
'Loss of overnight cooling alters our concentration and mood and is associated with more violent behaviour.'

Changes in disease patterns are also becoming commonplace. For example, Japanese encephalitis (JE) has migrated south to Australia, with 45 cases and seven deaths reported since 1 January 2021.[9] The significant rainfall and flooding associated with La Niña, which has increased in frequency and intensity due to climate change, has attracted migratory birds,[10] which are the reservoir for JE.[11]

Another emerging area is the impact of climate change on mental health. It's estimated Northern Rivers communities in NSW will face the cascading mental health effects of displacement due to flooding,[12]

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Figure 1 – Carbon emissions: pMDI v DPI



References: Montgomery[12], Pritchard[13], Fidler[14], AIHW[15], RACGP[16]

The fundamental elements of human survival such as air, food and water have been largely overlooked in wealthy countries like Australia.

DR ARNAGRETTA HUNTER
Cardiologist and climate advocate

including depression, anxiety and post-traumatic stress disorder for years to come.

Sustainability leadership

Reducing the health impacts of climate change requires urgent action to limit global warming to 1.5 °C, says PSA.

This requires all levels of government to implement plans to reduce greenhouse gas (GHG) emissions, with a national target of 75% reduction in GHG emissions below the 2005 levels needed in all sectors by 2035 to achieve this goal.[7]

A specific plan for the health sector is also required, with an RACP report identifying that climate change already affects the health system in many ways.[17]

'Climate change can impact healthcare infrastructure, operations, workforce, and service demand,' Dr Small says. 'Climate-associated events also disrupt health system energy supply, communications systems, and supply chains.'

A low carbon and sustainable health sector, on the other hand, can deliver demonstrable economic, social and environmental benefits for Australia.

'For example, improved public health outcomes reduce pressure on healthcare systems[18] and can assist in reducing the sector's emissions,' she says.

Strategies to reduce GHG emissions can also result in significant co-benefits to health, such as green spaces in urban settings helping to improve air quality.

'Access to the ocean, river systems, bushland and forests is especially important for our Aboriginal community, with connection to Country critical to Aboriginal and Torres Strait Islander culture, heritage and wellbeing,'[19] Dr Small says.

Through education, PSA supports pharmacists to understand the link »





between health and climate change and make more sustainable choices, including the *Climate Change Task-Force* PSA22 ECP session, and the *COPD: Respiratory and the Environment* webinar.[20]

Pharmacists can also draw on PSA's *Sustainability* statement to advocate for change in their own workplaces.

'If you work in a pharmacy chain or hospital pharmacy and you want to talk to upper management about sustainability, you [could say]: "PSA says this is a health issue and we should make these changes"', Dr Chen suggests.

The impact of medicines

Creating environmentally sustainable practices across the profession is essential to reducing healthcare's carbon footprint, according to PSA.[7]

While this obligation covers all aspects of pharmacy practice such as energy use, waste reduction and choice of consumables, a primary focus should be medicines, which account for 19% of the sector's carbon emissions.[21] 'A lot of the starting materials in medicines are not from renewable sources, and there's substantial energy used in the manufacturing process,' says Dr Chen.

'Then there's carbon emissions in supply chains – from manufacturer to wholesaler, wholesaler to pharmacies, and then onto consumers.'

Pharmacists in leadership positions can have a significant impact on reducing these supply chain emissions,' she says, by sourcing from local manufacturers. Where local manufacturers can't be sourced, pharmacists can opt for drug companies that use continuous manufacturing. Instead of intermittent production in different places and at different times, continuous manufacturing combines several production stages into a continuous line at the same location.

For example, Sanofi's continuous manufacturing plant in the US purportedly generates 80% less carbon emissions than its first-generation facility.[22]

Eliminating low-value care

All pharmacists can have an impact on health care's carbon footprint by providing good clinical care, including ensuring quality use of medicines and reducing low value care, the PSA statement says.[7]

'This means ensuring patients take the right medicines that work for them, but also that they're not undermedicated,' adds Dr Chen. For example, an asthma patient who doesn't use a preventer or controller medicine optimally will likely use pressurised metered dose inhalers (pMDI) more frequently. While poorly controlled asthma with a reliance on pMDIs can lead to severe exacerbations of asthma, the propellant in these devices also releases GHG emissions.

Pharmacists should therefore confirm a diagnosis of asthma, so patients are not using medicines inappropriately,[7] enquire if an asthma action plan is in place once a diagnosis is confirmed, and refer on to a GP if it requires review for better control.[23]

> **All pharmacists can have an impact on healthcare's carbon footprint by providing good clinical care, including ensuring quality use of medicines and reducing low value care.**
>
> DR ARNAGRETTA HUNTER

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The importance of proper medicine disposal should be broached with patients.

'I always give patients the option to bring the empty pMDI canisters back to the pharmacy, so they don't go into landfill and potentially leak GHG into the environment,' says Dr Chen.

As more pharmacists prepare to participate in prescribing practices and trials, improving the efficiency of the health system will also improve sustainability, as revealed by the Urinary Tract Infection Pharmacy Pilot – Queensland, which prevented almost 1,000 emergency department presentations.[24]

Bolstering the consultant pharmacist workforce could also have an impact. 'If everyone eligible for a Home Medicines Review (HMR or RMMR) had one, you might expect to see more deprescribing,' says Dr Chen.

When a consultant pharmacist conducts an HMR, they optimise medicines, appropriately dispose of all expired medications, and provide education about appropriate storage, particularly important during extreme heat events.

'If you roll out at a population level, it could be quite an impact.' »

ANAESTHETIC CHOICES

Anaesthetics are responsible for a significant amount of carbon emissions. In the United Kingdom, for example, anaesthetics make up 2% of the National Health Service's entire carbon footprint.

But not all anaesthetics are equal. In fact, a 240 mL bottle of desflurane, used to maintain anaesthesia, contains a whopping 886 kg of carbon dioxide equivalent (CO_2e) per container.

This is four times the amount of CO_2e per isoflurane container and 20 times the CO_2e each sevoflurane container, and is the equivalent of driving over 4,943 kilometres.

Despite the faster wake-up time, there are more respiratory complications associated with desflurane than sevoflurane. With three times the volume of desflurane required to achieve the same clinical effect as sevoflurane, it isn't cheap to use either.

With this in mind, there may be other options that are more appropriate clinically, environmentally and economically.

ANAESTHETIC GAS	GLOBAL WARMING POTENTIAL (GWP_{100})	KG CO_2e PER CONTAINER
Sevoflurane	130	44
Isoflurane	510	190
Desflurane	2540	886

Reference: *CSHC*[25]

Limiting air pollution and impact on patients

Air pollution comes in many forms, including industrial pollution, bushfire and wood-fireplace smoke, exhaust fumes from vehicles, allergens, carbon monoxide and household pollution.[7]

The impacts of air pollution can be seen across health disciplines, says Dr Hunter. 'For example, in cardiology, there's a small change in the risk of atrial fibrillation around the time of air pollution, which could result in heart attacks, heart rhythm abnormalities, stroke or cardiac arrest.

'Air pollution is also associated with respiratory issues, including chest infections, exacerbations of asthma and increasing delirium, especially for the geriatric population who have underlying health conditions,' she says.

With bushfires increasing in regularity and intensity, bushfire smoke also leads to increased hospitalisations and deaths.

It is estimated there were 445 deaths from bushfire smoke during the Black Summer fires, as well as 3,340 hospital admissions due to heart and lung complications, with a further 1,373 people presenting to emergency departments with acute asthma.[26]



To address these impacts, PSA calls on government to limit all forms of air pollution. However, pharmacists can also alert patients by discussing the health impacts of climate change, says Dr Chen.

The Royal Australian College of General Practitioners, for example, has created posters that GPs can place in their consulting rooms to prompt conversations, including: 'Fossil fuel air pollution worsens asthma. Speak with your doctor about reducing health risks of air pollution.'[27]

'Having posters like that up in the pharmacy shows we are open to having a conversation if patients want to learn more about it,' Dr Chen points out.



Shifting perspective

Our current healthcare approach is largely individualised. However, adapting to climate change requires a shift to a community-based model, says Dr Hunter.

Let's say there was a 14-day heatwave in regional NSW where the temperature reached 40 °C, reducing outside activities including socialising, shopping and visiting the doctor. 'In this situation, the best way to avoid the ambulance-based model of care is making sure we check on our neighbours, community members and those in our hospital network to identify who might be at particular risk,' says Dr Hunter.

With strong community ties, pharmacists are able to identify patients who live alone, have financial or housing insecurity, inadequate cooling, or reduced access to food and water through heatwave phenomena. 'Pharmacists know the patient types they look after locally, and what medicines they're on,' she says.

These issues will increasingly come to the fore as we experience more extreme heatwave events. 'We don't know what the relationship between health outcomes and medicines, such as diuretics, might be during a heatwave,' she suggests.

'Our vulnerability to climate changes partly depends on our preparation, and how well we engage with the challenge of climate change adaptation in our towns and communities.' AP

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If everyone eligible for an [HMR or RMMR] had one, you might expect to see more deprescribing [which, if rolled out] at a population level, could be quite an impact.

DR ESA CHEN
Early Career Pharmacist

HEALTH IMPACTS OF CLIMATE CHANGE

Climate change causes many health impacts – both physical and psychological.

Aside from death or injury during a climate change event, perhaps the most obvious health impact is the effect on the respiratory system. Ground-level ozone levels are increasing, leading to difficulty breathing, exacerbation of asthma and lung disease, with 12,253 people across 23 European countries hospitalised in 2019 as a result of ozone exposure.[28]

Increased mould proliferation due to intense rain and floods, and significant pollen production resulting from high atmospheric levels of carbon dioxide, can lead to respiratory allergy and severe asthma.[29]

A 2022 study by the Climate Council and Beyond Blue found that of the 80% of Australians who experienced a natural disaster in the past 5 years, half said their mental health was affected by the climate-related event, with 21% indicating a major or moderate impact.[30]

After the 2009 Black Summer bushfires in Victoria, more than 1 in 5 adults displayed symptoms of depression or anxiety.[31]

Climate change can even increase the incidences of cardiovascular disease. Air pollution can lead to an exacerbation of cardiovascular disease, while long-term exposure to fine particulate matter increases the risk of cardiovascular-related mortality.[32]

However, the climate change events that have the greatest breadth and depth in the Australian context are heatwaves, which occur more often and last longer. From 2000 to 2018, around 354 Australians died from the effects of heatwaves.[33]

Heatwaves can lead to increased hospitalisations due to renal failure,[34] and can cause dehydration, acute stroke and blood clots.[35] Mental health is also impacted during heatwave events. A South Australian study found a 7.3% increase in mental health-related hospital admission during heatwaves.[36]

With direct and indirect, as well as long- and short-term impacts, climate change is clearly the defining health crisis of our time.



Supporting environmental sustainability - what can you do to help?

Advice and practical tips on how pharmacists can help lead positive change

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How are climate change and health connected?

Healthcare may not be the first thing that comes to mind when thinking of climate change - yet healthcare represented 7% of Australia's carbon footprint between 2014 and 2015.[1] That is equivalent to the entire carbon emission output of South Australia![1,2] Some of the reasons behind this are obvious - hospitals and healthcare clinics can be highly energy intensive, consume large amounts of electricity and produce a large amount of waste,[1,3] but there are other contributors that may not be as obvious.

Take asthma or chronic obstructive pulmonary disease (COPD) for example. Several million inhalers are used every year across Australia,[4] and when you consider the environmental impact of manufacturing, transportation, disposal of inhalers you can see why this type of medication is adding to the environmental burden.[4] On top of that there are the properties of the inhalers themselves, some of which use hydrofluorocarbons (HFCs) as propellants - greenhouse gases that have an effect on the environment thousands of times greater than an equivalent amount of carbon dioxide.[4] And that is just one example from all of the medications available across the healthcare space.

So, what can pharmacists do?

Peter Guthrey, Senior Pharmacist of Strategic Policy with the Pharmaceutical Society of Australia (PSA), says adding your voice is a key factor by "being a vocal advocate for change and pushing towards a carbon neutral economy," because "everyone can have a voice on social media, everyone has a LinkedIn where they can find others that are having success in these areas and you can start to work together and really think about what you can do as an individual in your own work".

A good place to start is the International Pharmaceutical Federation (also known as Federation Internationale Pharmaceutique or FIP) Global Roadmap 2030.[5] This report contains 21 development goals covering all aspects of pharmacy, from education to policy development.[5] Take a look and see if there are any you can help tackle in your pharmacy. A little closer to home is the PSA Position Paper on Environmental Sustainability[6] - a piece Peter helped to develop through his role in the PSA. He notes that "as an industry, we need to look at where we can reduce our carbon footprint".

Things you can start doing now:

- Look for options that have a smaller impact on the environment such as LED lighting
- Switch off non-essential electronics when not in use
- Look out for patients expressing motivations related to sustainability and help guide them where possible
- Consider what non-pharmacological advice you can offer to help manage or reduce their use of medications - e.g., using face masks during times of increased air pollution (such as the bushfires of 2019)



Where to go for more information?

The best places to start are:

- The PSA Position Statement on Environmental Sustainability, available at https://my.psa.org.au/s/article/Environmental-Sustainability
- The FIP Global Roadmap 2030, available at: https://developmentgoals.fip.org/globalroadmap2030/
- Register to attend the FIP Brisbane 2023 World Congress on 24–28 September, 2023; visit https://brisbane2023.fip.org/ for more information

How might this look in practice?

Peter explains "as a routine part of what we do we provide lifestyle advice and non-pharmacological management advice to patients. For example, with respiratory conditions that can be triggered by air pollution or climate extremes we provide guidance that helps patients understand what can be done to prevent exacerbations (such as using face masks), as well as what to do if they suddenly become short of breath. By helping ensure their condition is well controlled, you can help reduce the use of inhalers". As noted above, this type of medication can have a huge impact on the environment,[4] so any reduction in the need for medication usage can have a positive effect in this area.

To put this into perspective in terms of carbon emissions, switching from an inhaler that uses HFCs as propellants to a dry powder inhaler has a similar impact as switching to a hybrid car or becoming vegetarian.[4] You can take these reductions even further by switching to a reusable device, such as the Respimat® Reusable inhaler (also propellant-free) which can be used with up to six cartridges instead of being disposed of every month of medication use.[7,8] This reduces the number inhalers a patient discards each year from 12 to just two.[8]



Respimat reuse reduces the number of inhalers required each year from 12 to two

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DETERMINANTS OF HEALTH

AND REDUCING HEALTH INEQUITY

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CASE SCENARIO

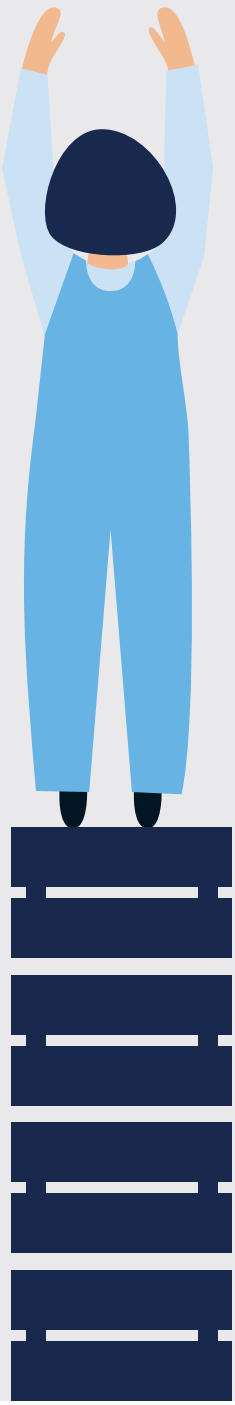
Your regular patient, Meera, is looking at nicotine replacement therapy (NRT). You know she is a smoker and has attempted to quit several times unsuccessfully. This time she is considering NRT to assist, but is shocked at the price. You advise that if she sees her GP and engages with a smoking cessation support and counselling service (e.g. Quitline), she may be eligible for NRT subsidised by the Pharmaceutical Benefits Scheme. However, she is worried about the associated costs, as the GP practice no longer bulk-bills and the wait time to see a GP in your regional town is at least 4 weeks. She leaves empty-handed.

Introduction

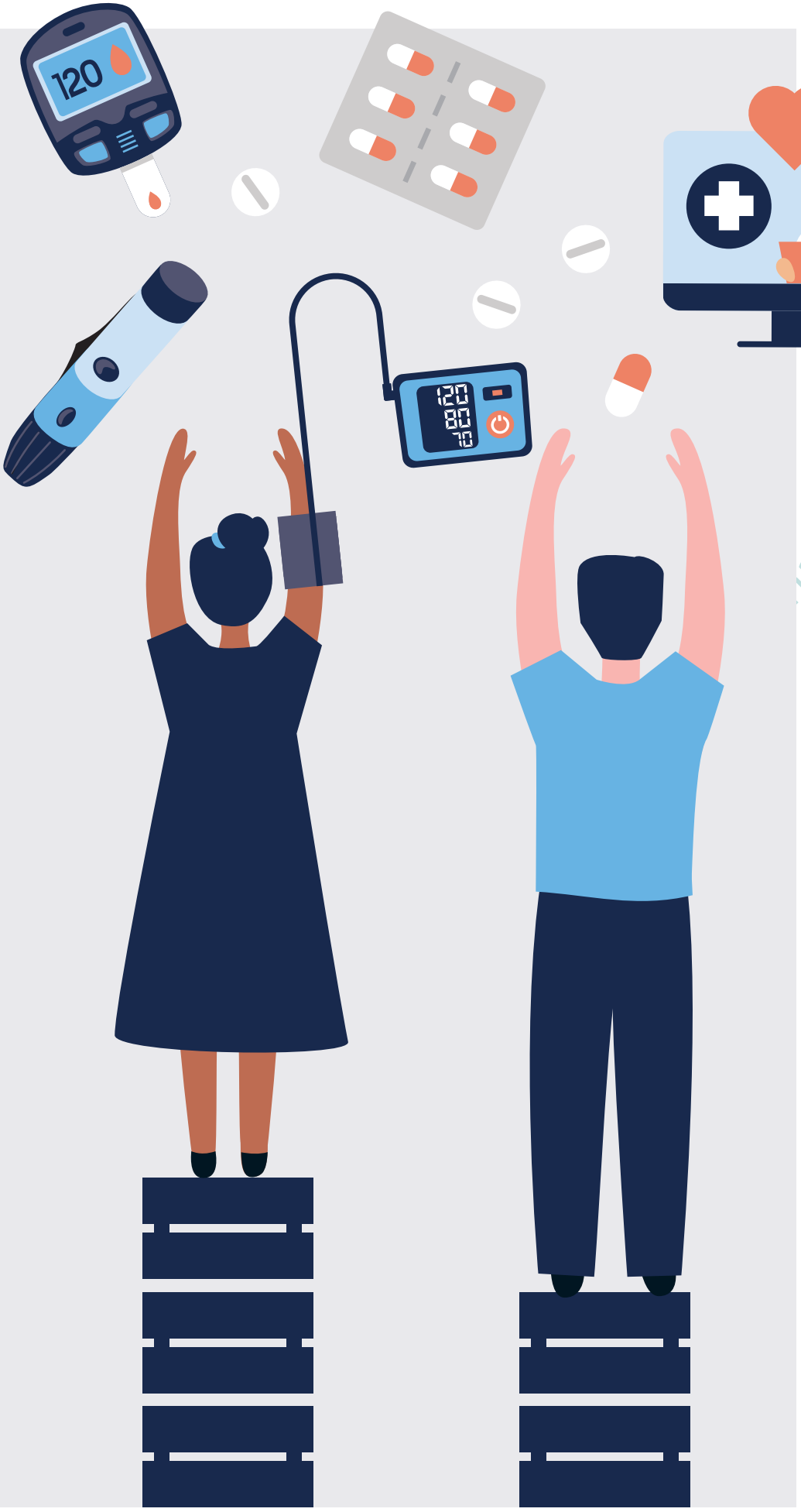
Health can be defined in many ways and is influenced by context, culture and an individual's belief systems. Traditionally pharmacists have used the disease or medical model as their working definition of health, where the major focus is on disease, ill health and deteriorating physical and mental function. Following a diagnosis, the disease is then treated with medicines and/or lifestyle changes.

Increasingly, pharmacists can be observed in their practice and local community to be key contributors to public health efforts, including health promotion, health prevention and health protection activities. In public health, health is defined as "a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity".[1] A compromise between these two definitions may be required to ensure pharmacists can contribute meaningfully to this broader definition of health.

Further, for some patients, health will include their physical, mental, social, emotional, cultural, spiritual and environmental health. Importantly, how each is prioritised may differ from person to person, and it is important that this is considered by pharmacists. »



Complete your CPD online at **www.psa.org.au/APcpd** and for the full references scan the QR code



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LEARNING OBJECTIVES

After reading this article, pharmacists should be able to:

- Identify determinants of health
- Discuss how determinants of health influence the health outcomes of Australians
- Explain strategies that can be employed by pharmacists to reduce health inequity.

Competencies addressed (2016): 1.1, 2.1, 3.1, 3.5, 3.6

Accreditation code: CAP2306SYP

Accreditation expiry: 31/05/2026

Determinants of health

There are several factors that, in combination, determine the health outcomes of individuals and communities. These determinants of health include[2]:

- the social environment (e.g. family, friends and support networks)
- the economic environment (e.g. income and social status)
- the physical environment (e.g. water and air quality, working conditions)
- cultural factors (e.g. beliefs of the community, customs, traditions)
- education level
- health services (e.g. access and appropriate use)
- the individual's characteristics and behaviours (e.g. gender, genetics, diet, exercise).

A person's circumstances and environment, including where a person lives, the state of the environment in which they live, their genetics, income and education level, and their relationships with friends and family have all been found to have considerable impacts on health.[2] In contrast, factors commonly thought to be key determinants of health, such as access to and use of healthcare services, may in fact have less of an impact.[2]

The social determinants of health (SDH) are factors that concern the conditions in which people are born, grow, live, work and age.[3] This includes the health system, and if and how people can access it. Importantly, this is shaped by the distribution of money, power and resources at global, national and local levels, which are also influenced by policy choices.[3,4] The SDH are mostly responsible for health inequities – the unfair and avoidable differences in health status seen within and between countries.[3]

There are several models that illustrate the determinants of health. The determinants of health model (Figure 1) produced by Barton and Grant[5] includes the global ecosystem and climate change. The importance of these recent additions to the determinants of health model have been recognised by the pharmacy profession.[6,7]

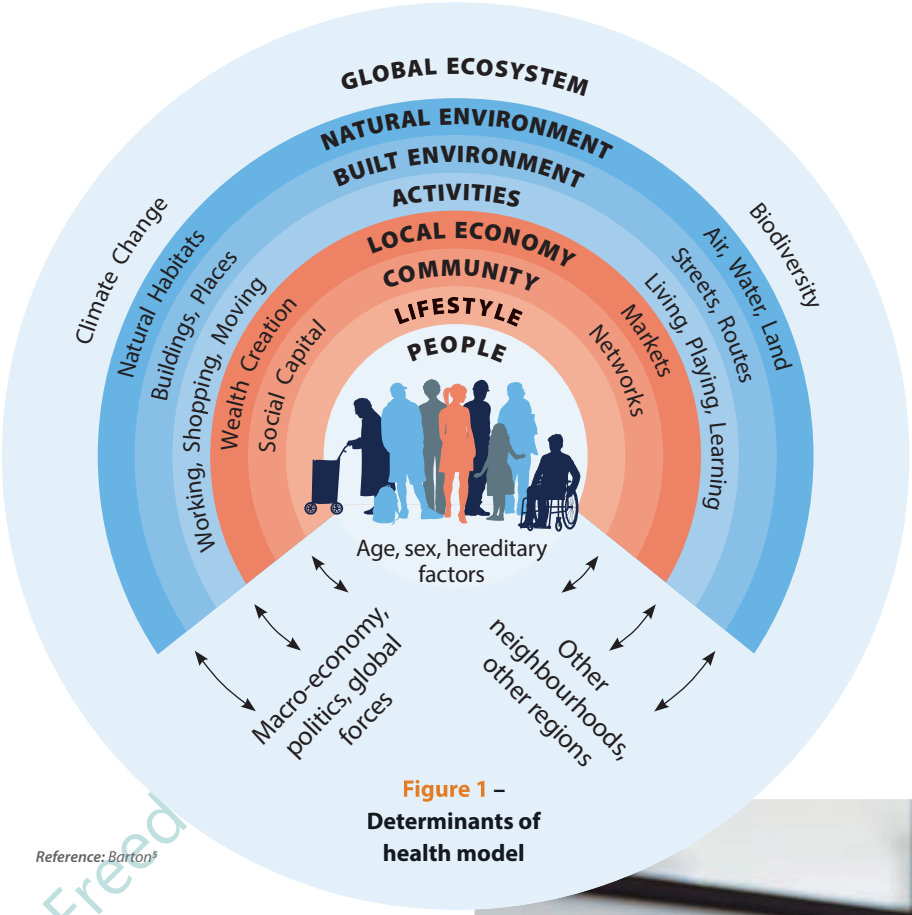


Figure 1 – Determinants of health model

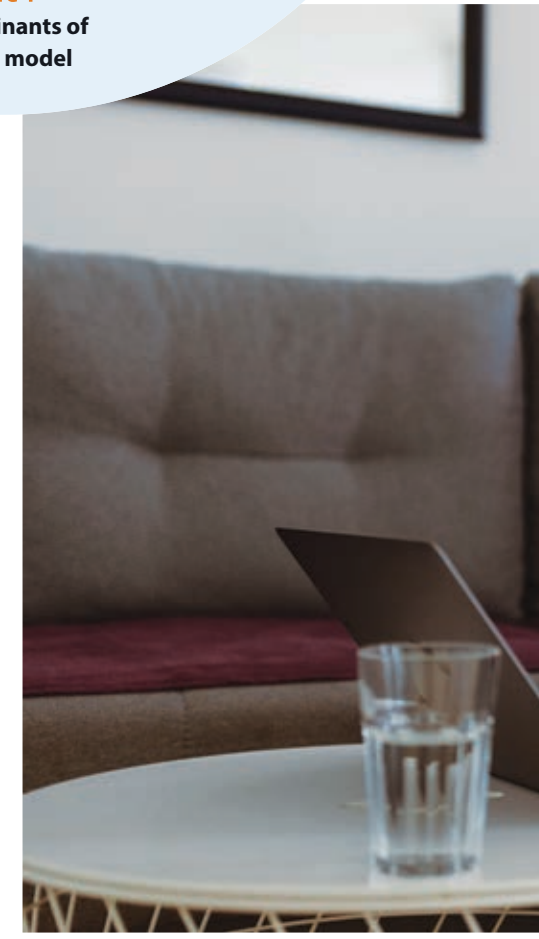
Reference: Barton[5]

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Determinants that impact Australians

The Australian Institute of Health and Welfare[8] highlights six key determinants impacting Australians: socioeconomic position, early childhood, family relationships, social inclusion, employment and work, housing and homelessness.

Although Australia is a rich country by international standards, not all people within our population enjoy the health benefits this can offer. Australians who experience greater socioeconomic disadvantage are more likely to die earlier, and experience more disability and worse



health overall.[9] However, it is not just our income that is associated with our health. People who are unemployed, are blue collar rather than white collar workers, are of Aboriginal or Torres Strait Islander background, or are refugees or migrants experience poorer health outcomes.[10] Australians who live in regional rather than urban areas also have a shorter life expectancy.[11,12] An increase in health inequities during and post COVID-19 led to calls for better-quality data on the determinants of health that impact Australians so that we can build back from the pandemic in a fairer way.[13]

How determinants influence the health outcomes of Australians

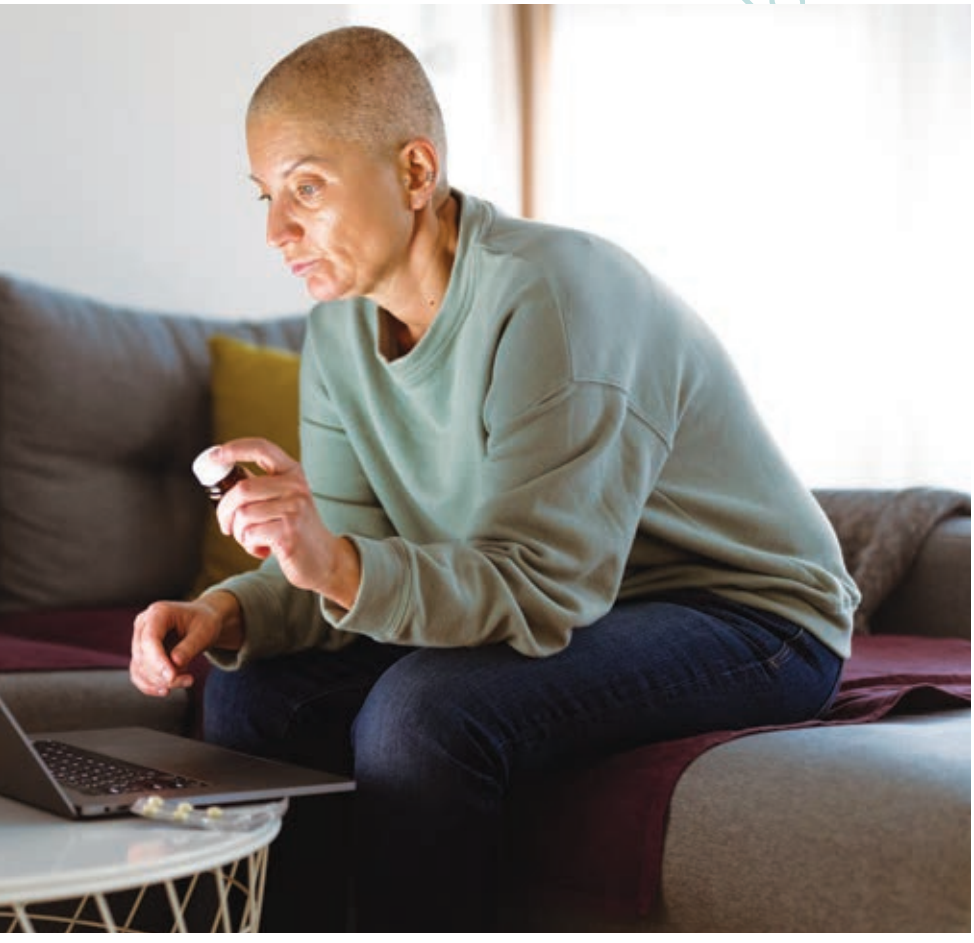
It is not possible to discuss all six of these determinants in detail, however some examples are provided below.

Socioeconomic status is an important determinant of health with indicators including educational attainment, income or occupation level often used to understand a person's socioeconomic position.[8] As highlighted internationally, every step up the socioeconomic ladder is associated with improvements in health outcomes for Australians.[8] A circular relationship exists between wealth and health, with poor health being both the result of, and a contributor to, a lower socioeconomic position.[8]

Social connectedness and the degree to which individuals form close bonds with others has been linked in some studies to lower morbidity and increased life expectancy.[14] The mechanisms through which strong social networks improve physical and mental health may include the provision of practical and emotional help and support as well as assistance with finding work and coping with economic and material hardship.[8] Recent studies have shown that social connectedness may reduce potentially preventable hospital readmissions.[15]

Homelessness and overcrowding can have a negative impact on an individual's physical and mental health.[8] Additionally, poor-quality housing has been directly associated with poor physical and mental health.[16] As with socioeconomic position, the relationship between homelessness and health is circular, with poor health being both the result of and a contributor to homelessness.[17]

The people at greatest risk of living in poor-quality housing in Australia are young people, Aboriginal and Torres Strait Islander peoples, people with long-term health conditions or disability, people living in low-income housing, and people who are unemployed or underemployed.[8]



How determinants create inequities in Australia

Social determinants of health, including income level and socioeconomic position, are largely responsible for the systematic differences in health status that occur between different groups of people. Where these systematic differences in health status exist but could be avoided by 'reasonable policy action', there is health inequity.[18] A reduction of health inequities, between and within countries, is a social justice issue that requires urgent attention.[18]

Addressing inequity is central to effective public health action. The words 'inequality' and 'inequity' are often used interchangeably; however, they mean very different things (Figure 2). Health inequities are avoidable and unfair, and addressing them is about making sure that everyone gets access to the same opportunities to be healthy. »

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Before initiating PAXLOVID, patients will need to withhold treatment with any contraindicated medications where it is clinically appropriate to do so, and observe an appropriate washout period.[1]

Standard dose of Paxlovid is 300 mg nirmatrelvir and 100 mg ritonavir tablets taken together orally every 12 hours for 5 days. Reduce dose to nirmatrelvir/ritonavir 150 mg/100 mg every 12 hours for 5 days for patient with moderate renal impairment (eGFR ≥30 to <60 mL/min/1.73m^2).[1]

PBS information: Authority Required (STREAMLINED).
Category: GENERAL - General Schedule (Code GE). For verified SARS-CoV-2 infection.
Treatment must be initiated within 5 days of symptom onset.
Refer to PBS Schedule for full authority information.

BEFORE PRESCRIBING, PLEASE REVIEW FULL PRODUCT INFORMATION AVAILABLE BY SCANNING THE QR CODE OR VISITING **https://www.pfi.sr/paxlovid-pi**

Warning: Nirmatrelvir with ritonavir has significant drug-drug interactions. Prescribers and dispensers should carefully review a patient's concomitant medications.

▼ This medicinal product is subject to additional monitoring in Australia. This will allow quick identification of new safety information. Healthcare professionals are asked to report any suspected adverse events at www.tga.gov.au/reporting-problems.

Alternatively, any adverse events which are experienced with PAXLOVID can be reported to Pfizer on 1800 675 229 or by email to AUS.AEReporting@pfizer.com

Reference: 1. PAXLOVID Approved Product Information.

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Strategies to reduce inequities

The social determinants require a focus on policies, organisations and social structure to reduce health inequities.[19,20]

The World Health Organization (WHO) defines public health as "the art and science of preventing disease, prolonging life and promoting health through the organised efforts of society".[21] The overall vision is to promote greater health and wellbeing in a sustainable way, while strengthening integrated public health services and reducing inequity. To achieve this, the public health approach involves working with other sectors (e.g. education) to address the wider determinants of health, and with health professionals. Primary healthcare professionals, including pharmacists, can play a key role in preventing illness and promoting health, as outlined in the Alma-Ata Declaration.[21]

Global strategies that have been implemented to address inequity and support effective health promotion and health prevention efforts include the Ottawa Charter,[22] Sustainable Development Goals,[23] Health in All Policies[24] and the Universal Health Coverage[25] approach.

In Australia, one example of a strategy which aims to address inequity is the Closing the Gap agenda. This partnership places Aboriginal and Torres Strait Islander peoples at the table as shared decision-makers.[26]

How pharmacists can reduce inequities

The accessibility of the healthcare sector is an important determinant of health. Health services such as pharmacy provide a key resource capable of improving health in an equitable manner.

It is important for pharmacists and other health professionals to recognise the health sector's propensity to generate health inequity and act to redress these wherever possible. This includes strengthening its role in working with other sectors of government (e.g. education, justice) to identify and act upon the deep-rooted causes of poor and inequitable health.[4] This is referred to as a *Health in All Policies* approach.[24]

Given their accessibility and regular and repeated interactions, pharmacists are in a unique position to see firsthand how the social, economic and environmental determinants influence each of their patient's health.[27] As pharmacists are usually embedded within their community themselves, they are trusted and known, which gives them the opportunity to support and develop health promotion and prevention initiatives that are tailored to address the needs of their patients and the wider community.

Breaking down the determinants of health into some of their broad categories makes it possible to see why it is so important for pharmacists to understand them, and how some pharmacists are responding in their routine practice.

Social determinants of health

Although people's living and working conditions vary, trends exist in some communities. Pharmacists can become attuned to the trends and needs in their local community and tailor the health services they provide to ensure they are accessible to those who need them most. »

Figure 2 – Are we treating everyone equally, equitably or with equity?



BEING TREATED EQUALLY
It is assumed that everyone will benefit from the same supports.

BEING TREATED EQUITABLY
Individuals given different supports to make it possible for them to have equal access to the game.

REMOVING SYSTEMIC BARRIER
All three can see the game without any supports or accommodations because the cause of the inequity was addressed.

Source: City for All Women Initiative (CAWI). Advancing equity and inclusion: a guide for municipalities. At: www.cawi-ivtf.org/wp-content/uploads/advancing-equity-inclusion-en.pdf

released under the Freedom of Information



Pharmacists are well placed to address local trends as they have the clinical and communication skills required and, when working in community pharmacies, provide a centralised contact point. This is one simple approach that uses existing resources to address inequities that may exist within some communities.

Some strategies that can be implemented in practice to improve healthcare access include:

- telehealth services[28]
- professional pharmacy services (e.g. blood pressure checks, risk assessment for chronic conditions, weight loss consultations, wound care, sleep apnoea assessment)
- medicine reviews
- translation services (e.g. Translating and Interpreting Service (TIS) – a free interpreting service available 24 hours a day, every day of the year for pharmacies)
- provision of National Diabetes Services Scheme supplies
- medicine delivery.

Additionally, pharmacies can apply for grants that are available in the community (e.g. Primary Health Network grants) to fund the provision of services through their pharmacy to increase access to healthcare (e.g. the provision of after-hours home-based palliative care medicine).[29]

Economic determinants of health

The cost of health services is an important barrier to patient's accessing healthcare. There are several things that can be done to ensure patients are receiving the best value care, many of which are already routine practice for pharmacists. These include:

- checking for concession/healthcare cards
- checking for Closing the Gap eligibility and directing patients to their doctor to get registered if they are not already
- checking for National Diabetes Services Scheme eligibility and supporting eligible patients to register for the program
- advising patients of the Pharmaceutical Benefits Scheme safety net and assisting them to track their prescription expenditure
- advising patients of the availability of a less expensive brand of a medicine or a medicine that doesn't have a brand price premium, where relevant
- implementation of state government-funded services (e.g. free nicotine replacement therapy).

If further support is required there are services available such as the Centrelink pharmaceutical allowance.[30]

It is important to consider how the economic determinants may impact on your patient's daily health decisions and how we might be able to provide health promotion and health prevention education activities in the pharmacy designed to make healthy choices the easier choices (e.g. pharmacy walking groups, diet advice and cancer screening services).

Environmental determinants of health

The environment in which people live, including the natural and built environment, impacts health outcomes. Environmental determinants can include the forces associated with our natural environment, for example floods and bushfires. Pharmacists working in communities devastated by floods know firsthand the impact this has to the health of their community. For many, this environmental determinant has had a negative flow-on effect to social and economic determinants. Examples of the impact of our built environment include the density of junk food advertising on buildings and buses (contributing to obesity) and the lack of green spaces (contributing to rising rates of mental ill health).[31,32]

Many pharmacists already recognise that the environment has a direct impact on the health of their patients, and that as a society we may be damaging the environment and creating damaging environments (e.g. obesogenic environments). In addition, pharmacists are becoming increasingly aware of the health

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sector's carbon footprint and taking steps to measure and reduce their footprint.[6,7] Given their position of trust, pharmacists can become key advocates for positive change in their local community. Pharmacists can also consider the impact that medicines, the disposal of packaging, disposal of medicines and the transportation of stock is having on the environment and what practices they can introduce to reduce their carbon footprint. These can include:

- advising patients of the availability of inhalers that contribute less to carbon footprint, where appropriate (e.g. dry powder inhalers rather than pressurised metered dose inhalers)[33]
- reducing excessive use of short-term reliever inhalers by supporting patients to optimise asthma control[33]
- minimising the impact of medicine disposal on the environment (e.g. through promotion of the Return of Unwanted Medicines (RUM) project)
- use of an eFax
- medicines blister pack recycling
- use of environmentally friendly consumables (e.g. biodegradable opioid pharmacotherapy cups).

Cultural determinants of health

For many people, cultural and spiritual beliefs are tightly interwoven with their sense of country and place.[26,34] Understanding the diversity of cultures in your local community can help to ensure services are tailored to cultural preferences and care is provided in a culturally safe manner. The *Professional Practice Standards* require pharmacists to determine the specific health needs, including cultural needs, of the patient and/or community, to ensure their services are adaptable and responsive. Further information on the provision of culturally safe care to Aboriginal and Torres Strait Islander peoples is available in the *Pharmaceutical Society of Australia Guidelines for pharmacists supporting Aboriginal and Torres Strait Islander peoples with medicines management*.[35]



Conclusion

Determinants of health can unfairly impact the health of Australians and create health inequities. While many communities and individuals within communities are impacted by their determinants of health, pharmacist awareness of their existence and how they impact the health outcomes of Australians can help lead to the development of solutions to redress the inequity.

CASE SCENARIO CONTINUED

A few months later, Meera returns to the pharmacy. You remember your previous discussion and advise that a new initiative is being trialled in your pharmacy. Funded by the state department of health, your pharmacy is providing free NRT with cognitive behavioural therapy. With the cost barrier and need to book into her GP removed – and her ability to access both the pharmacological and psychosocial therapies in her local pharmacy – she agrees to join the program. »



UP TO
1.5
CPD
CREDITS
GROUP 2

KEY POINTS

- **Health can mean different things to different people: health can include physical, mental, social, emotional, cultural, spiritual and environmental health.**
- **An individual's health can be influenced by social, economic, environmental and cultural factors beyond their control.**
- **Pharmacists are trusted members of the community who understand firsthand which determinants are influencing the health of their patients and their local community.**
- **Pharmacists can combine their knowledge of their community and their clinical and communication skills to deliver tailored services to those who need them most.** AP

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ASSESSMENT QUESTIONS

Each question has only one correct answer.

1 **Which ONE of the following sets of determinants is categorised as a social determinant of health?**

A Socioeconomic position, income level, working and living conditions.

B Income level, cost of healthcare, socioeconomic position.

C Working and living conditions, local natural environmental condition, social inclusion.

D Housing, income level, density of fast food advertising.

2 **Ivan, aged 80, a regular customer on several medicines, is coming in less regularly since his daughter and only family member died. Sometimes medicines remain in his used dose administration aids. He mentions losing motivation to take his medicines without his daughter's support, and he often delays collecting his pack until after he receives his aged pension payment. Which ONE of the following correctly lists the determinants likely influencing Ivan's adherence to his medicines?**

A Commercial determinants and economic determinants.

B Cultural determinants and commercial determinants.

C Environmental determinants and individual characteristics and behaviours.

D Social determinants and economic determinants.

3 **To address determinants of health and reduce health inequity, which ONE of these strategies can pharmacists consider in their practice?**

A Screening all patients to identify social challenges.

B Use of translation services for patients from culturally and linguistically diverse communities.

C Offering professional services to all patients free of charge.

D Addressing determinants of health is not within a pharmacist's scope of practice.

4 **Which ONE of the following statements is *CORRECT* in relation to determinants of health and health inequity in Australia?**

A Having a higher socioeconomic position is associated with better health outcomes compared to a lower socioeconomic position.

B Addressing inequity will not have any impact in improving the health of Australians.

C Health inequities are unavoidable, but steps can be taken to minimise their impacts.

D Housing conditions have been found to have an inverse relationship with a person's mental and physical health.

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A FIRST CHOICE^ FOR PAIN & FEVER RELIEF[1-4]

Suitable from 3 months of age



- Starts to work from 15 minutes,[5] relief for up to 8 hours[6]
- Gentle enough to give without food*[7,8]

Acute pain and fever management: considerations for infants and toddlers

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^First line oral pharmacotherapy for children from 3 months of age.[1,2] *When taken in an over-the-counter setting in patients without contraindications or precautions. Nurofen for Children Baby 3+ Months and Nurofen for Children 5-12 years contain ibuprofen 200mg/5mL. Nurofen for Children 3 months to 5 years contains ibuprofen 100mg/5mL. For the temporary relief of pain and/or fever in children over 3 months to 12 years of age.

References: 1. Using analgesics to manage acute pain [published 2020 Dec, amended 2022 Aug]. In: Therapeutic Guidelines [digital]. Melbourne: Therapeutic Guidelines Limited; 2021 Mar. **2.** The Royal Children's Hospital Melbourne. Clinical Practice Guidelines: Acute pain management. Available at: https://www.rch.org.au/clinicalguide/guideline_index/Analgesia_and_sedation/ (accessed Nov 2022). **3.** Chiappini E, et al. *BMJ Open* 2017;7:e015404. **4.** The Royal Children's Hospital Melbourne. Fever in children. Available at: https://www.rch.org.au/kidsinfo/fact_sheets/Fever_in_children/ (accessed Nov 2022). **5.** Pelen F, et al. *Ann Pediatr* 1998;45(10):719-28. **6.** Autret-Leca E, et al. *Curr Med Res Opin* 2007;23(9):2205-11. **7.** Kanabar DJ. *Inflammopharmacology.* 2017;25(1):1-9. **8.** Rainsford KD, Bjarnason I. *J Pharm Pharmacol.* 2012;64(4):465-469.

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UP TO 12 HOURS OF CONTINUOUS PAIN RELIEF IN A SINGLE DOSE†[1]



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Managing hand osteoarthritis – the latest evidence

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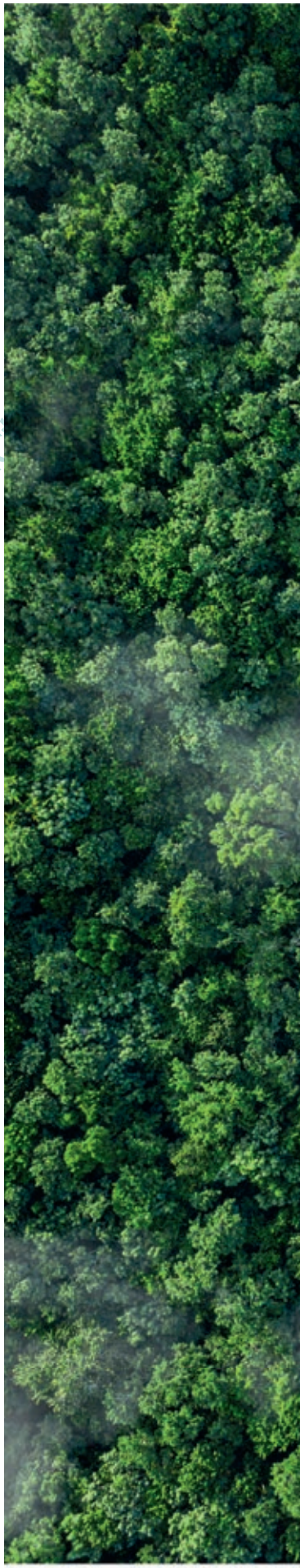


†2x 300mg ibuprofen modified release.
Nurofen 12 Hour contains ibuprofen 300mg modified release. For the temporary relief of persistent pain and/or inflammation likely to last more than 6 hours.
Reference: 1. Nurofen 12 Hour (Ibuprofen) Modified Release Tablets. Approved Product Information, December 2020.

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ENVIRONMENTALLY RESPONSIBLE INHALED RESPIRATORY TREATMENTS – IMPLICATIONS FOR PRACTICE



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CASE SCENARIO

Ziqi is a regular at your pharmacy. She has popped in today to purchase a salbutamol pressurised metered dose inhaler (pMDI). You notice on her dispensing history that this will be her third in the last 4 weeks and she is overdue to have her repeat for her budesonide dry powder inhaler (DPI) filled. You enquire about her asthma control and budesonide DPI use. She is impatient with you and comments that pharmacists are always asking about how she uses it. She reiterates that her GP prescribed it for her and that she gets regular check-ups.

Introduction

Inhaled therapies are the key treatment option for asthma and chronic obstructive pulmonary disease (COPD). The devices that deliver these inhaled therapies fall into three main groups: pressurised metered dose inhalers (pMDIs), dry powder inhalers (DPIs), and soft mist inhalers (SMIs). These devices all have an impact on the environment through the embedded carbon in their manufacture, distribution and use, and the waste generated from their disposal.[1] Also, the propellants used in pMDIs have a high global warming potential (GWP).[2–4] Increasingly there are calls globally as well as in Australia to consider switching patients to respiratory devices with lower GWP.[5–8] Pharmacists can play an important role in the uptake and implementation of initiatives that reduce the environmental impact of respiratory care.

Airway disease prevalence and volume of inhaler consumption

Both asthma and COPD are highly prevalent in Australia, and around »

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LEARNING OBJECTIVES

After reading this article, pharmacists should be able to:

- Describe the environmental impact factors examined in a product life-cycle assessment
- Discuss the environmental impact of the different types of respiratory devices
- Discuss ways to reduce the environmental impact of inhaled respiratory therapies.

Competencies addressed (2016):
1.1, 1.3, 1.4, 1.5, 2.2, 2.3, 3.1, 3.2, 3.5

Accreditation code: CAP2306SYPJS

Accreditation expiry: 31/05/2025

the world.[9,10] In 2019, asthma affected approximately 262 million people worldwide.[9] In the National Health Survey 2017–18, 11% of Australians (2.7 million people) self-reported having been diagnosed with asthma[11] and 2.5% (598,800 people) reported a COPD diagnosis.[12] In 2016–17 there were more than 4 million prescriptions for short-acting bronchodilators dispensed in Australia, of which 91% were salbutamol, 4% terbutaline and 5% ipratropium, and this does not include over-the-counter (OTC) sales.[13] These statistics provide some indication of the large volume of respiratory devices used annually.

Ozone depleting and global warming potential of inhalers

Currently there is much discussion in respiratory literature on the contribution of inhaled therapies to ozone depletion, greenhouse gas emissions (GHGe), and global warming.[7,14,15] Despite updated national carbon reduction pledges since the UN Climate Change Conference in Glasgow (COP26) in 2021, global atmospheric CO_2 concentrations continue to rise. We continue to move further away from the COP21 (Paris, 2015) agreement goal of limiting global warming to well below 2 °C.[16] Currently we're on track for a 2.8 °C temperature rise by the end of this century. Even if all COP26 pledges are implemented, at best the temperature rise will be 2.4 °C.[16] As global emissions rise, so do the health effects from resulting climate change – the increasing climate crisis is also a health crisis.[17,18]

The health sector contributes to the problem, producing approximately 4.4% of total global emissions.[17,18] In 2014–15, healthcare contributed 7% of Australia's total CO_2 emissions, and of this 7%, pharmaceuticals contributed 19%.[19] In 2020, the National Health Service (NHS) in England reported that 20% of its total carbon emissions came from pharmaceuticals (including anaesthetic gases and metered dose inhalers).[20] In 2018, pMDIs alone contributed approximately 3.2% of NHS England's total carbon emissions.[21] NHS England has set targets to deliver significant and accelerated reductions in its total emissions by introducing initiatives including moving from pMDIs to lower carbon inhalers such as DPIs or SMIs.[22]



The main propellants originally used in pMDIs were chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs), which deplete the ozone layer and have a high GWP.[23] The *Montreal Protocol on Substances that Deplete the Ozone Layer*, adopted by all UN-member nations in 1987, was implemented to phase out ozone-depleting substances, including CFCs and HCFCs.[24] To comply, manufacturers of pMDIs changed their propellants to hydrofluorocarbons (HFCs) which are also known as hydrofluoroalkanes (HFAs). While HFCs do not have the ozone depleting properties of CFCs and HCFCs,[24] they have a GWP of over 1,000 (Table 1).[25]

Life-cycle assessments of inhalers

In evaluating the environmental impact of an inhaler, ozone depletion (OD) and GWP are not the only factors that need to be considered. Instead, a life-cycle assessment (LCA) is required – a systematic analysis of the potential environmental impacts of a product across its entire life cycle[3] (cradle to grave). This includes upstream processes such as procurement and downstream processes such as waste disposal.

LCAs (e.g. the ReCiPe method[26]) include the following environmental impact factors:

- Human toxicity (cancer)
- Human toxicity (non-cancer)
- Photochemical oxidants formation (human)
- Photochemical oxidants formation (ecosystems)
- Freshwater ecotoxicity
- Marine ecotoxicity
- Freshwater eutrophication*
- Marine eutrophication*
- Fossil resources depletion
- Mineral resources depletion
- Terrestrial acidification
- Terrestrial ecotoxicity.

** Eutrophication is the process by which an entire body of water, or parts of it, becomes progressively enriched with minerals and nutrients, particularly nitrogen and phosphorus.*

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Table 1 – Global warming potential (GWP) and ozone depleting potential (ODP) by propellant type[2,7,32,55]

	PROPELLANT	ODP†	GWP#
Discontinued (previously used in pMDIs)	CFC-11	1.0	4,660
	CFC-12	> 0.4	10,200
Current generation	HFC-134a (HFA-134a) (norflurane)	0	1,300
	HFC-227 (HFA-227ea) (apaflurane)	0	3,350
Under development	HFC-152a	0	138

† Ozone depleting potential measured relative to that of CFC-11.
 # Global warming potential measured relative to that of carbon dioxide.

LCAs also include the relative contribution of the various components of a device to these environmental impact factors.

Several studies have conducted full LCAs to compare the environmental impacts of various inhalers.[27–32] All of these demonstrated differences in carbon footprints between pMDIs and other inhaler types (although specific comparison of inhalers is difficult due to different methodologies used), including between different brands of the same active pharmaceutical ingredient (API) and device.[3] Overall, however, these studies demonstrated that DPIs and SMIs have a significantly lower carbon footprint compared with pMDIs.[3] Per month, the carbon footprint of DPIs equates to 3.4% of the carbon footprint of a pMDI using HFC-134a as the propellant and 1.3% of the carbon footprint of a pMDI using HFC-227ea.[32]

However, Jeswani and Azapagic found that some disposable DPIs have a greater impact on other environmental impact factors (e.g. metal depletion and terrestrial acidification) than pMDIs due to their high plastic and aluminium content.[32] Therefore, switching all patients currently using pMDIs to DPIs won't necessarily reduce the overall environmental impact. As a wider range of environmental data becomes available from LCAs that assess factors other than OD and GWP, health professionals will be able to make more informed choices so that impact burden is not simply shifted from one environmental impact factor to another.

Reducing the environmental impact of inhalers

In the United Kingdom (UK), the majority of pMDI use is for short-acting beta$_2$-agonist (SABA) inhalers in patients with poorly controlled asthma.[7] Australia appears to be similar. A 2019 Australian study[33] surveyed community pharmacy customers aged 16 years or older regarding their OTC »

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JUST 1 TABLET FOR ACUTE STRONG PAIN RELIEF[1,2]

With the powerful combination of ibuprofen and paracetamol, **dual action Nuromol relieves moderate-to-severe pain for up to 8 hours in just a single tablet dose**, with no increased risk of adverse effects.*[1,2]

Success rates for at least 50% maximum pain relief[1]



Adapted from Moore RA, et al. 2015 (a review of published Cochrane reviews, not head to head data). Refer to published paper for details of all 21 different OTC analgesics, doses and formulations analysed.



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Managing hand osteoarthritis – the latest evidence

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*Compared to single active ingredients alone.

Nuromol contains 200mg ibuprofen and 500mg paracetamol. For the temporary relief of pain and inflammation.

References: 1. Moore RA, et al. *Cochrane Database Syst Rev* 2015;(11):CD010794. **2.** Mehlisch DR. *Clin Ther* 2010;32(6):1033-1049.

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Prepared March 2023. RKT-M-19677



purchasing behaviours of SABAs. Of the 412 participants, 70.1% (n = 289) reported using a SABA more than twice a week during the last four weeks, 73.6% (n = 304) reported not using a preventer daily, and only 81.6% (n = 337) reported having asthma diagnosed by a doctor. Patients' perception of immediate symptom relief with SABAs continues this reliance on them.[7] A UK health economics study[34] looked at the carbon footprint of asthma exacerbations and found that GHGe were highest for severe/life-threatening asthma exacerbations followed by moderate. Thus, better disease control in asthma patients will reduce the incidence of moderate-severe asthma events and reduce GHGe.[7,34]

Prescribing for asthma patients, which does not comply with national asthma clinical guidelines, contributes to the overuse of SABA pMDIs. The *Australian Asthma Handbook*[35] recommends the following treatment options for 'most patients' with asthma:

Option A – regular inhaled corticosteroid (ICS) low dose + SABA as needed.
Or
Option B – budesonide (ICS)/formoterol (long-acting beta$_2$-agonist: LABA) low dose as needed.

Studies across several countries have identified that prescribing a regular ICS + SABA as needed resulted in patients underusing the ICS while overusing the SABA.[7,36,37] Therefore low-dose ICS + LABA in a DPI could potentially provide the lowest carbon emissions option by improving asthma control and reducing the risk of over-reliance on SABAs. This was demonstrated in the Salford Lung Study for Asthma, where patients with symptomatic asthma on maintenance inhaler therapy were randomised to receive either usual care or a combination ICS + LABA (fluticasone + vilanterol) in a DPI.[38] Patients receiving the fluticasone + vilanterol had improved asthma control with a consequent 10% reduction in rescue salbutamol pMDI compared with the patient group receiving normal care.[3,38]

Comparing the therapeutic efficacy of pMDIs and DPIs is confounded by variability in oropharyngeal deposition of the API due to particle size, resistance, speed of aerosol, and the patient's inhaler technique.[3] However, poor inhaler technique with both DPIs and pMDIs, despite developments in inhaler technologies, increases the cost of managing asthma and COPD[39–44] and also has environmental impacts, as it can lead to overuse of SABAs[37] for acute exacerbations.

Improving patients' pMDI device technique (e.g. by encouraging patients to use their pMDI with a spacer) could also potentially improve their asthma or COPD control and reduce use of SABAs.

Non-adherence and non-compliance also contribute to poor disease control and risk of overuse of SABAs.[44] Involving patients in the choice of device and acknowledging their device preference has been shown to improve compliance and adherence.[45]

Switching patients' inhaler type

There are many calls in the literature to switch adolescent and adult asthma patients on pMDIs to DPIs or SMIs to reduce carbon emissions.[2,3,7,46,47] The NHS in England has commenced this switch to help it achieve its commitment to become net carbon neutral by 2040 for emissions under its direct control[48] and has set a target of a 50% reduction in the carbon footprint of inhalers by 2028.[49] Jeswani and Azapagic[32] estimate that if all prescribed pMDIs in the UK were replaced with currently available DPIs (assuming each DPI produced 9 g CO_2 eq/dose) a 96% reduction in inhaler carbon footprint could be achieved. A large survey of UK asthma patients (n = 12,145) found that patients are concerned about the environment, with 80% responding that asthma patients should be encouraged to use inhalers with a lower carbon footprint, and 60% expressing a willingness to switch.[50] »

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The willingness to switch inhalers was influenced by the efficaciousness of the new inhaler, its ease of use and lifestyle considerations, and the ability to change back to the original inhaler if desired.[50] However, another study of NHS patients found participants did not believe that environmental considerations should influence treatment decisions.[51]

The patient's ability to use a particular device, preferences and device cost all need to be considered when working with patients to determine if switching to a lower carbon footprint inhaler is appropriate. Switching asthma inhalers without adequate discussion with the patient risks poor inhaler technique and patient dissatisfaction, leading to deterioration in the patient's asthma control.[52,53]

Patients who are reliant on pMDI SABAs may refuse or be resistant to switching to a lower carbon DPI or SMI. In this situation, it may be useful to discuss the reasons behind the suggested change and provide reassurance that their views and opinions are respected. The cost of treatment options is also a consideration in switching patients. Therefore, a patient-centred approach is of paramount importance to transition patients successfully to a new, lower carbon respiratory device.

Knowledge to practice

The ways pharmacists can contribute to reducing the environmental impact of inhalers, many of which are already routine practice for pharmacists, include:

- Have a conversation with patients purchasing salbutamol pMDIs for asthma to:
  - confirm they have a diagnosis of asthma
  - check they have an asthma action plan
  - determine if they are using a combination ICS + LABA DPI
    - if they aren't, explain the GWP of the propellant in pMDIs and recommend they discuss the possibility of being prescribed this combination with their GP
  - check their inhaler technique and enquire if they are using a spacer
  - remind them to return used or expired inhalers to be disposed of via the Return Unwanted Medicines (RUM) program (inhalers disposed of in landfill will release unused propellant into the atmosphere)
  - engage them in the move away from pMDIs so they can make an informed choice regarding switching devices to lower carbon options.
- Encourage prescribers to adhere to the National Asthma Council *Australian Asthma Handbook* guideline and Lung Foundation Australia *COPD-X* guideline to ensure optimal disease control and reduce overuse of SABAs.
- Engage with your local GPs to discuss the environmental benefits of prescribing a DPI or SMI rather than a pMDI. Suggest DPI and SMI brands with low carbon footprints and lowest environmental impact across other impact factors (e.g. devices which are partially reusable).
- Lobby pharmaceutical companies, local government and other stakeholders to look at ways to recycle the plastic waste in all respiratory devices and retrieve the metal in DPIs.





Conclusion

Australia's average temperature has increased on average by 1.44 ± 0.24 °C since national records began in 1910.[54] Australia's warmest year on record was 2019, with the temperature 1.52 °C above average.[54] Climate change is impacting the health of Australians in a variety of ways, and pharmacists can help mitigate these impacts by reducing the carbon emissions from inhalers. While DPIs and SMIs have other negative environmental impacts, until low carbon propellants are introduced into pMDIs, and DPIs and SMIs are developed with less materials wastage, reducing the use of current salbutamol pMDIs and switching patients to DPIs and SMIs – where appropriate – remain our best options for reducing the environmental burden of respiratory care.

CASE SCENARIO CONTINUED

You acknowledge Ziqi's frustration and explain that you are enquiring to enable you to help her achieve the best control of her asthma. You explain that the budesonide DPI is a preventer medicine and using it regularly will help to control her asthma and mean she won't need to use as much salbutamol pMDI. Her resistance to your advice lessens and you take the opportunity to mention that some types of inhalers have a bigger carbon footprint than others. You explain that the main priority is that her asthma is kept as well controlled as possible using inhalers that suit her, however she could consider switching to a combination inhaler option where the preventer and reliever medicines are in one device, which might be more cost effective for her and better for the environment. This piques her interest, and she says she will discuss this possibility with her GP at her next appointment. »

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KEY POINTS

- Dry powder inhalers (DPIs) and soft mist inhalers (SMIs) have significantly lower global warming potential and carbon footprint than pressurised metered dose inhalers (pMDIs).
- DPIs and SMIs score higher on other environmental impact factors (e.g. metal depletion and terrestrial acidification) than pMDIs.
- Until pMDIs with the low carbon propellant (HFC-152ea) come onto the market (expected 2025), the best treatment options for the environment are DPIs and SMIs with the lowest scores for metal depletion and terrestrial acidification.
- Remind patients to return unwanted pMDIs to a pharmacy for disposal via the RUM program (unused propellant in pMDIs disposed of in landfill will escape into the atmosphere). AP



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ASSESSMENT QUESTIONS

Each question has only one correct answer.

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1 A life-cycle assessment (LCA) analyses the potential environmental impacts of a product across its whole life cycle. Which ONE of the following is *NOT* examined in the ReCiPe LCA?

A Fossil resources depletion.
B Mineral eutrophication.
C Human toxicity.
D Marine eutrophication.

2 Which ONE of the following regarding the environmental impact of different types of inhalers is *CORRECT*?

A DPIs have a lower carbon footprint than pMDIs but some score higher for the environmental impact factors metal depletion and terrestrial acidification.
B DPIs have a lower impact on the environment than pMDIs for all environmental impact factors.
C The environmental impact of all pMDIs is the same.
D SMIs have an equivalent carbon footprint to pMDIs.

3 When determining if it is appropriate to switch a patient to a different inhaler type, which ONE of the following needs to be taken into consideration?

A How long the patient has had asthma or COPD.
B The patient's gender.
C The general ability of the population to use the inhaler type.
D The patient's preference.

4 Which ONE of the following is *NOT* a strategy that can be employed by pharmacists to reduce the environmental impact of inhalers?

A Advising patients to return inhalers that are no longer needed to be disposed of via the Return Unwanted Medicines program.
B Assisting patients to achieve optimal disease control by ensuring they are using an appropriate inhaler technique.
C Informing local medical practitioners that they should be switching all patients on pMDIs to DPIs due to their lower carbon footprint.
D Discussing with the patient the benefits to their disease control and the environment of switching from an ICS + OTC SABA when needed, to a combination ICS + LABA as needed, and recommending they speak to their medical practitioner about the possibility.

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ACUTE PAIN MANAGEMENT

WITH OVER-THE-COUNTER (OTC) ANALGESICS

Introduction

Achieving adequate pain relief in the community setting has become increasingly challenging. Misuse of analgesics in recent years has led to the implementation of stricter regulations in Australia, from the upscheduling of codeine to the more recent interim decision on changes to paracetamol scheduling.[1-3]

These measures may have disrupted access to some pain management options for patients, which may be contributing to the undertreatment of pain.[1,2]

Inadequate management of acute pain may result in the worsening of pain, more frequent hospital readmissions, and added economic burden associated with pain therapy.[4] It may also reduce quality of life, impair sleep and physical function, and potentially increase the risk of transition to chronic pain.[4,5] Supporting evidence from an inception cohort study alongside a multi-site, pragmatic, cluster randomised clinical trial in the United States showed almost a third of patients with acute low back pain transitioned to chronic pain at 6 months (32%; n = 1666/5233).[6] »

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CONFLICT OF INTEREST DECLARATION:
Mr Bell has been a member of advisory boards for, or provided advice to: Astellas, Astra Zeneca, Bayer, GSK, Mylan, Novartis, Nutricia, Pfizer, Procter & Gamble and Reckitt Benckiser. He is currently a member of the international multidisciplinary Global Pain Faculty.

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LEARNING OBJECTIVES

After reading this article, pharmacists should be able to:

- Explain the risks associated with undertreatment of acute pain in adults
- Discuss pharmacological and non-pharmacological treatment options for acute pain
- Explain the role of over-the-counter analgesics in patients presenting with various acute pain types, according to clinical guidelines.

Competency (2016) standards addressed:
1.1, 1.4, 1.5, 3.1, 3.5

Accreditation code: CAP2306OTCCP

Accreditation expiry: 31/05/2026

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Pain management requires a multimodal approach of non-pharmacological strategies alongside adequate analgesia[7] – not so little that pain is uncontrolled, but not so much as to be problematic. In acute pain, over-the-counter (OTC) analgesics play a key role in achieving this[8]; pharmacists thus have a responsibility to optimise patients' use of the available options to help ensure adequate pain control.

Stepwise management of acute pain

Rather than eliminating pain, the primary goal of acute pain management is to facilitate return to normal functioning and prevent progression to chronicity.[5,8] Best practice utilises both non-pharmacological and pharmacological interventions, with the management strategy determined by the cause of pain, pain type(s) and pain intensity (Table 1).[7,8]

Non-pharmacological interventions should always be incorporated as a foundation for acute pain management.[9] This includes:

- **Educating the patient** about their condition and treatment; this can enhance expectation management and improve adherence to treatment strategies.[9]
- **Basic psychological techniques** such as active listening and targeted reassurance; this can also assist with treatment adherence and reducing medication use.[9,10]
- **Physical interventions** such as thermotherapy, massage, splinting, physiotherapy, etc; these alone may provide adequate pain relief for mild acute presentations.[9]

Pharmacotherapy may be added as necessary, with OTC NSAIDs or paracetamol as first-line options.[7] A body of evidence indicates the proportion of patients who can achieve good analgesia (at least 50% relief) with OTC analgesics has ranged from around 70% at best to less than 20% at worst.[11]

Optimising the use of OTC analgesics

When determining the most appropriate analgesic for a patient, the pain intensity and type should be taken into consideration, in addition to the underlying condition, comorbidities, potential interactions with other medications the patient is using, and precautions/contraindications relating to the analgesic.[7] Recommendations from evidence-based clinical guidelines should also be considered.

Pain intensity

It is essential that the choice of analgesic adequately addresses the intensity of pain. If pain is undertreated, the patient may experience residual pain which may impact return to normal functioning[4,8] and potentially lead to repeated supratherapeutic ingestion and overdose.[12]

For patients experiencing mild to moderate pain, monotherapy with paracetamol or NSAIDs is a suitable option for those without precautions or contraindications.[7] A wide range of »



Table 1 – Management strategies for acute pain based on pain intensity[7]

	MILD ACUTE PAIN	MODERATE ACUTE PAIN	SEVERE ACUTE PAIN
Foundation strategies	Non-pharmacological interventions	Non-pharmacological interventions An NSAID Paracetamol	Non-pharmacological interventions An NSAID Paracetamol An opioid
Add if foundation strategies are unlikely to provide adequate analgesia	An NSAID Paracetamol	A low-dose opioid	

Adapted from Therapeutic Guidelines. Pain and analgesia. 2020.[9] NSAID, non-steroidal anti-inflammatory drug.

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dosages, formats and formulations are available to tailor treatment to a patient's individual needs (Table 2).

For patients experiencing moderate-to-severe acute pain, a combination of NSAID and paracetamol may be suitable.[7,23] Combining analgesics with different mechanisms of action may provide greater efficacy than monotherapy.[7,23] Fixed-dose combinations available OTC in Australia include ibuprofen 200 mg/paracetamol 500 mg and ibuprofen 150 mg/paracetamol 500 mg. In a study comparing the efficacy and tolerability of fixed-dose combinations of ibuprofen/paracetamol (100/250 mg,* 200/500 mg and 400/1000 mg*) with comparable doses of ibuprofen (200 or 400 mg) or paracetamol (500 or 1000 mg) monotherapy and placebo for moderate-to-severe postoperative dental pain, ibuprofen 200 mg/paracetamol 500 mg demonstrated significantly more effective pain relief than paracetamol 1000 mg ($p<0.001$), and comparable tolerability to the single actives.[23]

Pain type

Consider the underlying cause of the pain and how pharmacotherapy may address it. For example, NSAIDs exert analgesic and anti-inflammatory effects through inhibition of cyclooxygenase and prostaglandin synthetase,[24] while paracetamol is thought to act via inhibition of central prostaglandin synthesis and modulation of inhibitory descending serotonergic pathways.[13] Since paracetamol's anti-inflammatory effects are negligible,[13] NSAIDs are considered a more suitable option for pain with an inflammatory component.[7,24] This is reflected in the clinical guidelines for several common musculoskeletal conditions where inflammation is implicated, such as osteoarthritis and low back pain.[25–30] For these two indications, oral NSAIDs are recommended first-line.[29,30]

*Not available in Australia

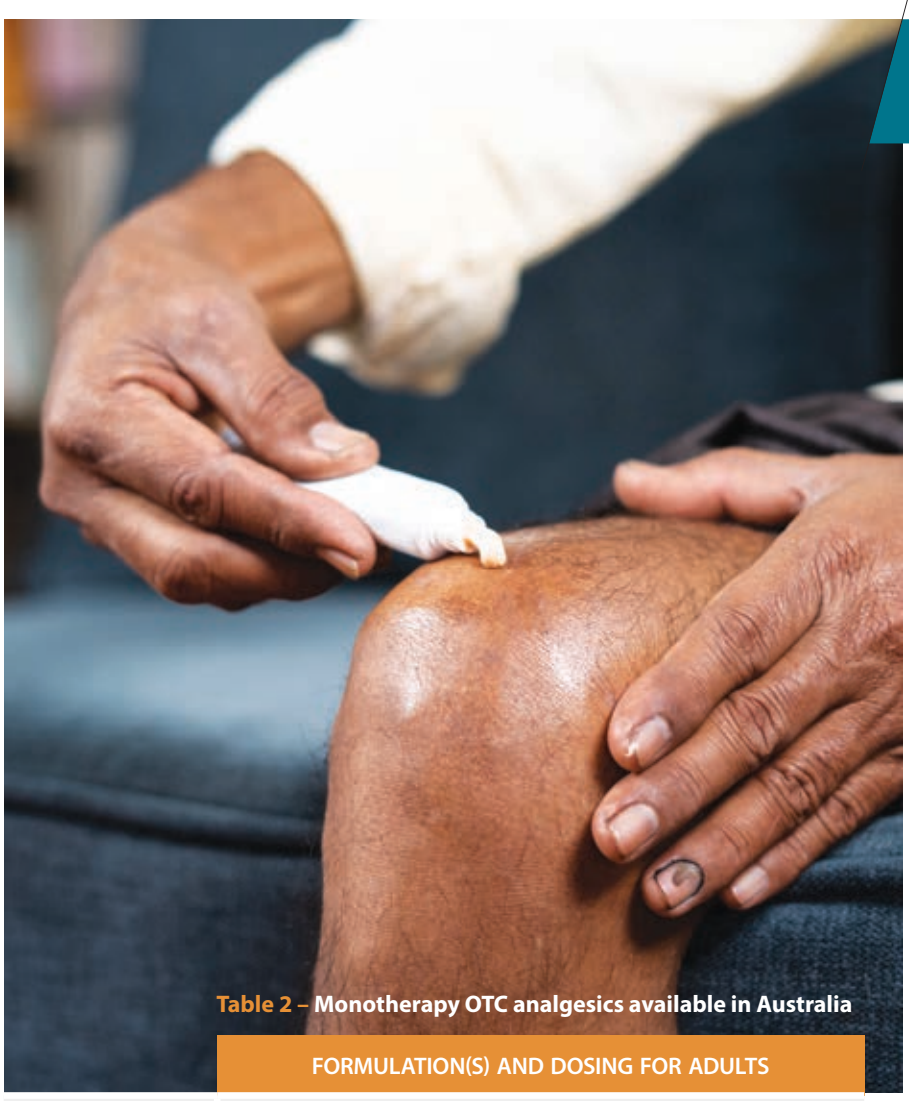


Table 2 – Monotherapy OTC analgesics available in Australia

	FORMULATION(S) AND DOSING FOR ADULTS
Paracetamol[13]	• Oral immediate-release: 500 mg–1 g 4–6 hourly; maximum 4 g daily • Oral modified-release (665 mg): two tablets 6–8 hourly; maximum six tablets daily • Rectal: 500 mg–1 g 4–6 hourly; maximum 4 g daily
Ibuprofen[14,15]	• Oral immediate-release: 200–400 mg 4–6 hourly. Up to 1200 mg daily may be used short term • Oral modified-release: 600 mg 12-hourly • Topical: rub 4–10 cm into the affected area, up to 4 times daily
Diclofenac[16,17]	• Oral: 25 mg initially followed by 12.5–25 mg 4–6 hourly; maximum 75 mg daily • Topical: o 1% gel, rub into the affected area 3 or 4 times daily o 2% gel, rub into the affected area 2 times daily o Spray, apply 4–5 sprays then gently rub into affected area 3 times daily; maximum 15 sprays daily
Naproxen sodium[18,19]	• Oral immediate-release: 550 mg initially followed by 275 mg 6–8 hourly; maximum 1375 mg daily • Oral modified-release: see packet for dosing instructions
Aspirin[20,21]	• Oral: 300–1000 mg 4–6-hourly; maximum 4000 mg daily
Mefenamic acid[22]	• Oral: 500 mg 3 times daily

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Safety and tolerability

Examination of published Cochrane reviews evaluating the efficacy of 21 different OTC analgesic drugs, doses and formulations using data from acute postoperative pain indicates that adverse events with evaluated analgesics (including paracetamol, ibuprofen, diclofenac, naproxen and aspirin) are generally no different from placebo.[11] However, concerns are often expressed regarding the gastrointestinal (GI) safety of NSAIDs. While some international recommendations encourage NSAIDs to be taken with food to minimise GI side effects, the evidence for food modifying the GI effects of NSAIDs is lacking.[31,32] On the contrary, food may delay the absorption and impact the efficacy of NSAIDs.[32] Amongst non-selective NSAIDs, ibuprofen has been found to have a low risk of developing GI adverse events, with lower doses associated with a lower risk.[33,34] In patients without contraindications or precautions, OTC doses of ibuprofen can be considered a well-tolerated option for acute pain relief without the need to be taken with food.[14,31–35]

Knowledge to practice

Once an appropriate medication is chosen, ensuring patients understand the type of analgesic they are taking is important to ensure its safe use and reduce the risk of overdose. This includes educating them on what the active ingredients are (and which other products are of the same analgesic class, and thus should not be taken concurrently), how the medicine works, and the appropriate dosing and duration.

Setting realistic expectations is also an important risk mitigation strategy. It is important to ascertain patient beliefs and expectations about their condition and treatments and address any incorrect expectations which may lead to harmful behaviours, such as taking higher doses of medication in attempts to eliminate pain.[10] Expectation management can also help to minimise reliance on medications and increase engagement with functional strategies such as exercise.[10]

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KEY POINTS

- Inadequate management of acute pain affects quality of life, sleep and physical functioning, and may increase the risk of transitioning to chronic pain.[4,5]
- Management of acute pain should take a multimodal approach incorporating both non-pharmacological and pharmacological strategies.[7]
- The recommendation of OTC analgesics should be tailored to suit the patient's specific needs and circumstances, taking account of precautions and contraindications. This may mean recommending paracetamol monotherapy, NSAID monotherapy (particularly for pain with an inflammatory component), or a combination of paracetamol and an NSAID for moderate acute pain.[7,23,24]
- Mitigate the risk of undertreatment and/or overdosing with OTC analgesics using strategies such as setting expectations, patient education and counselling on appropriate medication use.[9,10] AP

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ASSESSMENT QUESTIONS

Each question has only one correct answer.

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1 **Which ONE of the following is *NOT* considered a potential consequence of unrelieved acute pain?**

A Impaired sleep and physical function.
B Reduced quality of life.
C Progression to chronic pain.
D Increased tolerability to pain.

2 **Which ONE of the following regarding non-pharmacological strategies is *INCORRECT*?**

A Non-pharmacological strategies should be trialled only after starting pharmacotherapy.
B Non-pharmacological strategies play a role in all pain types and intensities.
C Patient education and expectation management are important to reduce the risk of harmful pain management behaviours.
D Physical interventions may be adequate for some mild presentations of acute pain.

3 **Which ONE of the following is recommended as a first-line pharmacological treatment option for both acute osteoarthritis pain and low back pain?**

A Paracetamol.
B Oral NSAID.
C Opioid.
D Muscle relaxant.

4 **Which ONE of the following is *TRUE* regarding the gastrointestinal tolerability of OTC oral NSAIDs such as ibuprofen?**

A Food has gastroprotective effects against NSAIDs, thus all oral NSAIDS must be taken with food.
B Food has no effect on the rate of absorption of oral NSAIDs.
C Risk of GI adverse events with NSAIDs is dose-dependent, with lower doses associated with lower risk.
D Risk of GI adverse events with NSAIDs is dose-dependent, with higher doses associated with lower risk.

Journal summaries

COMPILED BY



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Pharmaceutical waste disposal practices

KEY FINDING: Suboptimal practices can be resolved through availability of appropriate bins and education.

Existing literature on healthcare waste disposal practices have not included pharmacy waste bin audits.

This study sought to audit the waste bins in the pharmacy department of a tertiary public hospital in Queensland, and to qualitatively explore the reasons for the waste disposal practices of hospital pharmacists and pharmacy technicians.

Between 4.9% and 36.1% of recyclable wastes were found in the clinical waste bins, and between 14.3% and 44.4% of recyclable wastes were found in general wastes. Additionally, between 10.1% and 16.7% of non-paper wastes were found in confidential waste bins.

The qualitative interviews (n =18) identified issues with physical access to recycling bins and confusion with disposable of original containers.

Access to appropriate waste bins and staff education were suggested as ways to support appropriate waste disposal.

READ MORE
Singleton JA, Lau ET-L, Nissen LM. Pharmaceutical waste disposal practices: a case study of an Australian public hospital pharmacy department. J Pharm Pract Res 2023. Epub 2023 Feb 23.

Environmental impact of inhaler devices

KEY FINDING: Patients switching from a pMDI to a DPI can maintain asthma control while halving carbon footprint.

Climate change has deleterious effects on health, particularly those people with pre-existing respiratory conditions.

However, inhaler devices used to manage various respiratory conditions also contribute to climate change. This narrative review sought to describe the environmental impact of inhaler devices.

Both soft mist inhalers (SMIs) and dry powder inhalers (DPIs) were found to have a substantially smaller carbon footprint than pressurised metered dose inhalers (pMDIs); this is partly due to the presence of the hydrofluoroalkane used as a propellant in pMDIs, but also to suboptimal device design and usage.

For example, the lack of a dose counter in some pMDIs could lead to the early purchase of a new pMDI, or to preventable exacerbation from inadvertent use of an empty pMDI.

While making clinically appropriate decisions to optimise patient care is paramount, it is worth considering the environmental impact of treatment choices as this, too, has a role in disease control.

READ MORE
Urrutia-Pereira M, Chong-Neto HJ, Winders TA, et al. Environmental impact of inhaler devices on respiratory care: a narrative review. J Bras Pneumol 2022;48(6):e20220270.

Released under the Freedom of Information Act 1982

Are dentists environmentally friendly?

KEY FINDING: Three in four dentists like the idea of an environmentally friendly practice.

Dental practices generate significant volumes of waste. The World Dental Federation encourages the profession to incorporate sustainability into everyday practices. However, environmentally conscious behaviour is required to enable reduction of carbon footprints.

The present pilot study was a survey of 98 dentists about their attitudes to environmental awareness. Of the respondents, 74.49% liked the idea of an environmentally friendly dental practice, with almost all (98.97%) respondents reporting they would take steps towards improving environmental awareness in their own practice.

Respondents who reported having a more environmentally conscious lifestyle in their households were more likely to prefer an environmentally conscious practice.

Given the widespread willingness to adopt environmentally friendly practices, practical solutions need development in order to facilitate the widespread adoption of environmentally friendly healthcare practice.

READ MORE

Veress S, Kerekes-Mathe B, Szekely M. Environmentally friendly behavior in dentistry. Med Pharm Rep 2023; 96(2):199–205.

How can we achieve a green supply chain in healthcare?

KEY FINDING: Regulation, commitment from upper management and staff training are crucial factors.

A green supply chain refers to the integration of environmentally friendly choices throughout a supply change; this includes ways to reduce waste and greenhouse gas emissions, as well as eco-friendly design and packaging.

While the concept of a green supply chain is relatively well studied, its application in healthcare is limited.

The present study sought to map literature on green supply chains to the healthcare industry. Specifically, 60 interviews with staff across nine French hospitals were conducted.

The interviews revealed that regulation, cost reduction, information technology, commitment from upper management, employee training/education and metrics for environmental performance are key to enable implementation of green supply chains in healthcare.

Thus, findings from this study can enable managers and policymakers to make strides in supporting a green supply chain in healthcare.

READ MORE

Bentahar O, Benzidia S, Bourlakis M. A green supply chain taxonomy in healthcare: critical factors for a proactive approach. Int J Logist Manag 2023;34(1):60–83.

Who's responsible for the deleterious effects of pharmaceuticals?

KEY FINDING: Drug safety authorities, pharmaceutical manufacturers and hospitals are key stakeholders.

Continued growth in the development and availability of pharmaceutical products contribute to environmental harm.

For example, exposure to oestrogens in aquatic environments can alter the reproduction and development of various fish species. Ecopharmacovigilance is a multidisciplinary field focusing on detecting, assessing, understanding and preventing the environmentally deleterious effects of pharmaceuticals.

Academic disciplines that relate to this field include pharmacy, management, clinical medicine, and environmental and ecological science. The present survey study sought to capture attitudes among academic researchers from those disciplines towards ecopharmacovigilance.

The majority of the 42 respondents held consistently positive attitudes towards ecopharmacovigilance and respondents from pharmacy and environmental and ecological science were more interested.

The consensus was that pharmaceutical manufacturers, the public, drug safety authorities, hospitals and environmental protection agencies should be the key stakeholders in enabling ecopharmacovigilance. AP

READ MORE

Wang J, Gao J, Liao M, et al. Attitudes and opinions about ecopharmacovigilance from multi-disciplinary perspectives: a cross-sectional survey among academic researchers in China. Environ Sci Pollut Res Int 2023;30(1):2273–82.

Released under the Freedom of Information Act 1982

Pharmacological treatments for low back pain

Presenting the most current evidence from an overview of Cochrane reviews.



RESULTS

- The Cochrane Database of Systematic Reviews was searched from inception to June 2021, for reviews of randomised controlled trials (RCTs) that examined pharmacological interventions for adults with non-specific LBP.
- The outcomes of interest in acute and chronic LBP included pain, physical



Background

Low back pain (LBP) is a common health condition that affects about 7% of the population worldwide.[1] It has a significant impact on quality of life, as it can affect an individual's productivity and work. Abajobir et al estimated the overall disability from LBP to be about 57.65 million years for those affected with the disease.[2]

LBP is also considered the 7th biggest cause of disease burden in women, and the 10th in men.[1] Pharmacological management options for LBP consists of analgesics, such as paracetamol, non-steroidal anti-inflammatory drugs (NSAIDs) and opioids, and other classes of drugs.[3–5] They are used to control pain and improve physical function. This can be achieved through different mechanisms, such as modulating sensory nerve function, decreasing inflammation, reducing muscular spasm and changing the availability of signalling chemicals in the brain.[6]

To date, many Cochrane reviews have been published on the management of LBP, and this summary of evidence from these reviews can inform practitioners on the best effective management for LBP.

Characteristics of the studies

The Cochrane reviews reported on six pharmacological interventions: paracetamol, NSAIDs, muscle relaxants, benzodiazepines, opioids and antidepressants. Both acute and chronic LBP were considered.

Quality of the studies

Five reviews had high confidence in their findings, one had moderate confidence, and one had low confidence.

Conclusion

Current evidence suggests NSAIDs and muscle relaxants may provide relief from acute LBP based on moderate evidence. For chronic LBP, NSAIDs and opioids may provide a small benefit on controlling pain based on low to high certainty of evidence. Adverse events are higher in opioids than in NSAIDs.

Implications for practice and research

The current results may not be consistent with current guidelines, and hence clinical judgment needs to be exercised. Most of the included studies are outdated (more than 10 years old), and newer studies with combination drugs need to be undertaken to guide current practice. AP

OUR AUTHOR



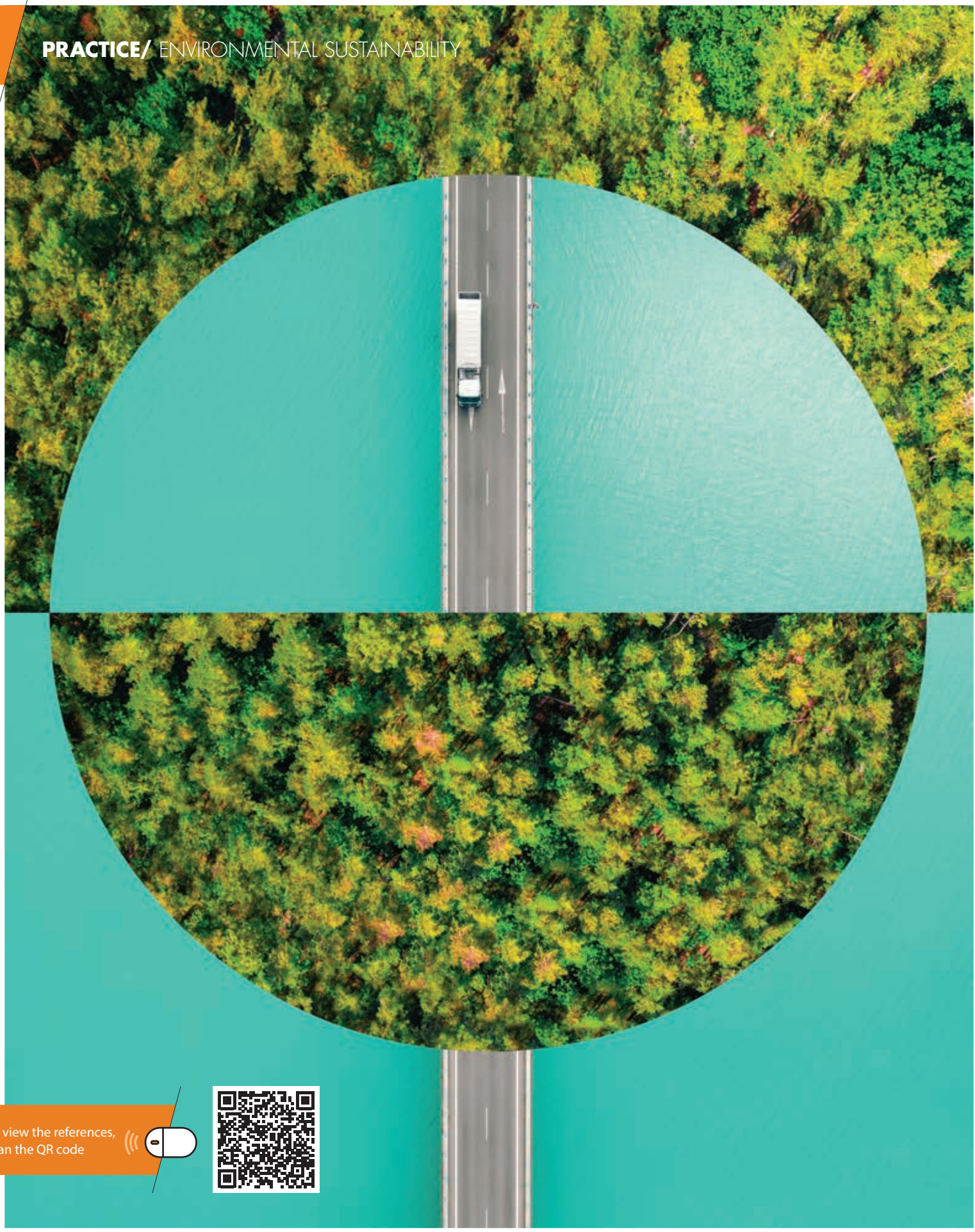
ASSOCIATE PROFESSOR HANAN KHALIL
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function, safety, participants' ratings of improvement, health-related quality of life and workplace participation.

- The overview of reviews included seven Cochrane reviews, which comprised of 103 studies and 22,238 participants.
- The authors found that both NSAIDs and muscle relaxants might reduce pain in the short term (less than 3 months) for acute LBP. Muscle relaxants had more adverse events than NSAIDs.
- Paracetamol had no effect on acute LBP. No reviews addressed opioids and antidepressants for acute LBP.
- For chronic LBP, opioids might be beneficial in relieving pain in the short term, but they were associated with adverse events such as nausea, headache, constipation and dizziness.
- NSAIDs were also found to be potentially beneficial in reducing chronic LBP with minimal adverse events.
- Antidepressants had no effect on chronic LBP.



To view the references, scan the QR code

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SUSTAINABILITY SOLUTIONS

Pharmacists from all practice settings can identify opportunities to create a more sustainable workplace.

BY **CHLOE HAVA** (she/her)

Released under the Freedom of Information Act 1982

Medicines make up 19% of the Australian health system's carbon footprint,[1] with embedded emissions found in the manufacture, distribution, consumption and disposal of medicines.[2]

Optimising medicines in all settings is not only good clinical practice, it also reduces emissions. Pharmacists should encourage and engage in low-carbon prescribing, which entails using the lowest appropriate and effective dose for the shortest duration, opting for medicines that have the smallest carbon footprint and suggesting non-pharmacological therapies where appropriate, such as physiotherapy.

There are various ways pharmacists can help to reduce supply chain emissions. These include:

- Electric vehicles could be used for the transportation and home delivery of medicines to patients and residential aged care facilities.[3]
- Emissions can be reduced in medicines disposal, including separating packaging and contaminated waste from medicines in Returned Unwanted Medicines (RUM) bins. Non-contaminated packaging can be recycled or composted, both reducing waste and RUM incineration volume – and ergo carbon emissions.[1]

For consultant, general practice and on-site aged care pharmacists, medicines reconciliation and reducing polypharmacy by deprescribing can help to curtail unnecessary prescribing as well as improve quality of life for patients.

Engaging in shared decision-making when establishing treatment goals also provides the opportunity to avoid unnecessary medicines-based solutions. While informing patients about the benefits and risks of each treatment option, pharmacists could include information about the environmental impact to ensure patients fully understand what each alternative entails.

Pharmacists should also encourage self-management to reduce the environmental impact of medicines.

Making sustainable changes

Pharmacists can generate awareness and advocate for change in a variety of ways during everyday operations.

Energy-efficient refrigeration that uses low global-warming potential refrigerants, »

Box 1 – Grace Wong's top tips

- **Upskill.** Ensure you are confident enough to explain the impact of climate change on human health, and how it relates to delivering healthcare.
- **Educate patients.** It is crucial to provide evidence-based and clear explanations to patients and colleagues to get 'buy in' for change.
- **Talk to suppliers** about the source of medicines and methods of minimising waste, including 'take back' systems for returning used boxes and containers.
- **Stock inventory management** such as expiry-date rotation can help minimise medicine waste.
- **Go paperless** wherever possible. Review workflows, especially electronic scripts and email management, and discuss electronic invoicing with suppliers.



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Please review the full Product Information before prescribing. The Product Information can be accessed at https://www.guildlink.com.au/gc/ws/tb/pi.cfm?product=tbpajovy or from Medical Information on 1800 AU TEVA (1800 28 8382).

References: 1. Berteau C et al. Patient Prefer Adherence 2010;4:379–388. **2**. Cherniakov I et al. Clin Pharmacol Drug Dev 2021;10:1018–1027. **3**. Ajovy Autoinjector Instructions for Use. **4.** AJOVY (fremanezumab) Solution for injection Approved Product Information 6 October 2021. Teva Pharma Australia Pty Ltd, L1, 37 Epping Road, Macquarie Park, NSW 2113 ABN 41 169 715 664 Date of preparation: September 2022 AJOV-AU-00291.

such as natural refrigerants,[4] could be an option for pharmacies.

Cutting down on energy used in heating and cooling, one of the biggest emitters of greenhouse gasses,[5] could also be a long-term investment that reduces both overhead costs and carbon footprint. For example, window tinting is a non-invasive strategy to keep workplaces cool, leading to less air-conditioning use.[6] Insulating a pharmacy ceiling can also help keep it warm in winter.[7]

Pharmacist behaviour can also help reduce carbon emissions. With light vehicles accounting for approximately 11% of Australia's greenhouse gas emissions,[8] pharmacists could opt to walk, cycle, take public transport or carpool to work instead of driving. This can be facilitated by businesses and organisations by way of incentives for alternative modes of travel.[9]

To understand how environmental sustainability in pharmacy works in practice, *AP* spoke to two pharmacists about embedding green initiatives in their workplaces.

CASE 1



MICHELLE LYNCH FPS
Chief Operating Officer,
Ramsay Pharmacy Group,
Melbourne, Victoria

Environmental and sustainability considerations should be central to business decision-making, and pharmacy is no exception.

Our company developed a 'Ramsay Cares' program, which defines our approach to sustainability with three key pillars: healthier people, stronger communities and a thriving planet.

One of our most wide-reaching initiatives from a medication lens was to cut down on the high volume of bubble wrap, ice packs and plastics used to keep chemotherapy drugs safe and at the right temperature.

The pharmacy cancer care team approached our compounding partner Baxter Healthcare to collaborate and find a more sustainable solution. This led to the development of an environmentally responsible solution for medicines – *WOOLPACK* – packaging made from 100% sheep's waste wool. The initiative has provided a sustainable, recyclable and viable solution resulting in a significant reduction in the excessive plastic used to deliver chemotherapy.

What's next? We are seeking ways of recycling empty medicine blister packs and reducing single-use plastics where possible. We're also focused on water efficiency measures and introducing more renewable energy in our pharmacies. To further reduce our carbon footprint, we're committed to identifying medicines that contribute to greenhouse gas emissions and finding potential alternatives. »



Information Act 1982



CASE 2

GRACE WONG
Senior Pharmacist,
Western Health,
Melbourne, Victoria

Working in India at the start of my career, I had first-hand experience of the environmental and human health consequences of pharmaceutical pollution. As medicines are central to our core business, I was keen to learn how I as an individual pharmacist in a hospital pharmacy department could minimise the impact of our work on the environment.

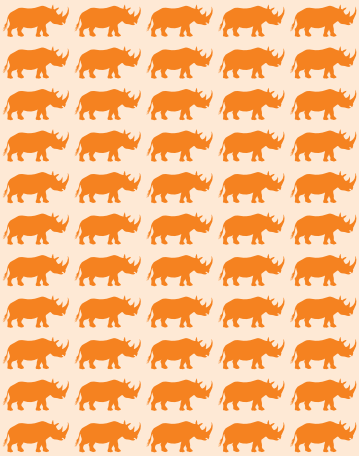
As the department's first nominated 'Green Champion', I learnt about human-centred design principles and applied this technique to elicit ideas from my colleagues. This commitment was formalised as our department's first Environmental Sustainability Action Plan, a senior management-endorsed document of 25 practical actions for the following 5 years, which was part of the hospital network's environmental management roadmap.

After a rubbish bin audit found our department produced 100,000 kilograms of waste annually, the equivalent of 55 adult rhinoceroses, I launched a 'green rhinos' education campaign.

This led to the development of waste-reduction strategies, including using recycled paper in our printers and finding a local recycler to dispose of our polystyrene.

In the end, the initial 25 actions grew to more than 50, as colleagues identified further ideas to trial and momentum and enthusiasm grew.

Figure 1 – Rubbish bin audit



100,000 KGS

of waste annually, is the equivalent of **55**

ADULT RHINOCEROSES



Initiatives included adding specific environmental criteria into supplier contracts, creating soft plastics and co-mingled recycling streams, fridge temperature monitoring changes, plumbed *Zip* tap drinking water, and reducing disposable kitchenware and coffee cups.

I was heartened to see colleagues who were initially reluctant to take part transform into leaders of new initiatives who are guiding others.

About the same time, I founded Pharmacists for the Environment Australia as a way to reach pharmacists beyond my workplace. Supporting pharmacists, consumers and other healthcare professionals to develop sustainable practices is key to driving meaningful change.

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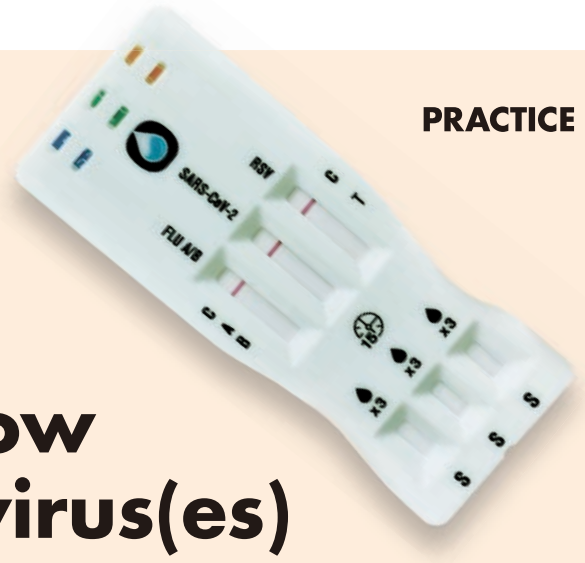
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References: 1. Kwiatek MA, et al. Aliment Pharmacol Ther 2011;34(1):59-66. **2**. Strugala V, et al. J Int Med Res 2010;38(2):449-457.
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RAT run now four times the virus(es)

The TGA has recently approved a 4-in-1 rapid antigen test (RAT) for COVID-19, Influenza A and B, and respiratory syncytial virus (RSV). Get the WHO, WHAT, HOW, WHEN of the multi-antigen RATs here.

What is the point of testing?

For testing to be useful, it needs to inform decisions or behaviour. During the acute phase of the COVID-19 pandemic, testing (PCR and RAT) drove public health responses of home isolation orders and contact tracing. This is no longer the case.

However, testing for respiratory diseases is still important to:

- reduce risk of disease transmission by altering behaviours after a positive result. This includes staying home from work, avoiding mingling with vulnerable people, or wearing a face mask in public.
- inform treatment options, such as initiation of antiviral medicines, symptoms management or providing enhanced care to people at high risk of severe illness.

As the symptoms of each of these conditions are often similar, particularly initially, determining the causative virus can be useful.

How do multi-antigen RATs differ from COVID-19-only RATs?

The main difference is that there is more than one specimen well and result window on the device. Each well needs to have the sample added to it.

The other big difference is the influenza test window has a line for both influenza A and B. While a three-line result is possible, coinfection with influenza A and B is exceptionally rare and needs laboratory confirmation. Other aspects of the tests are remarkably similar, such as test duration (15 minutes), sampling technique, design of control and test lines and disposal requirements.

Nose or mouth?

Potentially both. But all 12 currently approved combination tests are just nasal swabs.

Are they accurate?

While not as accurate as PCR laboratory testing, sponsors of combination RAT products claim a high or very high level of sensitivity (>98%) for all antigens.

Sensitivity is subject to circulating virus strains and use in accordance with sponsor's instructions, including storage conditions and expiry dates.

Tests are more accurate in people with symptoms than without symptoms. The TGA suggests influenza is best detected within 4 days of symptom onset, and 7 days of COVID-19 symptom onset.[2]

What to do with a positive result?

Stay home and recover. Rest and isolation is recommended for all acute respiratory infections. Adults should work from home if possible.

People who could benefit from antivirals (such as nirmatrelvir+ritonavir, oseltamivir etc.) should be referred. Medicines for symptomatic management should also be considered.

People should be advised what to do if they deteriorate markedly or develop severe symptoms.

Governments still recommend people report positive COVID-19 RAT results online to their health department.

OUR AUTHOR



PETER GUTHREY MPS (he/him)
is PSA's Senior Pharmacist – Strategic Policy.

NEED SOME ADVICE?

Lodge your own question or advice at **editorial@australianpharmacist.com.au**

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Waiting to inhale

A breathless history of the humble puffer.

BY **DR LEIGH DAYTON**

In 1955 Susie Maison was a 13-year-old asthmatic. She was also the daughter of George Maison, president of Riker Laboratories in Manhattan. Annoyed by her glass squeeze-bulb nebuliser, she asked her father: 'Daddy, why can't they put my asthma medicine in a spray can like they do hair spray?'[1,2]

Two months later the laboratory was trialling two asthma treatments using the first-ever metered-dose inhaler (MDI). They hit the market in 1956, and the convenient technology took off.

Today, MDIs are the most popular system for delivering drugs to the lungs, and Australians consume millions of inhalers annually.[1–3]

From past to present

Archaeological and historical evidence reveals that, like Elizabeth, people have been tackling respiratory symptoms by inhaling substances for millennia.

Ancient Chinese inhaled opium smoke, while Greeks breathed in burning herb and resin fumes. Written records begin with Egypt's Ebers Papyrus about 1554 BCE. It describes patients inhaling smoke from a burning black henbane plant covered by a jar topped with a hole.[1,2]

Over the centuries, many different therapeutic agents were used, among them atropine, ephedra and related compounds.

However, the medicine delivery device continued to be custom-made by the patient or attending physician. It wasn't until the industrial revolution that the first 'off the shelf' inhaler was introduced by English physician John Mudge in 1778.[1,2]

Thanks to new manufacturing technology, Mudge's concept was a success. It spawned the commercialisation of diverse inhalers – even asthma cigarettes – well into the 20th century.[1,2]

> 'Daddy, why can't they put my asthma medicine in a spray can like they do hair spray?'

Types today

Modern pharmacies are stocked with three classes of inhalers for treating asthma and chronic obstructive pulmonary diseases. Dry powder inhalers (DPIs) are activated by the patient's inhalation, and soft mist inhalers (SMIs) produce a fine mist without a propellent. But George Maison-style MDIs require a propellant, either the patient's breath or a gas. And there's the catch.[4,5]

Montreal matters

Prior to 1995, all gas-delivered MDIs used chlorofluorocarbon (CFC) propellants. Unfortunately, in 1974 scientists implicated CFCs in the depletion of the ozone layer. Fortunately, nations acted.

The Montreal Protocol on Substances that Deplete the Ozone Layer was ratified in 1987 and entered into force in 1989, the year Australia signed on. With few exceptions, CFCs would be phased out by 1996.[3,4,6–9]

The agreement led to a surge in pharmaceutical research, as chemists sought to devise CFC-free inhalers and more affordable DPIs and SMIs.

A breakthrough came with the development of CFC-free propellants, like hydrofluoroalkane (HFA) and hydrofluorocarbon (HFC).

But while they are 'ozone safe', both are potent greenhouse gases. Time for another phase-out.[2,3,11]

So, in 2017 Australia became one of the first 10 countries to ratify the 2016 Kigali Amendment to the Montreal Protocol. Signatories will have until 2036 to reduce their use of HFCs and HFAs by 85%.[6,8,10–13,17,18]

Back in the lab

Meanwhile, researchers are devising new propellants. For instance, in 2019 the Chiesi Group – headquartered in Parma, Italy – announced it would launch the first low greenhouse gas inhaler in 2025.

Chiesi claims the 'carbon footprint' will be similar to a DPI.

If so, that's a breath of fresh air.[14–16] AP

FURTHER RESOURCES
For full references, visit
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MINIMUM PRODUCT INFORMATION: NUVAXOVID (SARS-COV-2 RS [NVX-COV2373]) Suspension for Injection Minimum Product Information. **INDICATION:** NUVAXOVID has provisional approval as an active immunisation to prevent coronavirus disease 2019 (COVID-19) caused by SARS-CoV-2 in individuals 12 years of age and older. The use of NUVAXOVID should be in accordance with official recommendations. **CONTRAINDICATIONS:** Hypersensitivity to the active substance or to any of the excipients in NUVAXOVID. **SPECIAL WARNINGS AND PRECAUTIONS:** Events of anaphylaxis have been reported and close observation for 15 minutes is recommended following vaccination. A second dose should not be given to those who experience anaphylaxis to the first dose. Myocarditis and pericarditis have been reported in male and female patients within 14 days of vaccination, however available data cannot determine a causal association with NUVAXOVID. Individuals are instructed to seek immediate medical attention if they develop symptoms indicative of myocarditis or pericarditis such as (acute and persisting) chest pain, shortness of breath or palpitations following vaccination. The risk of myocarditis and pericarditis after a third dose of NUVAXOVID has not yet been characterised. Anxiety-related reactions, including vasovagal reactions (syncope), hyperventilation, or stress related reactions may occur as a psychogenic response to vaccination. Postpone vaccination in individuals with acute severe febrile illness or acute infection. Vaccination should be given with caution in individuals receiving anticoagulant therapy or those with thrombocytopenia or any coagulation disorder (such as haemophilia). Limited data is available for immunocompromised individuals and pregnant women. Efficacy may be lower in immunosuppressed individuals. Individuals may not be fully protected until 7 days after their second dose. A protective response may not be induced in all vaccine recipients. **INTERACTIONS:** Concomitant administration of NUVAXOVID with other vaccines has not been studied. **ADVERSE EFFECTS:** Local - Injection site tenderness, pain, redness and swelling. **Systemic** - Headache, nausea/vomiting, myalgia, arthralgia, fatigue, malaise, pyrexia, chills and pain in extremity. This is not a full list and for more details, refer to PI. **DOSAGE AND METHOD OF ADMINISTRATION:** NUVAXOVID is for intramuscular injection only. **Primary Series:** Two doses of 0.5 ml each is recommended 3 weeks apart. **Booster Dose:** A single booster dose of 0.5 ml may be administered approximately 6 months after completion of a primary series in individuals 18 years of age and older. **STORAGE:** Store unopened vaccine between 2°C-8°C, protected from light. Do not freeze. **For more details refer to PI**. For full Prescribing Information, visit https://www.ebs.tga.gov.au/ebs/picmi/picmirepository.nsf/pdf?OpenAgent=&id=CP-2022-PI-01041-1&d=20220927172310101].

ATAGI: Australian Technical Advisory Group on Immunisation. NIP: National Immunisation Program. PI: prescribing information. PBS: Pharmaceutical Benefits Scheme
†To be considered up to date with COVID-19 vaccination, you must have had all the doses recommended for your age and health needs
*Booster doses are recommended for everyone 16 years and older, 3 months or more after the primary course. Some adolescents aged 12–15 years may also have a booster dose if they: (1) are severely immunocompromised; (2) have a disability with significant or complex health needs; (3) have complex and/or (4) multiple health conditions that increase the risk of severe COVID-19[5]

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Before prescribing, please review Product Information available at: www.seqirus.com.au/products

MINIMUM PRODUCT INFORMATION Flucelvax® Quad (Inactivated Quadrivalent Influenza Vaccine (prepared in cell cultures)) - Suspension for injection. **Indication:** For the prevention of influenza caused by Influenza Virus, Types A and B contained in the vaccine, for use in adults and children 2 years of age and older. **Contraindications:** Individuals with known severe allergic reactions (e.g. anaphylaxis) to any component of the vaccine or to a previous dose of any influenza vaccine. **Precautions:** Treatment and supervision for anaphylactic reactions should be available. Antibody response in immunocompromised patients may be lower. Careful consideration for use in history of Guillain-Barré syndrome within 6 weeks of previous influenza vaccination. Postpone immunisation in patients with febrile illness or acute infection. A protective immune response may not be elicited in all vaccine recipients. **Use in Pregnancy (Category B1):** The safety of Flucelvax® Quad in pregnancy has not been assessed in clinical trials. There are no reproductive and developmental toxicity studies with Flucelvax® Quad. Reproductive and developmental toxicity data from cell-based trivalent influenza vaccine (TIVc) do not predict an increased risk of developmental abnormalities. **Use in Lactation:** Not been evaluated in nursing mothers. **Interactions:** No data available on co-administration with other vaccines. Based on clinical experience with TIVc, Flucelvax® Quad can be given at the same time as other vaccines (in separate limbs) (adverse reactions may be intensified). **Adverse Effects:** Local - pain, erythema. Systemic - headache, fatigue, irritability (children 2-6 years), upper respiratory tract infection, nasopharyngitis (See full PI). **Dosage and Administration:** Intramuscular injection only: single 0.5mL dose (children <9 years may require 2 doses - see full PI). **Presentation:** 0.5mL single-use syringe. Storage: Store at 2°C to 8°C; must not be frozen; protect from light. Based on Approved Product Information.

REFERENCES: 1. ATAGI. Statement on the administration of seasonal influenza vaccines in 2022. www.health.gov.au/resources/publications/atagi-advice-on-seasonal-influenza-vaccines-in-2022. **Accessed February 2023. 2.** FLUCELVAX® QUAD Approved Product Information. **3.** CDC. Cell-based flu vaccines. Available from: www.cdc.gov/flu/prevent/cellbased.htm. Accessed February 2023. **4.** Rajaram S *et al. Ther Adv Vaccines Immunother.* 2020;8:2515135520908121. **5.** Mabrouk T *et al. Dev Biol (Basel).* 2002;110:125–134. **6.** WHO. Influenza A(H3N2) lineage cell culture-derived CVVs for development and production of vaccines for use in the 2022 SH influenza season; Available from: https://cdn.who.int/media/docs/default-source/influenza/cvvs/cvv-southern-hemisphere-2023/summary_a_h3n2_cvv-cell_sh23.pdf Accessed Feb 2023.

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Date of preparation: February 2023. AU-FLU-23-0007. SEQ0215.

CSL Seqirus

Green Building Council Australia

Building a sustainable future

24 July 2023

National Health and Climate Strategy
Australian Government Department of Health and Aged Care

Via: Health.Climate.Consultation@health.gov.au

Re: National Health and Climate Strategy

Green Building Council of Australia (GBCA) welcomes the opportunity to provide input to Australia's first National Health and Climate Strategy.

GBCA commends the Australian Government on this initiative to ensure the nation's health system can meet the needs of Australians as the impacts and challenges of climate change become more frequent, severe and widespread. Access to good quality health and aged care for all Australians is crucial for a just society. It will require a healthcare strategy that is supported by strong, resilient and adaptable infrastructure that can withstand the stresses and shocks from impacts of climate change, without compromising the quality of care.

GBCA's purpose is to lead the sustainable transformation of the built environment. We do this primarily through our core functions:

- We rate the sustainability of buildings, fitouts and communities through Australia's largest national, voluntary, holistic rating system – Green Star.
- We educate industry, government practitioners and decision-makers, and promote green building programs, technologies, design practices and operations.
- We advocate policies and programs that support our vision and purpose.
- We collaborate with our members and other stakeholders to achieve our mission and strategic objectives.

Green Star is Australia's most widely used sustainability rating system for the design, construction and performance of buildings (including social infrastructure), fitouts and communities. At the heart of the development of the Green Star rating system (first released in 2003) was a commitment to providing industry-agreed best practice benchmarks and to combat greenwashing through a robust, independent verification process. Green Star aims to transform the built environment by:

- reducing the impact of climate change
- enhancing our health and quality of life
- restoring and protecting our planet's biodiversity and ecosystems
- driving resilient outcomes for buildings, fitouts, and communities
- contributing to market transformation and a sustainable economy.

Sustainable healthcare facilities are an integral part of a strong and resilient healthcare system and have proven to:

- be more cost effective
- be better places to heal and work
- contribute to wider health benefits for communities
- have a reduced carbon footprint, and
- be a more attractive investment option for investors seeking future proofed asset classes.

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Due to the nature of their round-the-clock operations, extensive air-conditioning, specialist medical equipment requirements – and because much of our healthcare infrastructure is ageing and poorly designed for energy efficiency – most of our hospitals and healthcare facilities are notorious energy and water users. They use at least twice as much energy and around six times as much water per square metre when compared to commercial office buildings.[1]

Green Star certification provides an internationally recognised, trusted mark of quality for the design, construction and operation of sustainable buildings, providing government, owners, staff, patients and the community with the assurance that they are gaining efficient, healthy and resilient buildings designed and constructed to minimise their impact on the planet.

Healthcare facilities that have achieved certification and made improvements to their operations report a range of benefits. Improved staff and patient satisfaction and wellbeing, as well as reductions in energy, water, waste and emissions, can result in cost savings too significant to ignore.

Analysis of Green Star-certified healthcare facilities showed that hospitals and healthcare facilities certified in 2017 and 2018 produce 57% fewer greenhouse gas emissions than average healthcare buildings. Overall, Green Star rated healthcare facilities are saving over 35,000 tonnes of greenhouse gas emissions every year.[2]

In addition to the points made above, GBCA offers the following comments on several of the questions for feedback outlined in the National Climate and Health Strategy Consultation Paper:

3. Which of the various types of greenhouse gas emissions discussed should be in scope of the Strategy's emission reduction efforts?

The carbon footprint of Australian healthcare is estimated at 7% of Australia's total carbon emissions and globally, healthcare contributes about 4-6% of greenhouse gas emissions.[3] Scope 1, 2 and 3 emissions should all be considered in the Australian Government's strategy to reduce national emissions by 43% below 2005 levels by 2030 and achieve net zero national emissions by 2050.

Through leadership and a commitment to embedding sustainability goals throughout all policies relating to development and operation of assets, as well as procurement, the Australian Government can leverage its influence and purchasing power to generate demand for innovative products and services that reduce scope 1 and 3 emissions and accelerate pathways to market for such products. This will, in turn, improve availability of such products and services and encourage greater uptake and utilisation across sectors and industries to drive a low carbon economy. Furthermore, Scope 2 emissions can be reduced by avoiding the use of fossil fuels by using energy generated onsite and/or offsite renewable sources. The Australian Government should require certification with building sustainability rating systems such as Green Star and NABERS to drive sustainable outcomes in public projects when contributing funding to healthcare projects.

Carbon emissions are released not only during operational life but also during the manufacturing, transportation, construction and end of life phases of all built assets – buildings and infrastructure. These emissions, commonly referred to as embodied carbon, have largely been overlooked historically but contribute around 11% of all global carbon emissions. Carbon emissions released before the building or infrastructure begins to be used, sometimes called upfront carbon, will be responsible for half of the entire carbon footprint of new construction between now and 2050, threatening to consume a large part of our

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[1] Davis Langdon: Health sector joins green rating era

[2] GBCA, NZGBC. 2019. The case for sustainable healthcare. pp.4-5. https://gbca-web.s3.amazonaws.com/media/documents/health-business-case-gbca-nzgbc-v1-r8c.pdf

[3] Doctors for the Environment. 2020. Net zero carbon emissions: responsibilities, pathways and opportunities for Australia's healthcare sector

remaining carbon budget. In 2019, embodied carbon made up 16 percent of Australia's built environment emissions. Without intervention this share will balloon to 85 percent in 2050.[4]

6. Beyond the schemes already noted [in the consultation paper], is your organisation involved in any existing or planned initiatives to measure and report on health system emissions and/or energy use in Australia?

Green Star
Green Star is an internationally recognised rating system that delivers independent verification of sustainable outcomes throughout the life cycle of the built environment. It sets the standard for healthy, resilient, positive buildings and places. Thousands of sustainable fitouts, buildings, homes and communities have been certified with Green Star, including a number of health and aged care facilities. Green Star also complements other tools and pathways designed to deliver more sustainable buildings:

- The Green Star Rating System is referenced as part of a Compliance Solution in the National Construction Code (NCC) (excluding any State and Territory variations) Volume One, Section J.

- The Climate Positive Pathway in the Green Star rating tools aim to decarbonise the building by requiring new and existing buildings to measure and reduce their energy use and use nature-based solutions to offsets their carbon emissions. In addition, the GBCA administers certification of Climate Active's Carbon Neutral Certification and the Green Star rating tools offer this certification through the Climate Positive Pathway.

- NABERS and Green Star are designed to complement each other and drive and support sustainable outcomes in buildings using these rating tools together. GBCA encourages the use of the NABERS tools for Energy, Water and Waste in public hospitals. We encourage the use of NABERS and recommend that the data and knowledge is shared to encourage performance improvements across the health industry. Our observation over the last two decades is that where ratings information, knowledge and data is shared, we see marked improvements across industry, such as the commercial office sector.

7. What additional data and information is required to support targeted emissions reduction efforts within health and aged care?

GBCA recommends that all healthcare facilities commit to applying trusted, robust and credible building rating systems, such as Green Star and NABERS. These rating systems provide benchmarks – an independent, auditable verification of their achievement - for effective measurement of emissions reduction, as well as a range of other sustainability metrics.

Within the Green Star rating system is a Climate Positive Roadmap. GBCA's Climate Positive Roadmap outlines high-level actions and targets over the next decade to support new buildings and fitouts in addressing its emissions by 2030 and existing buildings and fitouts by 2050. The Climate Positive Roadmap can support setting and measuring any targeted emissions reduction efforts within health and aged care facilities.

8. What do you think of the proposed focus areas for emissions reduction? Should anything else be included?

The GBCA supports the proposed focus areas for emissions reduction. For the health sector's built environment, a nationally consistent strategy across states and territories that encourages commitment to trusted, robust and credible building rating systems, such as Green Star and NABERS, will enable a better environment for benchmarking and performance evaluation through the design, construction, and operation of healthcare facilities.

[4] GBCA and Thinkstep ANZ. 2021. Embodied Carbon and Embodied Energy in Australia's Buildings. https://gbca-web.s3.amazonaws.com/media/documents/embodied-carbon--embodied-energy-in-australias-buildings-2021-07-22-final-public.pdf

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Decarbonisation of the healthcare sector can be complex, however, there are jurisdictions in Australia where projects to fully electrify hospitals have already commenced. The ACT Government has committed to Australia's first all-electric hospital building as part of Canberra Hospital Expansion, the new Critical Services Building.[5] Similarly, South Australia's new Women and Children's Hospital plans to be the first 100% all-electric hospital, avoiding an additional 2,178 tonnes of greenhouse gas emissions each year. [6] The electrification of the hospital will eliminate fossil fuel use on site with electrical energy systems to power the building's engineering services, including heating, hot water and kitchen functions.

The Victorian Government is building its first all-electric powered addition to an existing hospital. The Frankston Hospital redevelopment will include a new all-electric 12-storey clinical services tower.

9. Which specific action areas should be considered relating to the built environment and facilities (including energy and water), over and above any existing policies or initiatives in this area?

The consultation paper outlines a range of actions and areas already proposed by the Department of Health, such as choice of building materials, designing to minimise material use and waste, lifecycle considerations and transitioning towards renewable energy, with a focus on energy efficiency and electrification. GBCA wholeheartedly supports these considerations and notes that the Green Star rating system addresses all of these.

Since the release of the first Green Star rating tool in 2003, Green Star rating tools have undergone regular updates and redevelopment to ensure that they continue to drive industry to innovate and deliver to best practice and beyond.

The Green Star rating system is designed to meet the challenges of today and the future and responds to the following megatrends with categories and credits within the rating tools that go beyond a focus just on emissions, energy and water:

1. **Climate Action**: The increasing need for climate action is reshaping design, construction and operation of buildings, fitouts and communities. This includes a focus on reducing carbon emissions from upfront carbon, and energy use. It also includes recognising the need to ensure that buildings and communities are resilient against a changing climate – being able to bounce back from weather related climate events, as well as longer term climate related risks.

2. **Resource and Circularity**: From the rise of the Taskforce for Nature-related Financial Disclosures (TNFD) to the increasing importance being placed on the carbon emissions of products and materials, there is a growing recognition of our collective responsibility towards the planet's natural resources. Developers and owners are expected to address resource-related impacts in the design, construction and operation of buildings and communities, from water use to biodiversity, to the choices of materials.

3. **Health, Equity and Wellbeing**: The trend towards prioritising health, well-being, and inclusivity is transforming green precincts. There is an increasing emphasis on ensuring the rights and wellbeing of all occupants, promoting equitable access to resources and opportunities, and fostering a sense of community that respects and upholds human rights. The Bronson Methodist Hospital in Michigan found that applying green design principles such as improved ventilation, private rooms, music, light and nature in its redevelopment project led to an 11% reduction in secondary infections. The seminal study on the impacts of heathy hospitals in 1984 showed hospital stays reduced by 8.5% and supporting studies showed that patients with views of nature experienced faster recovery rates and patients in rooms with bright sunlight needed less pain medication.[7]

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[5] Australia's first all-electric hospital building

[6] Building the next hospital to be net zero carbon emissions (all –electric)

[7] The case for sustainable healthcare

GBCA also notes the following:

- Resilience is a critical area of consideration for the health sector. As the physical impacts of climate change (such as extreme weather events) increase in frequency and severity, so too will adverse health impacts on the Australian community. Not only will the healthcare system need to be resilient to growing demand relating to climate impacts, but health and aged care facilities must be themselves be resilient to impacts of a changing climate. Green Star includes credits that provide guidance and benchmarks to encourage and reward resilience in certified projects.

- Healthcare is a complex and diverse sector which is also reflected in its emissions profile. Health Care's Climate Footprint,[8] released in 2019 by Health Care Without Harm in collaboration with Arup, identifies a range of issues and recommendations for action.

11. Which specific action areas should be considered relating to supply chain, over and above any existing policies or initiatives in this area?

While the consultation paper notes the significant impact of healthcare sector-specific supply chain (such as medical devices, pharmaceuticals, etc.), it is important that considerations for the design, construction and operation of health and aged care facilities themselves are not left out of procurement, contracting and supply chain management. Please see response to Q.3 above.

14. Which specific action areas should be considered relating to prevention and optimising models of care, over and above any existing policies or initiatives in this area?

The consultation paper recognises that reducing the duration of hospital stays, as well as improving the lifestyles and wellbeing of the community to reduce/prevent hospital stays are also ways to reduce emissions.

A number of studies have shown that 'green' hospitals demonstrate faster patient recovery times and other benefits such as reduced instance of secondary infections and reduced use of analgesic medication.[9] The Mackenzie Health Sciences Centre in Canada, for example, found that depressed patients in sunny rooms recovered 15% faster than those in darker rooms.[10]

Buildings are where we spend around 90% of our time, both at home as well as in work, play, learning and healing. A holistic and coordinated approach to ensuring that Australia's buildings are more healthy and comfortable, will deliver better health outcomes for the Australian community and reduced hospital visits. For example, A recent study by the Victorian Government showed that every dollar invested in upgrades to homes to improve energy efficiency and comfort generated $10 of savings in healthcare.[11] Please also see response to Q.22.

15. What can be done to involve private providers within the health system in the Strategy's emissions reduction efforts?

Much can be done to involve private providers in the Strategy's emissions reduction efforts. Ensuring everyone is aware of the goals and requirements from the outset of any agreement/partnership or project is critical. Some of these include:

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[8] ARUP, Health Care Without Harm. 2019. https://www.arup.com/perspectives/publications/research/section/healthcare-without-harm

[9] GBCA, NZGBC. 2019. The case for sustainable healthcare. P.10. https://gbca-web.s3.amazonaws.com/media/documents/health-business-case-gbca-nzgbc-v1-r8c.pdf

[10] Sunny Hospital rooms expedite recovery from severe and refractory depressions

[11] Sustainability Victoria. 2022. Energy upgrades make 1,000 homes warmer and healthier | Sustainability Victoria

- A commitment to achieving Green Star certification provides and common goal for all project stakeholders, together with consistent benchmarks and metrics. Wherever possible, private providers delivering healthcare assets should be required to apply trusted, robust and credible building rating systems, such as Green Star and NABERS.

- Sharing lessons learnt about successful implementation of sustainable practices is an invaluable way to achieve sustainability objectives. Many in the private sector are demonstrating exceptional leadership in sustainability and the Australian Government should support the creation of leadership groups and/or networks to share and champion best practice and collaboration.

17. What 'quick wins' in relation to emissions reduction should be prioritised for delivery in the twelve months following publication of the Strategy?

The Australian Government could offer incentives for any funding provided to states and territories for delivery of health and aged care facilities that commit to achieving certification with trusted, robust and credible building rating systems, such as Green Star and NABERS.

22. What are the key areas in which a Health in All Policies approach might assist in addressing the health and wellbeing impacts of climate change and reducing emissions?

GBCA strongly supports a Health in All Policies approach. We have long advocated for policies, incentives and regulations to ensure that buildings are healthy and energy efficient. Our most recent policy document, Every Building Counts, provides 39 recommendations for the Australian Government to ensure new and existing homes and buildings are healthier for occupants and that the buildings sector contributes to Australia's national commitments to emissions reduction.

23. What are the most effective ways to facilitate collaboration and partnerships between stakeholders to maximise the synergies between climate policy and public health policy? What are some successful examples of collaboration in this area?

Please see response to Q.15.

GBCA would welcome further engagement on the issues raised in this submission. Please reach out to Shay Singh, Senior Policy Manager Policy and Government Relations, shay.singh@gbca.org.au

Yours sincerely



Davina Rooney
Chief Executive
Green Building Council of Australia

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Australian Government
Department of Health and Aged Care

NATIONAL HEALTH AND CLIMATE STRATEGY

Detailed submission form

This form allows you to provide responses to the full set of questions in the Consultation Paper available here.

Alternatively, you may wish to complete the briefer online survey available here.

Please submit this form in Word format to Health.Climate.Consultation@health.gov.au.

Respondent details

What is your name?
Dr Christine Cowie (UNSW), Dr Sharon Campbell (UTAS), Dr Bill Dodd (UTAS), Dr Jennifer Perret (UniMelb), Professor Graeme Zosky (UTAS) and Professor Fay Johnston (UTAS) on behalf of the Centre for Safe Air.
What is your email address?
info@safeair.org.au
What is your organisation?
Centre for Safe Air
Have you read and agreed to the Privacy Statement? (NB we will not be able to use your submission unless you tick this box)
☒ I have read and agreed to the Privacy Statement
Do you identify as Aboriginal and/or Torres Strait Islander? (Yes/No/Prefer not to say)
☐ Yes ☒ No ☐ Prefer not to say
Please select which applies to you: ☐ Individual citizen ☐ Health Service Provider ☐ Industry and Life Sciences Organisation or Representative ☒ Academic or Researcher ☐ Primary and/or Allied Health Peak or Advocacy Organisation or Representative ☐ Aged Care Service Provider ☐ First Nations Health Service Provider ☐ First Nations Community Group ☐ First Nations Peak or Advocacy ☐ Medical College or Peak professional body

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Questions for feedback from the Consultation Paper

Introductory comments by the Centre for Safe Air

The Centre for Safe Air is a Centre of Research Excellence funded by the National Health and Medical Research Council. The Centre officially commenced operation in June 2023, and continues and extends the work undertaken by the Centre for Air Pollution, Energy and Health Research (CAR). In this submission, we cite several previous CAR position papers and submissions to government.

The Centre brings together more than 20 researchers at the forefront of their fields, based in eleven of Australia's leading universities and the CSIRO. The Centre supports multidisciplinary research across epidemiology, exposure assessment, toxicology, climate and air science, biostatistics, respiratory medicine and health economics to pursue collaborative projects and to develop capacity. The vision of the Centre is to "*achieve substantial improvements in population health, safety, and resilience in the face of existing, emerging, and escalating airborne hazards through evidence-based policy and practice interventions*".

The Centre is focused on three areas of activity:

1. **Sources:** determining how to measure, track, predict and manage outdoor air hazards at national and regional scales.
2. **Settings:** considering the options for homes, schools or workplaces to mitigate the health burden from outdoor air hazards.
3. **Individuals:** considering the most vulnerable populations and how we can best protect them.

The Centre's major focus is to conduct research and advocate on the above issues to strive for safe air across all sectors of the community. Clean air is crucial to supporting good health. Even in a country like Australia that has relatively clean air, we suffer from episodes of elevated air pollution exacerbated by naturally occurring bushfires and prescribed burning, both of which can lead to particulate matter (PM) levels many times higher than the national guidelines.

In 2021, the World Health Organization (WHO) issued revised air quality guidelines in light of mounting evidence indicating there is no apparent threshold for health effects from exposure to PM (WHO 2021). WHO guidelines for nitrogen dioxide (NO2) have also been revised downwards as evidence increases of adverse health impacts at lower levels than previously thought. While the National Environment Protection Measure (NEPM) air quality standards are more robust than many other countries, Australian guidelines for PM are now at higher levels than those set by the WHO.

Air pollution, health and climate change
Air pollution is the single greatest environmental threat to human health and wellbeing (Landrigan et al. 2018). In 2018, particulate matter (PM) air pollution was responsible for more than 3,200 deaths (1.3% of the total burden of disease in Australia). PM attributed to human activities is estimated to cause 2,616 premature deaths per year in Australia at an annual average cost of $6.2 billion (Hanigan et al. 2020). These estimates are likely to be conservative as they do not include other important air pollutants that are detrimental to health.

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The health impacts associated with air pollution are expected to increase as the climate gets hotter and extreme weather events become more common (Vardoulakis et al. 2020; Yu et al. 2020). The estimated 417 deaths attributed to smoke from the Black Summer bushfires foreshadows worsening air quality in a rapidly heating climate (Borchers Arriagada et al. 2020). Increased heat is also likely to increase the concentration of aeroallergens (Anenberg et al. 2020), PM air pollution and heat stress episodes. As such, the rapid decarbonisation and electrification of Australia's economy has considerable co-benefits for air quality and health (Dennekamp & Carey 2010). The National Climate and Health Strategy needs to include a plan to minimise the health impacts and disruption caused by climate change, while maximising the co-benefits of decarbonisation and electrification.

The Strategy

Given the Centre's remit, our response to the Strategy is provided in the context of our core focus on clean air. In principle, the Centre supports much of the Strategy content. The Strategy rightly attempts to tackle issues related to the health sector as an energy user and greenhouse gas emissions contributor, as well as the broader need for the health sector to advocate for and engage on programs which relate to public health protection from the effects of climate change. However, each of these require very different solutions, policies, programs and actions. The Centre feels that the Strategy, in draft form, omits important detail from both of these domains.

The Centre suggests that there is a place for two strategies or two major sections to the Strategy to reflect the two functional domains: 1) one for reducing carbon emissions within the health and medical sector; and 2) to address broader population health issues arising from climate change and the need for mitigation and adaptation actions within a whole-of-government or "One Health/Planetary Health" context.

Within each of these two broad domains, consideration to mitigation and adaptation is crucial. However, in the current Strategy, the mitigation section only deals with mitigation of emissions within the clinical health sector and does not address the need for public health contribution to intersectoral discussion of mitigation measures more broadly or on specific issues. As the examples below illustrate, a health lens is needed (but has largely been absent) in policy deliberation regarding the health impacts of emerging technologies, fuels and the associated transitions to these technologies. The National Climate and Health Strategy needs to ensure health and wellbeing is a constitutive feature of the net zero transition, in collaboration with the Net Zero Authority.

Comments regarding the health sector as a major energy user

The Centre supports the need for public and commercial health sector providers, as major energy users, to take an active role in developing and enacting policy to cut non-renewable energy use, leading to subsequent emissions reductions. However, we feel that the Strategy only goes part way to documenting the status in terms of actions and programs currently in place for climate change mitigation and adaptation within the health sector. Documenting the current status will enable us to more clearly determine where the health sector can make improvements.

The Centre recommends that the Strategy include more detail with respect to targets. For instance, it is unclear whether the Australian government's target for greenhouse gas emissions applies across all sectors, or whether the health sector should strive for an improved emissions target. The feasibility of meeting improved targets and a timetable for achievement also needs to be addressed and presented. For instance, are there quick gains that can be made in the health sector in the short term? It is acknowledged that the

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document has been prepared to elicit discussion and input, however, it feels more like a checklist of issues rather than a fulsome exploration and documentation of objectives, targets and actions. As such, some of the objectives are too high-level to provide meaningful input.

Health as a contributor to an intersectoral approach to tackling climate change

The National Climate and Health Strategy needs to embed 'health' into climate change mitigation and adaptation policy. To date, government environmental agencies, NGOs and private industry have taken a lead role in managing the transition to renewable energy, but much of this has been in the absence of input from 'health' departments and other agencies. The exception to this is action on direct climate change related human health issues such as increased heat stress days, adverse air pollution episodes or addressing vector-borne disease outbreaks. The Strategy is an opportunity to redress this gap.

The Centre also notes the need for 'health' departments/agencies to take part in cross government approaches when considering the 'healthiness' of various energy technologies or transitions. For example, health should be a crucial lens in policy formation regarding the transition from one fuel to another, to ensure that the transition will be a healthier proposition, not only for the environment but also for human health. Examples of energy transitions that require greater health impact assessment and modelling include:

- The use of biofuels or new fuels where there has only been scant study of potential toxicity.
- The misguided increased use of wood for domestic heating (Johnston et al. 2021).
- Energy from waste processing (Cole-Hunter et al. 2019; Cole-Hunter et al. 2020).

As these types of energy transition issues are not addressed in the Strategy there is no proposed mechanism for 'health' input into wider policy deliberation on such issues. The omission of 'health' considerations may have substantial implications for public health as the energy transition progresses and we may miss opportunities to maximise health outcomes relating to energy policies. Having a strong public health input into intersectoral government policy on energy transitions is crucial to ensuring protection of health without compromising gains in emissions reductions.

Overall comments on the strategy

- At several points throughout the Strategy text, there is reference to the Climate Change Act (2022) and Australia's commitment to reducing national emissions by 43% below 2005 levels by 2030. The Strategy needs to include a clear discussion as to whether this is suitable for the healthcare sector, or whether more stringent targets could be set.
- Where the document quotes overseas literature, this should be made clear within the document eg "Overseas/international…. research indicates that….". This is important because not all actions or successes from an international setting are relevant to our local Australian context.

Introduction

1. How could these objectives be improved to better support the vision of the Strategy?
The objectives are very broad, high level and have no specified targets or pathways. For example, by how much should the health sector aim to reduce emissions and by when?

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Should the targets be consistent with the national government's target or should the health sector move beyond and set a more stringent target? Should consideration be given to factors contributing to but outside the health sector? As stated above, some discussion of the feasibility of moving towards more stringent targets could be included, for example, the Climate and Health Alliance's (CAHA) position for a 75% greenhouse gas emission reduction below 2005 levels by 2030 and net zero emissions by 2035 for all sectors, including for healthcare. The Centre supports ambitious reduction targets to stimulate further research, technology development and action to drive emissions down. Providing a matrix of targets, timelines, feasibility and risk would help inform further input to the Strategy.
2. How could these principles be improved to better inform the objectives of the Strategy?
The Centre supports all of the principles listed: of having First Nations knowledge and experience central to decision making; encouraging a health equity approach; taking a public health perspective; and having a One Health perspective; being evidence based; and supporting a cross-sectoral approach. As overall guiding principles to the objectives they appear sound.
3. Which of the various types of greenhouse gas emissions discussed above should be in scope of the Strategy's emission reduction efforts?
All types of greenhouse gas emissions need to be in scope for this Strategy, as the health care sector either contributes to or can influence all three types. Direct emissions from health services (Scope 1) are most easily identified, quantified and therefore reduced. Some Scope 2 emissions can be influenced, for example, sourcing power for health care facilities from renewable sources. Scope 3 emissions may include goods bought and used by or at each health care site, for example, medical supplies, food and catering supplies and services, and cleaning and disinfection supplies. It is unclear if the Australian government's commitment to overall carbon emissions reductions relate to health sector emissions. Should the health sector adopt a stricter target, considering its hefty contribution?
4. What existing First Nations policies, initiatives, expertise, knowledge and practices should the Strategy align with or draw upon to address climate change and protect First Nations country, culture and wellbeing?
The Centre is not best placed to comment on First Nations policies but supports full engagement by First Nations people across all forms of policy and project consultation.
5. What types of governance forums should be utilised to facilitate co-design of the Strategy with First Nations people to ensure First Nations voices, decision-making and leadership are embedded in the Strategy?
While co-design mechanisms embedding First Nations voices need to be led by First Nations people, including Indigenous health practitioners will enable greater engagement and communication with First Nations people, for the purpose of determining how the

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Strategy can support their health needs, tailor mitigation and adaptation activities, and support community based and driven initiatives.

Proposed Objective 1: Measurement

6. Beyond the schemes already noted above, is your organisation involved in any existing or planned initiatives to measure and report on health system emissions and/or energy use in Australia?
N/A
7. What additional data and information is required to support targeted emissions reduction efforts within health and aged care?
Moving towards decarbonisation of the health care sector is critical, and current national level schemes as outlined in the strategy need to have a health specific focus. However, the strategy is lacking detail on current initiatives underway, existing data on emissions, or in setting targets. Clear identification of health care sector emissions that fall under each scope are needed, so these can be tracked and reduced. Scope 2 emissions from the health system need to be clearly identified, recognising they are currently significant and not well identified. Additionally, pages 11-12 the Strategy discusses national schemes that report on organisation-level emissions measurement and reporting but does not state where the various reporting mechanisms are relevant to the health sector or whether reliable data can be obtained from those schemes. Similarly, on page 12 (last paragraph) the Strategy requires much more detail to guide the process of emissions reductions within health. Processes undertaken and corresponding energy uses within the health sector should be listed so that targets can be set or at least data identified or collected if not currently available. It is unclear as to whether there is data already available which can be analysed to inform more detailed analysis of the health sector.

Proposed Objective 2: Mitigation

8. What do you think of these proposed focus areas for emissions reduction? Should anything else be included?
The Mitigation section of the Strategy is focussed on ways in which the health sector can reduce greenhouse gas emissions to help mitigate climate change. The focus areas are important. However, there are mitigation actions beyond the health care sector that the health sector can also advocate for more broadly across government for population health gain. These may include, for example, improved public and active transport options, improved access to local food supplies and improved air quality by reducing wood heater emissions.
9. Which specific action areas should be considered relating to the **built environment and facilities (including energy and water)**, over and above any existing policies or initiatives in this area?

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Targets should be set for all health care facilities (both existing individual facilities and more broadly across the sector) for emissions reductions, reducing/eliminating the use of gas (CAR 2022), moving towards electrification, and to optimise the use of renewable energies.

Further, national policies should be set to guide development and construction of new healthcare facilities so that they meet net-zero emissions, or as a minimum, include timelines for achieving net-zero emissions.

This section could also consider: siting of hospitals and health care buildings to ensure they have easy access to public transport; they are designed using passive solar/energy design principles to lower heating and cooling costs; and renewable energy is considered for lighting as well as heating and cooling (Action 2.1.2.1). For example, can PVC solar panels be installed on health care building rooftops, or can heat pump hot water unit systems be adapted for large scale use? Can recycled water be used for garden and ground maintenance? Innovative engineering designs need to be developed whilst at the same time ensuring infection control procedures are not compromised.

Controlling infectious diseases is paramount and the COVID pandemic has starkly reminded us that indoor air quality and appropriate ventilation is crucial for all buildings, and especially so in healthcare settings. Juggling the need for well-engineered ventilation and maintaining energy efficiency will be key to new building design. The strategy needs to include actions to address this need.

10. Which specific action areas should be considered relating to **travel and transport**, over and above any existing policies or initiatives in this area?

The Centre for Safe Air agrees that Australia's fuel quality standards should be tightened in the interim of phasing out internal combustion engine vehicles (please see the previous CAR submission to government on this issue) (Zosky et al. 2022). However, it also feels that the strategy should focus on setting targets and timelines for a total conversion to EV or hybrid vehicle use, at least within health care settings and by health care providers. Specifications for engaging contractors/suppliers for any goods should favour companies that use EVs and have other energy saving and emissions reductions programs in place.

The health sector should encourage and support wider government policies that advocate for uptake of EV and hybrid vehicles as well as cleaner fuel to be used in all sectors. Research to phase out diesel use across all vehicle types needs to be advocated for and prioritised across government, including the public health sector. For example, each health care setting should provide EV charging facilities.

Given the clear co-benefits, advocating for active transport options needs to be included in this area. For example, instructions detailing public transport access could be provided automatically to each patient/visitor, and end of trip facilities for bicycle users to be accessible for facility staff and visitors..

11. Which specific action areas should be considered relating to **supply chain**, over and above any existing policies or initiatives in this area?

The Strategy would benefit from a greater focus on food procurement, food transport and food waste, all of which are important with respect to emissions reductions.

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12. Which specific action areas should be considered relating to **medicines and gases**, over and above any existing policies or initiatives in this area?
The Centre is supportive of the inclusion of medicines and gases in emission reduction efforts in the healthcare system. Regarding Actions 2.4.1 and 2.4.2, the Centre recommends setting appropriate targets for desflurane emission reductions leakage of piped nitrous oxide. The Centre also recommends a specific target for phasing out natural gas from clinical settings. Besides its climate impacts, health impact assessments have identified indoor natural gas devices as posing a health risk (Lebel et al. 2022).
13. Which specific action areas should be considered relating to **waste**, over and above any existing policies or initiatives in this area?
Disposal of clinically contaminated waste needs to be considered. High temperature incineration and other 'energy from waste' process facilities are known to release increased particulate and carbon emissions per unit of waste combusted than other incineration/processing, but this can be necessary for the reduction of toxic compounds (Cole-Hunter et al. 2019; Cole-Hunter et al. 2020). On the one hand, toxic compounds in emissions are lower while on the other hand greenhouse gas emissions are increased with these processes. Further, energy from waste facilities require large amounts of waste as feedstock due to their 24 hour operation, with some overseas plants needing to import waste from neighbouring countries to run efficiently. The Strategy should consider whether other forms of clinical waste, as well as municipal waste processing, are feasible, and include Health in cross-agency discussion. Optimum consumption of food, aiming for zero waste in line with sustainability of food production, should be prioritised by the health care sector. There is much embedded energy in food production and transport. Reducing food waste is one method of minimising energy use. There are a number of actions that can support this including looking closely at food supply chains and the sustainability measures food companies use/support. Consideration for leftover food to be donated could also be included in the Strategy.
14. Which specific action areas should be considered relating to **prevention and optimising models of care**, over and above any existing policies or initiatives in this area?
N/A to the Centre's remit.
15. What can be done to involve private providers within the health system in the Strategy's emissions reduction efforts?
N/A to the Centre's remit.
16. Where should the Strategy prioritise its emissions reduction efforts?

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a. How should the Strategy strike a balance between prioritising emissions reduction areas over which the health system has the most direct control and prioritising the areas where emissions are highest, even if it is harder to reduce emissions in these areas?

b. Which of the six sources of emissions discussed above (on pages 13 to 18 of the Consultation Paper) are the highest priorities for action?

There is insufficient information provided in the Strategy to adequately respond to this question. A matrix should be prepared outlining those emissions reduction efforts that are simplest for the health sector to address, even if the reductions are lowest, as well as efforts where the greatest reductions can be made even if actions will be slowest. The matrix should include all actions in between these two extremes, along with the likelihood and resources needed for implementation along with specific actions needed to implement each effort. Such a matrix can then be used to inform a timetable of action and implementation. With this effort we are likely to see various specific actions across all sources of emissions that can be prioritised.

Focus could be made on sources which have multiple co-benefits. For example, prioritising active transport reduces emissions, reduces necessary transport infrastructure, and increases physical activity which benefits health.

17. What 'quick wins' in relation to emissions reduction should be prioritised for delivery in the twelve months following publication of the Strategy?

The strategy needs to provide more detail or be supported with a separate action plan in order to be able to properly respond to this question. Actions that cover more than one focus area should be prioritised.

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Proposed Objective 3: Adaptation

18. What health impacts, risks and vulnerabilities should be prioritised for adaptation action through the Strategy? What process or methodology should be adopted to prioritise impacts, risks and vulnerabilities for adaptation action?

The concern with adaptation is that the most vulnerable in the community including First Nations people, the young and the elderly as well as those from lower income groups, will be the least prepared and/or have the least capacity to "adapt' to climate change impacts eg provide heating and cooling for their home, purchase appropriate medications needed; purchase healthier foods etc. Actions for adaptation needs to be prioritised for these groups, so as to not widen inequity gaps.

Given that climate change is expected to increase the frequency and intensity of bushfire and heat stress events, more effective community education on the potential for protective measures from the effects of air pollution and heat is needed, as recommended in the Royal Commission into National Natural Disaster Arrangements. The Black Summer bushfires of 2019-2020 resulted in an increase in hospitalisations across eastern Australia (Borchers Arriagada et al. 2020) corresponding to unprecedented health costs associated with smoke related PM pollution (Johnston et al. 2020). Previous evidence has shown that bushfire smoke affecting Sydney was associated with increased ED attendances for non-trauma conditions, respiratory conditions, asthma, COPD and ischaemic heart disease (Johnston et al. 2014) and a systematic review of smoke related PM from prescribed burns and other natural bushfire events has found this exposure is associated with increased asthma hospitalisations and emergency department visits (Borchers Arriagada et al. 2019). Multiple studies have shown the negative impact of extreme heat on mortality and morbidity (Campbell et al. 2018).

Since the Black Summer bushfires, public awareness of the health impacts of exposure to air pollution has increased. However, researchers and expert panel members at a CAR organised workshop on the policy implications for protecting public health from smoke episodes recommended that messaging during prolonged smoke events needs to be improved, and more critically, that further research on the long term effects of medium to long term exposure to smoke is required (Cowie et al. 2021). Additionally, the workshop discussion documented that certain protective actions that were suggested during the Black Summer bushfires, such as the use of air filtration units and air conditioning to improve indoor air quality, had at the time, only little evidence of their efficacy in such a prolonged event. The recommendation made by same agencies, to use masks as a personal protective measure, was also supported by scant and inconsistent evidence.

It was clear that the community was most concerned over the health effects associated with different timeframes of exposure (eg short, medium, long-term), and the health impacts on vulnerable groups such as pregnant women, the elderly and the young (Jalaludin et al. 2020; Cowie et al. 2021). They also felt ill-equipped to take protective actions to minimise exposure and risk.

Therefore, it is vital that further research using intervention efficacy studies (eg filtration units, masks, building ventilation) be conducted in these areas to support adaptation strategies (Cowie et al. 2021). Clarity of advice to the public is also vital. A particular area of concern was the lack of coordinated advice and action for workers in outdoor settings, with the workshop discussion concluding that much more streamlined advice was needed. As a result, the Centre is of the opinion that the strategy should be enhanced to include and address these issues.

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Ensuring better built social housing, aged care facilities and child-care facilities as well as schools, that are designed with passive energy features and designed to withstand the heat and cold while simultaneously reducing carbon emissions, is paramount. Building standards need to be strengthened to exclude designs that will result in increased energy needs for heating and cooling eg building homes with no eaves or with large glazed areas that are inadequately protected in summer, or homes with no insulation, or homes that are reliant on additional heating and cooling for comfort. This is especially crucial for social housing where the occupants are likely to have the least capacity to make changes to their immediate environment to improve comfort, and the least likely to afford ongoing costs for energy purchase. The Strategy should support strengthening of the building standards, including for commercial buildings, and engagement with the building and design industry to ensure that energy efficient building becomes the norm rather than aspirational. Commercial buildings must be designed with energy efficiency in mind and partnerships between the health care industry and peak organisations such as the Green Building Council of Australia should be fostered.

19. Should the Australian government develop a National Health Vulnerability and Adaptation Assessment and National Health Adaptation Plan? If yes:
    a. What are the key considerations in developing a methodology?
    b. How should their development draw on work already undertaken, for example at the state and territory level, or internationally?
    c. What are the key areas where a national approach will support local/jurisdictional vulnerability assessment and adaptation planning?

The government should develop a National Health Vulnerability and Adaptation Assessment and National Health Adaptation Plan to map out those areas and populations of greatest vulnerability and to plan for resources and mitigation measures that are protective of the greatest population affected as well as the most vulnerable populations/communities. Additional adaptation and mitigation measures and or subsidies to enable action are likely to be required for low-income and remote populations living in areas expected to be most impacted.

Drawing on local knowledge will be imperative to the success of developing a national adaptation assessment. For example, local government holds a key understanding of the specific needs and vulnerabilities of its community. Developing the plan with the engagement of local governments or local government representatives is vital.

Many local governments already have existing climate action plans, that have been developed with and meet the needs of communities. However, funding to implement these plans is less likely to be made available. A grant scheme to assist local councils to implement health-specific strategies within existing climate plans could be a useful measure.

20. Would there be value in the Australian government promoting a nationally consistent approach to vulnerability assessment and adaptation planning for the health system specifically, for instance by issuing guidance and associated implementation support tools for states, territories and local health systems? If yes, what topics should be covered to promote a nationally consistent approach? What examples of existing guidance (either from states/territories or internationally) should be drawn from?

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The Centre supports a nationally consistent approach to vulnerability assessment and adaptation planning as well as nationally consistent guidance and tools for states, territories and local health systems. However, additional funding would be needed to implement this approach, as health systems are already overstretched and resource poor. Given substantial regional differences in threats, vulnerabilities and capacity to respond, a national approach needs to be flexible and non-prescriptive in nature. Evidence of success from existing approaches internationally needs to be assessed to determine if this is a feasible approach for Australia.
21. What immediate high-priority health system adaptation actions are required in the next 12 to 24 months?
• Evidence for guidance towards surge capacity planning in health care facilities for extreme heat events. • Advocacy of climate change as a health emergency, rather than an environmental emergency.

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Proposed Objective 4: Health in All Policies

22. What are the key areas in which a Health in All Policies approach might assist in addressing the health and wellbeing impacts of climate change and reducing emissions?
The Centre strongly endorses a Health in All Policies approach and the Strategy document has listed three important areas of transport policy; food, agriculture and trade policy; and housing policy. We suggest these be expanded to include: • an expanded transport policy to include active and passive transport; • an expanded housing policy to include land use policy to also cover commercial and industrial land use; • urban design policy to encompass aspects the many aspects of urban design that impact on human health such as congestion; liveability; green space; access to services; connectedness; • waste/resource generation and processing and the circular economy; • safeguarding and improving air quality; • emergency response. We have provided examples above in our response to question 1) where a whole of government approach when considering energy transitions actions and technologies would benefit public health. While we want to ensure that the energy transition to renewables occurs as fast as possible, we need to be mindful of any inadvertent impacts on health where, for instance, the introduction of combustible fuels may be less safe than the current fuels used. Current government policy development for specific energy sectors is fragmented and it is clear that health agencies are often not consulted, and so potential health concerns are overlooked. With respect to air quality, we have previously indicated that action to reduce the burden of disease arising from air pollution exposure is hampered due to inconsistency in approaches taken by the various agencies responsible for air quality regulation, monitoring, enforcement and health protection (Abramson et al. 9 December 2022). The national government's new Australian Centre for Disease Control (ACDC) is a major opportunity to advocate for health in all policies in a holistic and integrated manner.
23. What are the most effective ways to facilitate collaboration and partnerships between stakeholders to maximise the synergies between climate policy and public health policy? What are some successful examples of collaboration in this area?
Implementing 'Climate in all' policies alongside 'Health in all' policies may be an effective method to amalgamate and synergise these areas. Specifically, identifying sectors and policies that have co-benefits to both areas will maximise limited resources.

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Enablers

24. How could these enablers be improved to better inform the objectives of the Strategy? Should any enablers be added or removed?
The Centre recommends all these enablers remain in the Strategy. A further enabler may be the principle of prioritising the needs of the most vulnerable to reduce established inequities.
25. For each of these enablers: a. What is currently working well? b. What actions should the Strategy consider to support delivery?
a. The Strategy as it stands does not contain enough information to assess what is working well and what is not working well. b. The Strategy needs to be adequately resourced to support implementation and delivery, and needs to contain realistic yet urgent timeframes for delivery.

Thank you for taking the time to complete this survey – your feedback is greatly appreciated!

Please submit this form in Word format to Health.Climate.Consultation@health.gov.au.

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National Health and Climate Strategy
Consultation Paper

Response to the Australian Government Department of Health and Aged Care

University of Melbourne

24 July 2023

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Background

The Australian Government is consulting on the development of a National Health and Climate Strategy, acknowledging the critical need to address health-related emissions as well as to build health resilience to climate-related impacts. The Strategy covers mitigation and adaptation efforts across all levels of the health system, including relevant manufacturers, and efforts required beyond the health sector through a Health in All Policies (HiAP) approach. The Strategy recognises the formative role of Indigenous knowledges and practices in addressing climate-related health impacts.

This submission from climate and health/sustainable healthcare experts at the University of Melbourne offers recommendations that seek to maximise the health outcomes of Australians in a rapidly changing climate.

While the authors of this submission work for the University of Melbourne, any mistakes are our own.

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Contact: **Climate Collaborative Action for Transformative Change in Health and Healthcare (CATCH) Lab** *(climate-catchlab@unimelb.edu.au)*

General Comments

Overall focus

The consultation paper provides the foundation for an inaugural National Health and Climate Strategy (the Strategy), and we commend the Department of Health and Aged Care (DHAC) for undertaking a stakeholder engagement process as part of the Strategy's development.

The inclusion of cross-cutting commitments to First Nations leadership, tackling health inequities, and population health and prevention are important, however several essential elements have been omitted. In particular:

- The consultation paper did not provide definitions for key concepts, such as 'health care' and 'health system', that will impact the scope and parameters of the Strategy. *We recommend the Strategy clearly define key concepts and scope.*
- While the consultation paper presents five enablers to support the realisation of the Strategy's objectives (pp.35-36), there are also potential **barriers and constraints**, such as (a lack of) cross-governmental buy-in and economic limitations, that may impact the effective delivery of the Strategy. *We recommend the Strategy explicitly consider potential barriers to the successful implementation of the Strategy, and how these will be actively addressed*.
- **Systems thinking and transdisciplinarity** are not evident in the consultation paper. Adopting these approaches will be essential for the successful implementation of the Strategy. *We recommend these approaches underpin the delivery of the Strategy, particularly in its consideration of governance mechanisms.*
- The impacts of climate change on the **mental health** of Australians and associated services are under-represented in the consultation paper. We believe mental health is a critical priority for health-related climate action. *We recommend the Strategy prioritise a stepped care approach that pursues both preventive, whole-of-population care, as well as specialised clinical interventions.*
- The consultation paper emphasises mitigation efforts through the reduction of health systems emissions, a necessary and important approach. However, equal emphasis must be placed on **health system and community adaptation and disaster preparedness** in response to predicted significant increases in demand from both slow- and rapid-onset climate-related events and disasters. *We recommend a stronger focus on adaptation and disaster preparedness.*
- The consultation paper does not adequately prioritise or promote the achievement of healthy and resilient communities through a **population-based approach** or the inclusion of **health in all climate and energy policy decisions.** *We recommend a preventive approach that seeks to*

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quantify and capitalise on the substantial health co-benefits that ambitious cross-sectoral climate action affords.

- Supporting action beyond the health system is critical yet there appears to be limited detail in the consultation paper on how a **Health in All Policies (HiAP)** approach will be supported in the short- and long-term as it is not currently identified as a key action area. *We recommend the Strategy clearly articulate how a HiAP approach will be implemented, particularly as it pertains to governance mechanisms for the Strategy.*
- The consultation paper focuses solely on strategic priorities and actions within Australia's geographical domain. *We recommend that the Strategy also emphasise Australia's international commitments and recognise the opportunities for collaboration and leadership, given the* ***transnational, cascading and compounding*** *impacts of climate change on health globally and in our Indo-Pacific region.*

Governance and Accountability

The consultation paper provides minimal detail on the planned governance and accountability mechanisms that will be used to ensure the Strategy is effective. Governance should be included as an enabler within the Strategy (see p.25) and accountability should be included as a principle within the Strategy (see pp.7-8). Cross-governmental collaboration, especially with the Department of Climate Change, Energy, the Environment and Water (DCCEEW) is critical. We recognise the joint launch of the consultation by The Honourable Ged Kearney MP, Assistant Minister for Health and Aged Care, and Senator Jenny McAllister, Assistant Minister for Climate Change and Energy. Given this, it is assumed that the National Health, Sustainability and Climate Unit (NHSCU) in DHAC will play a leading role in developing and implementing the Strategy, with DCCEEW input.

We recommend that the Strategy clearly articulate the linkages, roles and responsibilities of the NHSCU/DHAC and DCCEEW in the Strategy development and implementation process. This includes the Strategy outlining how health system mitigation efforts will be integrated into Australia's broader mitigation efforts and how the actions of health-determining sectors, such as energy and water, will be identified and harmonized with health sector efforts.

The consultation paper suggests that the Strategy will take account of work underway, presumably at other levels of government and across non-governmental sectors. We reaffirm that a commitment to collaboration between jurisdictions and other key stakeholders is vital.

Specifically, we recommend that the Strategy commit to mapping the interrelationships and current efforts occurring in other agencies and sectors to harmonise efforts and reduce duplication as a fundamental first step. There is also a need to align the Strategy with efforts relating to disaster risk reduction and emergency management.

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Response to consultation paper questions

Below we respond directly to the questions posed throughout the consultation paper.

1. ***How could these objectives be improved to better support the vision of the Strategy?***

The overarching vision of the Strategy is unclear from the consultation paper. We believe a high-level vision statement is critical to articulate the Government's commitment, ambition, and priorities for ensuring a healthy, climate-resilient, and sustainable health system. The Intergovernmental Panel on Climate Change (IPCC) *Sixth Assessment Report on Climate Change Impacts, Adaptation and Vulnerability* emphasised the adverse effects of climate change on physical and mental health across all countries, and that observed climate-related illness, disease transmission and mortality is increasing worldwide.[1] In Australia, recent climate change exacerbated disasters, including the 2019-2020 heatwaves and bushfires and the 2021-2022 floods, affected the health and wellbeing of tens of thousands of people, with vulnerable populations including Indigenous communities disproportionately impacted.[2] Despite the immediacy and lived reality of climate-related health impacts, the consultation lacks a sense of urgency or prioritisation of climate change in national health policy and planning. **Explicit recognition of the urgent need for action is critical for inclusion in the Strategy**.

Further, the current objectives outlined on p.8 are important, but could be strengthened:

On Measurement

The consultation paper notes that health care greenhouse gas (GHG) emissions should be measured and reported for ongoing monitoring. The scope of activity should be expanded to include learning and evaluation, not just measuring and reporting. For example, the United Kingdom (UK) National Health Service (NHS), a widely-recognised leader in healthcare sustainability and decarbonisation, used baseline healthcare emissions data to model future scenarios under a variety of conditions (e.g. business as usual, committed decarbonisation) to identify

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[2] Beggs, P. J., Zhang, Y., McGushin, A., Trueck, S., Linnenluecke, M. K., Bambrick, H., Capon, A. G., Vardoulakis, S., Green, D., Malik, A., Jay, O., Heenan, M., Hanigan, I. C., Friel, S., Stevenson, M., Johnston, F. H., McMichael, C., Charlson, F., Woodward, A. J., & Romanello, M. B. (2022). The 2022 report of the MJA–Lancet Countdown on health and climate change: Australia unprepared and paying the price, *Medical Journal of Australia*, 217(9), 439-458. https://doi.org/10.5694/mja2.51742

ambitious net-zero healthcare targets and priority intervention areas.[3] The Australian Government should adopt a similarly robust and adaptive approach to reduce the carbon footprint of health systems.

Clarifying the methods of measuring GHG emissions, including scope of emissions sources, will be important. The chosen methodological approach must align with internationally validated and recognised standards, such as the GHG protocol[4], for replicability and comparison.

The scope of emissions should also be expanded to consider non-GHG emissions (e.g. criteria air pollutants) to support efforts by DCCEEW under the National Environment Protection Measures (NEPMs), recognising the inextricable link between climate change, air quality and health. Other relevant environmental impacts such as water use, waste outputs, land use and patient and visitor travel should be considered. Methodologies and emission criteria from other health services, including the NHS, can inform the approach taken in Australia.[5]

Finally, the Strategy and future plans should consider measurement estimates and models of the beneficial effects of different types of interventions to reduce healthcare emissions, for example expansion of telemedicine programs which have been shown to reduce transport-associated emissions.[6] Any GHG measurements must also take into account associated carbon footprint of telehealth, including energy consumption such as cloud servers and housing of telehealth operations in call centres.[7]

On Mitigation

Australia's health care GHG emissions account for an estimated 7% of national totals.[8] Health care is thus a significant if under-recognised contributor to carbon emissions. In light of this, the Strategy must include healthcare carbon emission reduction targets and support identification of appropriate mitigation measures and improvements. Such targets must be science-based and in line with existing national and international commitments to limit temperature rise to well below 2 degrees Celsius. We support health care mitigation targets of 80% reduction by

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[4] World Resources Institute. (2023). *Greenhouse Gas Protocol.* Available from: https://ghgprotocol.org/

[5] Tennison, I., Roschnik, S., Ashby, B., Boyd, R., Hamilton, I., Oreszczyn, T., Owen, A., Romanello, M., Ruyssevelt, P., Sherman, J. D., Smith, A. Z. P., Steele, K., Watts, N., & Eckelman, M. J. (2021). Health care's response to climate change: a carbon footprint assessment of the NHS in England. *The Lancet Planetary Health*, 5(2), e84-e92. https://doi.org/10.1016/S2542-5196(20)30271-0

[6] Purohit, A., Smith, J., & Hibble, A. (2021). Does telemedicine reduce the carbon footprint of healthcare? A systematic review. Future Healthc J, 8(1), e85-e91. https://doi.org/10.7861/fhj.2020-0080

[7] Smith CL, Zurynski Y, Braithwaite J. (2022). We can't mitigate what we don't monitor: using informatics to measure and improve healthcare systems' climate impact and environmental footprint. *J Am Med Inform Assoc*; 29: 2168-2173.

[8] Malik, A., Lenzen, M., McAlister, S., & McGain, F. (2018). The carbon footprint of Australian health care. *The Lancet Planetary Health*, 2(1), e27-e35. https://doi.org/10.1016/S2542-5196(17)30180-8

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2030, as recommended by the Climate and Health Alliance (CAHA), the Australian Medical Association, and Doctors for the Environment Australia (DEA).[9,10]

Mitigation targets must extend beyond the health care sector and requires government and private sector action towards net-zero ambitions. We endorse the national targets outlined in CAHA's Framework for a national strategy on climate, health and well-being for Australia, namely a 75% reduction in greenhouse gas emissions below 2005 levels by 2030 and net zero emissions by 2035 for all sectors, including emissions from exports.

The Strategy should also seek to accelerate the reduction of GHG emissions from other health-determining sectors, including transport, energy, and the built environment, in line with a Health in All Policies approach. Multiple health benefits can accrue from mitigation measures such as efforts to reduce air pollution and improve air quality by encouraging low or no-emissions transport and increasing access to green space across urban and rural areas.

On Health in All Policies (HiAP)

We strongly support the inclusion of HiAP as an overarching policy principle of the National Strategy. The Strategy should recognise and seek to address additional determinants of health, including economic, commercial, and environmental drivers that impact health and wellbeing. This requires multisectoral interventions and actions across health-determining sectors, including energy, water, transport, agriculture, buildings, and infrastructure.[11]

2. How could these principles be improved to better inform the objectives of the Strategy?

We support the principles outlined in p.6 of the consultation paper, in particular the emphasis placed on First Nations expertise and leadership on climate-related health issues, and a cross-cutting commitment to tackling health inequities. On improving the principles:

- Regarding evidence-informed policymaking, any cost-effective analysis undertaken must include a comprehensive assessment of the likely benefits of action, which has historically been missing from economic analyses, as these are considered more difficult to quantify and monetize compared with the costs.

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[9] CAHA. (2021). *Healthy, Regenerative and Just: Framework for a national strategy on climate, health and well-being for Australia*. Available from: https://shorturl.at/jqx15

[10] AMA and DEA, (2021). *Joint statement: Medical professionals call for emissions reduction in health care*. Available from: https://www.ama.com.au/media/joint-statement-medical-professionals-call-emissions-reduction-health-care

[11] Workman, A., & Bowen, K. J. (2023). Developing healthier climate policies through multisectoral interventions and collaborations to address knowledge and practice gaps. *The Journal of Climate Change and Health*, *9*, 100202. https://doi.org/https://doi.org/10.1016 /j.joclim.2023.100202

- Regarding partnership-based working, carers, patient-advocacy groups and first responders are key partners to include in the development and implementation of a response to climate change.
- On One Health: While this is a useful initial framing, the concept of One Health does not have a sufficient focus on inter- or transdisciplinary work, nor the structural determinants of health (including governance, partnerships etc.), so an opportunity to look beyond this framing would be strongly encouraged.

We also recommend additional principles around transparency and accountability be incorporated into the Strategy. To operationalise the Strategy's commitment to coordinated and coherent action across all levels of government, there must be clarity on the roles and responsibilities of the NHSCU/DHAC, other federal departments, as well as state-based agencies and sustainable healthcare units (including those in New South Wales and Western Australia currently). The Strategy is an important opportunity to support collaboration among these bodies to move Australia's health care system towards a low carbon, high value system. The importance of data sharing cannot be over-stated. Tracking health care environmental sustainability data is feasible nationally but requires careful collaboration and governance.

Fundamental to a sustainable healthcare system is the provision of high-quality care and as such we recommend inclusion of provision of high-quality healthcare as an underlining Strategy Principle.

Finally, we recommend the inclusion of a principle that recognises and respects Australians' right to health and to a clean, healthy and sustainable environment, as per resolutions adopted by the United Nations General Assembly.[12,13]

3. Which of the various types of greenhouse gas emissions discussed above should be in scope of the Strategy's emission reduction efforts?

Emissions across scope 1, 2 and 3 must be considered as within the remit of the Strategy. Scope 1 (direct GHG emissions), including health care anaesthetic gases, and respiratory inhaler emissions, and Scope 2 (indirect GHG emissions), including energy consumption of health care infrastructure, should be relatively straightforward to calculate and capture from existing datasets across most Australian jurisdictions (as noted on p.11 of the consultation paper).

Additional Scope 3 (all other indirect emissions), such as health care-related transport and supply chain emissions, are particularly important for health care since repeated environmentally-extended input-output (EEIO) whole of health

[12] United Nations (1948). *Universal Declaration of Human Rights.*. Available from: https://documents-dds-ny.un.org/doc/RESOLUTION/GEN/NR0/043/88/PDF/NR004388.pdf?OpenElement

[13] United Nations (2022). *The human right to a clean, healthy and sustainable environment. A/RES/76/300*. Available from: https://documents-dds-ny.un.org/doc/UNDOC/GEN/N22/442/77/PDF/N2244277.pdf?OpenElement

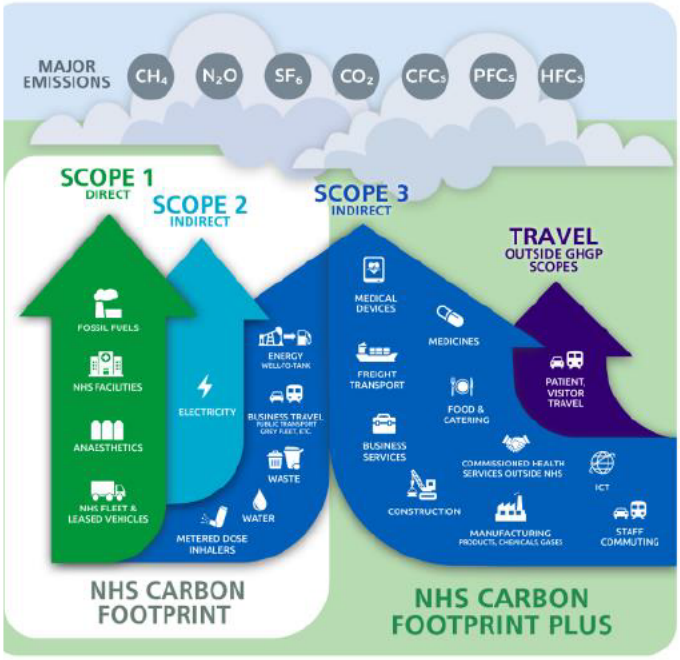
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care studies have shown health procurement contributes to the majority of GHG emissions. In particular, offshore Scope 3 emissions associated with pharmaceuticals and medical devices must be included. It is only by including offshore Scope 3 emissions that health care's purchasing power can be used to move procurement toward lower carbon products and impact pharmaceutical and manufacturing decisions made overseas.

Given a large proportion of health care services are delivered in home (e.g., aged care services, disability support, occupational therapy) – and that 20% of emissions are household based[14] – the Strategy should also recognise housing, healthcare provided at home as part of the health care system and thus the downstream GHG mitigation efforts.

Further, health care often experiences complex interplays between different types of GHG emissions Scopes (see Figure 1). For example, comprehensive life cycle assessments (LCA) have repeatedly determined that adopting reusable over single-use health care products can substantially reduce GHG emissions, particularly when the hospital's electricity source transitions to renewables.[15] If Scope 3 sources were excluded, the carbon reductions and benefits of instituting policies such as increasing reusable consumables would not be captured.

Figure 1: GHG emission scopes in the context of the NHS[16]



[14] Department of Climate Change, Energy, the Environment and Water. (2023). *Residential Buildings.* Available from :https://www.energy.gov.au/government-priorities/buildings/residential-buildings

[15] Keil, M., Viere, T., Helms, K., & Rogowski, W. (2023). The impact of switching from single-use to reusable healthcare products: a transparency checklist and systematic review of life-cycle assessments. *Eur J Public Health*, *33*(1), 56-63. https://doi.org/10.1093/eurpub/ckac174

[16] NHS (2022). *Delivering a 'Net Zero' National Health Service*. Available from: https://www.england.nhs.uk/greenernhs/wp-content/uploads/sites/51/2022/07/B1728-delivering-a-net-zero-nhs-july-2022.pdf

4. ***What existing First Nations policies, initiatives, expertise, knowledge, and practices should the Strategy align with or draw upon to address climate change and protect First Nations country, culture, and wellbeing?***

5. ***What types of governance forums should be utilised to facilitate co-design of the Strategy with First Nations people to ensure First Nations voices, decision-making and leadership are embedded in the Strategy?***

We strongly agree that First Nations people are key partners who should be consulted as part of Strategy development, implementation and evaluation. This consultation should be genuine and meaningful and should respect First Nations cultural protocols for engagement and consultation, which may not align with government timeframes.

Engagement with Indigenous knowledges must be undertaken primarily for the benefit of Indigenous communities, in a manner that is sensitive to the risks of harms associated with knowledge extraction and must be embedded within a justice agenda. Principles for ethical and respectful engagement with First Nations people have been articulated by the First Nations Clean Energy Network, and could be adapted for implementation of the planned Strategy.

Further, First Nations people who engage with the development and implementation of the Strategy must be appropriately remunerated for their time and contributions.

There are well-established institutes and networks which should be consulted during the Strategy development, including:

- The National Indigenous Disaster Resilience Project, led by Bhiamie Williamson (Fire to Flourish, Monash University). This project is, among other things, developing a National Indigenous Disaster Resilience Strategy, conducting research, and establishing a network within the disasters sector in Australia (with the inaugural National Indigenous Disaster Resilience Summit in August 2023).

Relevant work relating to disaster resilience and recovery, including Indigenous knowledges in these contexts (e.g. healing knowledges and practices):

- Previous work from Bhiamie Williamson and colleagues
    - Submission to the Royal Commission into National Natural Disaster Arrangements.
    - Williamson, B., Markham, F., & Weir, J. (2020). Aboriginal peoples and the response to the 2019– 2020 bushfires (Working Paper No. 134). Centre for Aboriginal Economic Policy Research, ANU. doi:10.25911/5e7882623186c https://caepr.cass.anu.edu.au/research/publications/aboriginalpeoples-and-response-2019-2020-bushfires
    - Video – AIDR: Indigenous perspectives on disaster recovery

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    - Aboriginal community governance in the Black Summer fires: video and discussion paper.
    - The Conversation: Strength from perpetual grief: how Aboriginal people experience the bushfire crisis
    - Indigenous Peoples and Recovery Capitals
    - Indigenous healing and disaster recovery: A summary of dialogue
- Australian Red Cross National First Nations Recovery Group, chaired by Sam Savage
- Emergency Recovery Victoria Strategy for Aboriginal Community-led Recovery
- Northern Rivers Community Healing Hub
    - https://www.nrchh.org/copy-of-who-we-are
    - https://pacfa.org.au/portal/Portal/News-and-Advocacy/News/2022/northern-rivers-healing-hub-NAIDOC-2022.aspx
    - Outlined by A/Prof Carlie Atkinson in this webinar: https://mspgh.unimelb.edu.au/centres-institutes/centre-for-health-equity/research-group/indigenous-health-equity-unit/research/apprise-grant/activities/northern-rivers-community-healing-hub
- Public Health Emergency Framework
    - Graham, S., Kamitsis, I., Kennedy, M., Heris, C., Bright, T., Bennetts, S. K., ... & Chamberlain, C. (2022). A Culturally Responsive Trauma-Informed Public Health Emergency Framework for Aboriginal and Torres Strait Islander Communities in Australia, Developed during COVID-19. International Journal of Environmental Research and Public Health, 19(23), 15626.

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Objective 1: Measuring health system greenhouse gas emissions

6. ***Beyond the schemes already noted above, is your organisation involved in any existing or planned initiatives to measure and report on health system emissions and/or energy use in Australia?***

The consultation paper notes current national GHG reporting frameworks, including the National Greenhouse and Energy Reporting Scheme (NGER, p.11) and the voluntary Climate Active program. The Strategy should encourage and, where relevant, recommend health care specific emissions criteria for comparison across different settings.

Further, avoidance of an over reliance upon EEIO studies to guide local decision making (including by individual and groups of clinicians) is important. EEIO studies are useful for setting the scene and providing a broad overview of the healthcare sector's GHG emissions. However, EEIO studies are not nuanced enough to guide individual clinician and health administrator choices towards processes and procedures that result in fewer GHG emissions.

Case study: Western Health

At Western Health, Melbourne, and in association with the Universities of Melbourne and Sydney, several process-based LCAs of common tests and procedures were conducted. This includes measuring the carbon footprint of common pathology tests. Examples include common pathology tests,[17] C.T., and M.R.I. scans.[18] These studies are important for setting the foundation for healthcare to provide a more nuanced and informed healthcare GHG emissions profile. But such studies are only the beginning of the journey towards an informed, research and policy agenda towards low carbon health care.

7. ***What additional data and information is required to support targeted emissions reduction efforts within health and aged care?***

The estimated Scope 1 and 2 health system emissions provided on p.11 were difficult to interpret without more detailed methodological information or data sources. It will be important to harmonise or clarify differences in baseline emissions calculations with prior studies. DCCEEW's internal analysis of health care emissions identified aggregate 90.5 Mt CO2-e of emissions in 2021 (p.11), which is significantly higher than the 35 Mt CO2-e estimated in previous scientific studies.[19]

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[17] McAlister, S., Barratt, A. L., & McGain, F. (2020). The carbon footprint of pathology testing. *Med J Aust*, *213*(10), 477-477.e471. https://doi.org/10.5694/mja2.50839

[18] McAlister, S., McGain, F., Petersen, M., Story, D., Charlesworth, K., Ison, G., & Barratt, A. (2022). The carbon footprint of hospital diagnostic imaging in Australia. *Lancet Reg Health West Pac*, *24*, 100459. https://doi.org/10.1016/j.lanwpc.2022.100459

[19] Malik, A., Lenzen, M., McAlister, S., & McGain, F. (2018). The carbon footprint of Australian health care. *The Lancet Planetary Health*, *2*(1), e27-e35. https://doi.org/10.1016/S2542-5196(17)30180-8

As noted in response to question 1, the Strategy must outline and justify the methods for measuring of GHG emissions. The NGER and Australia's greenhouse accounts will assist data gathering of health care's direct GHG emissions. Measurement of health care anaesthetic gases (including nitrous oxide) should also be straightforward based on existing hospital procurement and consumption data. Measurement, however, of the carbon footprint of pharmaceuticals and medical equipment is uncertain and rudimentary currently.

LCA has been demonstrated as a valid and replicable methodology for calculating downstream Scope 3 healthcare emissions in Australia and overseas and could be endorsed within the Strategy to encourage uptake across jurisdictions.[20] There are two main groups of LCAs relevant to healthcare; EEIO studies, and process based LCAs.

EEIO studies link a financial value with GHG emissions (kg CO2-e per dollar). They are useful for large, healthcare sector wide estimates of GHG emissions. Process based LCAs require careful analyses of the components, their masses, place of manufacture, and energy sources used to deliver the final product.

While EEIO studies are generally more cost-effective and efficient to implement, they must be complemented by more comprehensive process-based LCAs to provide reliable and granular data required for comparisons between different clinical pathways; information which is becoming increasingly vital for evidence-based clinical decision-making.

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[20] Seifert, C., Koep, L., Wolf, P., & Guenther, E. (2021). Life cycle assessment as decision support tool for environmental management in hospitals: A literature review. *Health Care Management Review*, *46*(1). DOI: 10.1097/HMR.0000000000000248

Objective 2: Mitigation

8. ***What do you think of these proposed focus areas for emissions reduction? Should anything else be included?***

We support the identified focus areas on p.14 as appropriate and reasonable. However, the current arrangement implies low prioritisation of 'prevention and optimising models of care', which are both central to reducing health care emissions and improving environmental sustainability. Tertiary, hospital-based services are among the most carbon-intensive modes of care.[21] The Strategy is an important opportunity to emphasise co-benefits of health promotion, primary care, and disease prevention strategies in reducing demand across different levels of the health care system and associated emissions. This requires significant effort to target clinician behaviour and existing treatment protocols to reduce unnecessary and low-value care which provides little or no benefit to patients, overdiagnosis and prescription, and health care waste. Initiatives such as Choosing Wisely Australia provide information and resources to improve health care efficiency, which in turn reduce costs and support sustainable clinical practice.[22]

9. ***Which specific action areas should be considered relating to the built environment and facilities (including energy and water), over and above any existing policies or initiatives in this area?***

Energy should be a core and potentially separate focus of the built environment and facilities pillar, given its significant contribution to Scope 1 and 2 healthcare emissions. Efforts of some jurisdictions to ensure 100% renewable electricity in public hospitals (e.g. Tasmania, the Australian Capital Territory, South Australia, and public hospitals in Victoria by 2025) should be documented and promoted for replication in other settings. Additional emphasis should be placed on reducing energy consumption through efficiency measures such as operating theatre HVAC (heating, ventilation and air conditioning), setbacks and installation of energy saving devices.

For broader build environment and facilities management actions, energy efficient technologies and systems should be mandated for all new builds and subsidised for existing health care infrastructure, e.g. sensor lights; water saving taps; improved insulation; and heat pumps. The Strategy is also an important opportunity to transition Australia's health care facilities away from gas, and any new builds should be fully electrified[23].

Waste and water management interventions such as low-flow or water saving devices and diversion of waste or grey water for appropriate reuse, such as on-

[21] Tomson, C. (2015). Reducing the carbon footprint of hospital-based care. *Future Hosp J*, 2(1), 57-62. https://doi.org/10.7861/futurehosp.2-1-57

[22] Choosing Wisely. (2023). Available from: https://www.choosingwisely.org.au/

[23] DEA. (2022). *All electrical hospitals guide.* Available from: https://dea.org.au/all-electric-hospital-builds/ and https://dea.org.au/wp-content/uploads/2023/04/DEA-all-electric-hospital-guide-v7.pdf

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site garden irrigation, should be emphasised.

The built and natural environments and health are inextricably linked. Nature-based solutions include actions to protect, manage and restore ecosystems and can deliver co-benefits for mental and social health, and additional environmental benefits including cooling, improved air quality, erosion reduction, flood mitigation and biodiversity support. [24] Green infrastructure, such as interconnected networks of publicly accessible green space, should be a focus for both improvement of existing health infrastructure and health promotion engagements with other sectors.

10. *Which specific action areas should be considered relating to **travel and transport**, over and above any existing policies or initiatives in this area?*

Staff, patient, and visitor travel must be explicitly included in the Strategy and health care emissions measurement frameworks. As noted in the consultation paper, travel comprises up to 10-18% of total health care carbon emissions in some settings.[25] While patient and visitor travel may fall under Scope 3 emissions criteria, estimates from other comparable settings, namely the UK NHS, show it is possible to collect required data. At a minimum, a feasibility study for measuring health-related travel emissions should be conducted.

Health agencies also have direct purchasing power over vehicle fleets, even if some vehicles such as ambulances are leased rather than purchased outright. In these instances, electrical vehicles or high-fuel efficiency options should be preferenced.

Policies and programs that help reduce unnecessary patient and staff travel should be promoted. For example, virtual telehealth consultations where appropriate should be incentivised. We support the extension of Medicare Benefits Scheme (MBS) items for several core consultations and counselling services and believe these items should be made available permanently as they deliver co-benefits of increased access for rural or marginalised populations while reducing unnecessary transport emissions.

We support the inclusion of broader transport policy levers in the Strategy and including a health perspective in efforts to improve access to affordable public transport, the promotion of active transport, and encouraging uptake of and infrastructure for electric vehicles. There is also an opportunity to consider and include the quantified health co-benefits associated with stronger fuel efficiency standards.

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[24] Bowen, K. J., & Lynch, Y. (2017). The public health benefits of green infrastructure: the potential of economic framing for enhanced decision-making. *Current Opinion in Environmental Sustainability*, *25*, 90-95. https://doi.org/https://doi.org/10.1016/j.cosust.2017.08.003

[25] Tennison, I., Roschnik, S., Ashby, B., Boyd, R., Hamilton, I., Oreszczyn, T., Owen, A., Romanello, M., Ruyssevelt, P., Sherman, J. D., Smith, A. Z. P., Steele, K., Watts, N., & Eckelman, M. J. (2021). Health care's response to climate change: a carbon footprint assessment of the NHS in England. *The Lancet Planetary Health*, *5*(2), e84-e92. https://doi.org/10.1016/S2542-5196(20)30271-0

11. *Which specific action areas should be considered relating to **supply chain**, over and above any existing policies or initiatives in this area?*

Procurement and supply chain emissions constitute most of the estimated health system emissions. Actions outlined in the consultation paper are comprehensive and we support emulation of the NHS supply chain decarbonisation efforts in the Strategy.

A national coordinated approach to procurement policy is a critical aspect and opportunity of the Strategy, to harmonise and improve efficiency in procurement practices across jurisdictions. Policy mechanisms such as the Modern Slavery Act provide precedents for ensuring procurement processes across health sector domains and institutions employ minimum standards and responsibilities. Decarbonising Australia's health care supply chains could be supported by high-level commitments in the Strategy, including (but not limited to):

- Preferencing high-quality reusable medical devices and consumables where appropriate and in line with clinical safety guidelines;
- Mandating end of life disposal plans for all medical devices;
- Preferencing suppliers which publicly report on their carbon emissions and the carbon footprint of their products; and
- Preferencing First Nations businesses and products manufactured in Australia.

The Shift project: Lean Information, Communications Technology (ICT) [26, 27] highlights additional strategies to reduce technology related emissions I healthcare contacts, including:

- Changing equipment less often;
- Reducing unnecessary energy-intensive uses;
- applying sustainable design principles to digital devices – particularly Avoiding waste with single use devices;
- Choosing and sourcing sustainable, recycled and biodegradable materials and environmentally sustainable manufacturing processes; and
- Developing facilities and/or consider operations to manage recycling or repurposing of digital devices to prolong their use.

Further Australia has existing national bodies that can regulate certain standard requirements, such as the Therapeutic Goods Administration (TGA),

[26] Lokmic-Tomkins, Z., Borda, A., & Humphrey, K. (2023). Designing digital health applications for climate change mitigation and adaptation. *The Medical journal of Australia*, 10.5694/mja2.51826. Advance online publication. https://doi.org/10.5694/mja2.51826

[27] Shift Project. (2019). *Lean ICT: towards digital sobriety — report of the working group directed by Hugues Ferreboeuf for the think tank The Shift Project*. Available from:: https://theshiftproject.org/en/article/lean-ict-our-new-report

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Pharmaceutical Benefits Scheme (PBS) and the Australian Commission on Safety and Quality in Health Care (ACSQHC) standards.

Finally, the NHSCU should embrace opportunities for international engagement and leadership. As a critical first step, Australia must join the WHO-led Alliance for Transformative Action on Climate and Health (ATACH), which is leading the development of international health procurement standards in partnership with civil society organisations and 64 existing member states.

12. *Which specific action areas should be considered relating to **medicines and gases**, over and above any existing policies or initiatives in this area?*

Importantly, the section on Medicines and gases (p.20) includes anaesthetic drugs and inhalers. We support the listed actions but recommend additional emphases on:

- Phasing out and ultimately prohibiting the use of desflurane due to its significantly higher global warming potential.[28]
- New hospitals (apart from obstetric and paediatric services) to avoid the installation of piped nitrous oxide as is being promulgated from 2023 by the Australian Health Facility Guidelines.
- For Hospitals and facilities with existing piped nitrous oxide supply, mandate a nitrous oxide infrastructure management plan to ensure adequate monitoring, detection and mitigation of leaks, and reduction of overall procurement.
- Mandate reporting of emissions associated with anaesthetic gases (including nitrous oxide) as in the new Victorian FRD 24 requirements.
- Encourage midwives, obstetricians, anaesthetists and patients to consider ways to reduce nitrous oxide use in birthing, given it has limited clinical effectiveness as a labour analgesic.[29]

13. *Which specific action areas should be considered relating to **waste**, over and above any existing policies or initiatives in this area?*

Waste reduction targets are necessary to ensure a reduction and eventually net-zero emissions from health care. While waste segregation and management is a key component of a Strategy to reduce environmental impact, the focus must be on reducing waste in the first instance, as the waste itself does not have as significant carbon footprint as the production of the product.

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[28] Centre for Sustainable Healthcare. (2023). *Desflurane Reduction Project.* Available from: https://sustainablehealthcare.org.uk/what-we-do/sustainable-specialties/anaesthetics/desflurane-reduction-project

[29] Australia and New Zealand College of Anaesthetists .(2022). Available from: https://www.anzca.edu.au/resources/media-releases/2022-media-releases/nitrous-oxide-australian-anaesthesia-2022.pdf

Appropriate segregation of waste that is generated is important. This requires a multi-faceted approach, including staff education, facility infrastructure, waste contracts as well as the capacity to re-use, reprocess and recycle products.

14. *Which specific action areas should be considered relating to **prevention and optimising models of care**, over and above any existing policies or initiatives in this area?*

As the consultation paper highlights, overall population growth and ageing will increase pressure on Australia's health care system over coming decades. We strongly support an emphasis on prevention, promotion, and optimising both models and integration of care across all levels of the health system, to ensure all Australians can access high-quality, affordable, and equitable care where and when they need it, and that the environmental impact of that care is reduced. Specific actions and strategies to support the environmental co-benefits of health prevention and promotion in the Strategy should include:

- Education, workforce support, research, and investment in primary and preventive care (including mental health), elimination of low value care and development of low carbon models of care.
- A review of existing health services and models of care, including telehealth and digital health programs to understand their potential contributions to emission reductions.
- Enhancing sustainable models of care, including decentralizing healthcare away from tertiary centres, by upskilling and adequately resourcing local health facilities and providers to deliver appropriate care closer to home. This should also include enhancing, not replacing, local, ongoing community-based mental health care which is integrated with primary health care.
- Promoting integration of climate change mitigation and adaptation strategies into health promotion plans and projects.
- Supporting multisectoral partnerships with health-determining sectors and environmental groups to promote a HiAP approach and collaboration on interventions that deliver health co-benefits via prevention and promotion, such as promoting increased physical activity and environmentally sustainable dietary changes.

15. ***What can be done to involve private providers within the health system in the Strategy's emissions reduction efforts?***

Private providers of healthcare sit under the institutional domain of DHAC given a significant proportion (up to 75%) of funding for general and private practitioners stems from publicly funded Medicare rebates. As such, the Strategy is an important opportunity to incentivise and encourage decarbonisation efforts in private settings, including renewable energy within healthcare facilities; reducing low-value and carbon-intensive care; and mandating GHG emissions reporting and targets for private health care providers as part of overall health care emissions reduction efforts.

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16. Where should the Strategy prioritise its emissions reduction efforts?

a) ***How should the Strategy strike a balance between prioritising emissions reduction areas over which the health system has the most direct control and prioritising the areas where emissions are highest, even if it is harder to reduce emissions in these areas?***

Reducing both direct and indirect health system emissions should be a core focus of the Strategy and action areas. However, it is equally important that the Strategy prioritise HiAP and multisectoral coordination and broader decarbonisation and emission reduction efforts in health-determining sectors.

However, there are likely to be a range of short-, medium-, and long-term actions and priorities as the Strategy evolves over coming years and decades. In the short-term (3-5 years), one area of focus could be on reducing Scope 1-3 emissions within the health care sector. Immediate 'low hanging fruit' for health care decarbonisation and mitigation include:

- Establishing a robust baseline for measuring health care GHG emissions (as per Q.7) and setting ambitious emission reduction targets in line with our Paris Agreement commitments to limit global warming to 1.5 degrees Celsius.
- Phasing out and ultimately prohibiting the use of desflurane in all health care facilities and reducing reliance on nitrous oxide.
- Facilitating transition of all current and planned health care facilities to renewable energy systems and supporting electrification of vehicle fleets and heating systems.
- Develop a national health care procurement and emissions reduction framework.
- Engage with relevant international climate and health leadership forums, including the WHO ATACH.

b) Which of the six sources of emissions discussed above (on pages 13 to 18) are the highest priorities for action?

Highest priorities include:

- Prioritising prevention and integration of optimal models of care.
- Built environment and facilities, including building energy and water use.
- Health care procurement, including medical devices and instruments and supply chain waste.
- Travel and transport.
- Though not an action area, multi-sectoral HiAP partnerships towards emissions reduction and mitigation efforts in health-determining sectors should be included.

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17. What 'quick wins' in relation to emissions reduction should be prioritised for delivery in the twelve months following publication of the Strategy?

See response to 16a.

Objective 3: Adaptation

18. What health impacts, risks and vulnerabilities should be prioritised for adaptation action through the Strategy? What process or methodology should be adopted to prioritise impacts, risks and vulnerabilities for adaptation action?

In the absence of a working definition for 'health system', it is important to highlight first and foremost that the Strategy must focus on building resilience holistically, among Australian communities as well as within the health care workforce and infrastructure. As the consultation paper notes, we reaffirm that certain populations are more at-risk to experiencing negative health impacts associated with climate change, and strongly support a targeted approach to building adaptive capacity and resilience in these populations.

The WHO Guidance on conducting a Vulnerability, Capacity and Adaptation Assessment is the core reference material and method to prioritise impacts, risks and vulnerabilities for adaptation action. This assessment has been used globally, and there is associated training to support capacity and capability development to conduct the assessment.

Further, it is critical to consider and address disaster prevention, response, and recovery in relation to community adaptation efforts. There is a need to shift beyond the centrality of 'time' in conceptualisations of disaster, for example the Prevention, Preparedness, Response, Recovery Model to instead determine current levels of 'social disruption'. Use of time as an indicator is heavily based on the assumption of a single major disaster event. Communities facing multiple disasters may be simultaneously engaging in preparedness, response and recovery phases relating to different disaster events. Identifying community strengths and support needs then becomes a useful consideration in terms of their capacity to cope with current levels of disruption and with future disaster events. This highlights an important opportunity to link emerging models in the disaster sector with community climate adaptation models developed for similar purposes.

It is critical to establish capability models to accelerate targeted solutions with communities and stakeholders that build resilience. The University of Melbourne is currently leading in the co-development and implementation of such tools to support community-led decision making in the context of disasters and climate adaptation. These will also have relevance to community action relating to climate mitigation actions.

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19. ***Should the Australian government develop a National Health Vulnerability and Adaptation Assessment and National Health Adaptation Plan? If yes:***

a) ***What are the key considerations in developing a methodology?***

b) ***How should their development draw on work already undertaken, for example at the state and territory level, or internationally?***

c) ***What are the key areas where a national approach will support local/jurisdictional vulnerability assessment and adaptation planning?***

The development of a National Health Vulnerability and Capacity Assessment and National Health Adaptation Plan should be conducted as part of the National Climate and Risk Assessment (NCRA) processes and not as a duplication of efforts. This should be executed as a whole-of-government assessment, and not siloed within one Department. DHAC should remain the lead agency for this Assessment.

As previously indicated, a clear and well-tested WHO-developed toolkit exists to conduct this work. However, there will be a need to rapidly skill-up health specialists to be able to support DHAC to conduct the Assessment and work towards developing priorities and plans.

Collaboration between local/jurisdictional scales and DHAC will be necessary to ensure (e.g.) data availability, review of relevant policies/programs, and prioritisation of adaptation options (considering feasibility, cost, timeliness etc.). It is critical that local/jurisdictional policymakers, researchers and practitioners are genuinely involved in the conduct of the VCA, particularly as adaptation solutions will largely be implemented at a local level.

The Strategy should account for the lived experience of communities, with a focus on priority populations, as part of vulnerability and adaptation planning.

The methodology used must also identify policy gaps and opportunities for improving population resilience across government portfolios.

20. ***Would there be value in the Australian government promoting a nationally consistent approach to vulnerability assessment and adaptation planning for the health system specifically, for instance by issuing guidance and associated implementation support tools for states, territories and local health systems? If yes, what topics should be covered to promote a nationally consistent approach? What examples of existing guidance (either from states/territories or internationally) should be drawn from?***

Yes, the Australian government should develop and promote a nationally consistent approach to vulnerability and adaptation planning within the health system, and there are several existing tools and methodologies to support this (as detailed earlier). Specifically, the WHO Health National Adaptation Planning

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(HNAP) process will be a critical foundation and includes clear guidelines and steps to assess climate-health risks, and identify, prioritise and implement adaptation responses. Importantly, these adaptation interventions must be supported through robust monitoring, evaluation, and learning mechanisms.

21. What immediate high-priority health system adaptation actions are required in the next 12 to 24 months?

To maximise the successful delivery of the Strategy and to harmonise efforts across government in the next two years, it will be important to:

- Work closely and collaboratively with DCCEEW and other relevant federal and state departments and agencies, as well as the new Australian Centre for Disease Control.
- Rapidly review health-determining sectors' (e.g. agriculture, water, urban planning, transport, energy) adaptation plans to maximise synergies with adaptation options in the health sector.
- Prioritise the rapid up-skilling of education, training and other capacity development efforts among policymakers, community members, the health workforce, and within emergency and disaster preparedness services and agencies.
- Incorporate climate-resilient infrastructure assessments in any new health-related build.
- Avoid building new health care facilities on land likely to be at risk of climate change related damage, such as flooding and fires.
- Develop preparedness plans for health care service delivery for climate related disasters.
- Support the adequate preparation and resourcing of emergency services.
- Appropriately resource rural and remote health services to improve resilience.
- Adequately prepare for disruption to healthcare system supply chains.

We also advise and support the calculation of full societal costs of climate inaction and the implications of health-relevant policies in all sectors, to prevent the transfer of costs to the health sector and to avoid entrenching unsustainable environmental practices.

Beyond development, continued engagement with all stakeholders (including the public) throughout the implementation of the Strategy is vital to increase both acceptance and engagement.

22. What are the key areas in which a Health in All Policies approach might assist in addressing the health and wellbeing impacts of climate change and reducing emissions?

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We commend the consultation paper for a commitment to pursuing a HiAP approach in the development and implementation of the Strategy. Considering and maximising health outcomes in the following key areas will be critical to successfully reduce climate-related health and wellbeing impacts:

- **Energy**: particularly in relation to fossil fuel exploration, mining, extraction, combustion, and exportation. The Strategy makes no reference to Australian fossil fuel operations. A HiAP approach should incorporate this. We also recommend the consideration of health in existing and emerging renewable energy technologies. To date, LCAs that consider health, and health impact assessments are under-represented in the consideration of renewable energy-related health impacts. It is imperative that as we transition to a renewable energy system, we avoid the externalised health costs we have seen from the existing energy system.
- **Transport**: transitioning away from the sector's reliance on fossil fuels including policies to develop safe and accessible active transport and public transport options.
- **Food and agriculture**: agriculture production, transport, and storage as well as public health policies to promote health and wellbeing by improving dietary habits, such as a sugar tax and addressing inappropriate junk food advertising. Specifically, the National Health and Medical Research Council's Dietary Guidelines should include a dedicated section on the environmental impacts of dietary choices, as these create indirect and downstream health impacts.
- **Finance**: ceasing fossil fuel subsidies as well as removing current requirements to demonstrate savings in a specific area, rather than in relation to the overall Australian budget costings, including health and health care.

A significant barrier to effective inclusion of health concerns in decision-making is the operation of silos within government so that departments overseeing planning, infrastructure, energy, agriculture, and water make decisions independent of projected health impacts. An effective avenue that should be covered by a HiAP approach would be the requirement to include health metrics in the assessment phase of any significant national, state, or private sector proposal. Policy and program models which support HiAP include:

- Cross-sectoral action teams;
- Integrated budgets and accounting;
- Cross-cutting information, evaluation and assessment systems;
- Joined-up workforce development; and
- Community consultations and Citizens' Juries, partnership platforms.

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Further, the Strategy should seek to maximise health co-benefits via a HiAP approach. Health co-benefits associated with climate adaptation and mitigation strategies can be maximised when they are identified and quantified during policy development. This requires building institutional capacity and skills in other portfolios to implement a Health in All Policies approach, and for the DHAC and stakeholders to provide evidence on the determinants of health and inequity, as well as effective responses and solutions.

23. What are the most effective ways to facilitate collaboration and partnerships between stakeholders to maximise the synergies between climate policy and public health policy? What are some successful examples of collaboration in this area?

Early, continued, and regular engagement supported by an effective governance architecture will provide the most successful outcomes for health in the development of climate and related policies.

To effectively facilitate collaboration and partnerships within government, the European Union provides an innovative approach. The European Commission physically locates and embeds staff from different Directorate-Generals (Departments); the climate department (DG CLIMA) has a team of staff from the health department (DG SANTE) who are co-located and based at DG CLIMA. This and arrangements facilitate and foster genuine collaboration on climate and health-related policy and decision-making[30].

Legislation will also be required to ensure all stakeholders engage authentically with a Health in All Policies approach. This includes the incorporation of health metrics into the assessment phase of any future policy and any significant national, state, or private sector proposal. In the US, the Obama Administration's use of the *Clean Air Act* to extend the definition of air pollutants to include GHGs enabled the pursuit of increasingly ambitious climate policies in 2015 and provides a useful case study for considering legislative options to simultaneously advance climate and air quality policies[31].

24. How could these enablers be improved to better inform the objectives of the Strategy? Should any enablers be added or removed?

We commend the consultation paper on the identification of five enablers to support the development and implementation of the Strategy. Below we suggest

[30] Workman, A., Blashki, G., Bowen, K. J., Karoly, D. J., & Wiseman, J. (2019). Health co-benefits and the development of climate change mitigation policies in the European Union. *Climate Policy*, *19*(5), 585-597.

[31] Workman, A., Blashki, G., Bowen, K. J., Karoly, D. J., & Wiseman, J. (2020). Political leadership on climate change: the role of health in Obama-era US climate policies. *Environmental Research Letters*, *15*(10), 105003.

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improvements and additional enablers that should be considered. For the existing enablers:

- **Communication and engagement**: The communication and engagement enabler should recognise the important role that digital infrastructure will play in the successful delivery of the Strategy. Further, action E3.1 alludes to one-way communication. This action either needs to be amended, or a new action created, to recognise the critical role of bi-directional communication efforts, so there is a focus on opportunities for government to hear and learn from communities and respond accordingly.

We also support the addition of the following enablers:

- **Governance**: The use of democratic innovations for inclusive community decision making, such as citizens' juries and community recovery committees, are enabling governance mechanisms to empower and educate communities to participate in decision-making processes.
- **Nature-based solutions**: Nature-based solutions (NbS) provide interventions with multiple benefits for both human health and wellbeing and ecosystems. We recommend the inclusion of nature-based solution as an enabler, with an action focused on identifying key NbS for meeting the Strategy's objectives.
- **Funding**: Adequate, long-term funding is a key enabler for the successful delivery of the Strategy. Sufficient funding should be made available to ensure all enablers can be actioned, and potential barriers where identified, are addressed. The avoided health costs from investment in the delivery of the Strategy will likely outweigh the health impacts should the Strategy be ineffective.

25. For each of these enablers:

a) What is currently working well?

b) What actions should the Strategy consider to support delivery?

Refer to responses in Q24 above.

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Australian Government
Department of Health and Aged Care

NATIONAL HEALTH AND CLIMATE STRATEGY

Detailed submission form

This form allows you to provide responses to the full set of questions in the Consultation Paper available here.

Alternatively, you may wish to complete the briefer online survey available here.

Please submit this form in Word format to Health.Climate.Consultation@health.gov.au.

Respondent details

What is your name?
[redacted]
What is your email address?
[redacted]
What is your organisation?
Research Australia
Have you read and agreed to the Privacy Statement? (NB we will not be able to use your submission unless you tick this box)
☒ I have read and agreed to the Privacy Statement
Do you identify as Aboriginal and/or Torres Strait Islander? (Yes/No/Prefer not to say)
[redacted]
Please select which applies to you: ☐ Individual citizen ☐ Health Service Provider ☒ Industry and Life Sciences Organisation or Representative ☐ Academic or Researcher ☐ Primary and/or Allied Health Peak or Advocacy Organisation or Representative ☐ Aged Care Service Provider ☐ First Nations Health Service Provider ☐ First Nations Community Group ☐ First Nations Peak or Advocacy ☐ Medical College or Peak professional body

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Questions for feedback from the Consultation Paper

Introduction

It is proposed the Strategy includes the following objectives in support of this vision:

1. Measurement: Measure and report on health system greenhouse gas emissions, so progress in reducing emissions can be tracked and quantified.8

2. Mitigation: Accelerate the reduction of greenhouse gas emissions from the health system

3. Adaptation: Strengthen the resilience of the health system and communities to anticipate and respond to the health impacts of climate change.

4. Health in All Policies: Maximise the synergies between good climate policy and public health policy by working across policy areas to lessen the impact of climate change on the social and cultural determinants of health and wellbeing.

1. How could these objectives be improved to better support the vision of the Strategy?
Research Australia supports the proposed objectives. In public opinion polling undertaken by Roy Morgan in June 2023 on behalf of Research Australia, 40.4% of Australians reported that they had been impacted by climate change. 10.7% reported having a physical illness linked to climate change and 12.5% reported mental illness linked to climate change. 12.8% reported they had been affected by the impact of climate change on health services. These numbers can only be expected to increase in the years and decades to come, and strengthening the resilience of communities to anticipate and respond to the health impacts of climate change is clearly essential. Research Australia questions whether the objectives of strengthening the resilience of the health system and the resilience of communities should be a single objective or separate objectives. While both require adaptation, they are conceptually and practically two very different objectives.
It is proposed our pursuit of the above objectives are informed by the following principles. 1.First Nations leadership: First Nations knowledge and experience must be central to decision-making on climate and health policy at all levels. 2.Tackling health inequities: A health equity approach recognises some populations are more vulnerable to and have less capacity to adapt to the health impacts of climate change, and that responses to climate change need to take account of disparities in health outcomes. 3.Population health and prevention: The response of the health system, and society more generally, to climate change must be underpinned by a public health perspective. This recognises that prevention of disease and maintenance of good

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health across the lifespan, in combination with optimal secondary and tertiary prevention, assists both mitigation and adaptation.

4.One Health: The Strategy will be underpinned by the principle of One Health – recognising the connection that exists between the health of people, animals and the environment.

5.Evidence-informed policymaking: The response to climate change must be based on the best available data, evidence and research – but we must also be willing to take action on a prudent and precautionary basis in the face of uncertainty and incomplete information. Where possible, actions should be prioritised based on the principles of cost-effectiveness analysis, considering where resources can be allocated to maximise population health gains, while also taking account of health inequities and rights-based approaches.

6.Partnership-based working across all levels of government and beyond: All levels of government need to work closely with each other, as well as with communities, patients, First Nations, not-for-profit organisations, peak bodies, private industry and education and research institutions to craft and implement a holistic and nationally consistent response to climate change.

2. How could these principles be improved to better inform the objectives of the Strategy?

The Principles are appropriate.
In respect of evidence- informed policy making Research Australia submits there should be an emphasis not only on basing the response to climate change on the best available, data, evidence and research, but to supporting the creation of evidence to inform policy making where this evidence does not currently exist. This approach engages Principle 6 by establishing a partnership between policy makers and other stakeholders to identify areas where evidence is required and support the creation of that evidence.

3. Which of the various types of greenhouse gas emissions discussed above should be in scope of the Strategy's emission reduction efforts?

Research Australia submits Scope 1 emissions should explicitly include emissions produced by patients and their families in the course of accessing health care. Inclusion of these emissions helps provide an additional factor to use in evaluating the provision of virtual and remote care. It also forces consideration of where facilities are located in terms of ease of access by patients and available public transport.

4. What existing First Nations policies, initiatives, expertise, knowledge and practices should the Strategy align with or draw upon to address climate change and protect First Nations country, culture and wellbeing?

5. What types of governance forums should be utilised to facilitate co-design of the Strategy with First Nations people to ensure First Nations voices, decision-making and leadership are embedded in the Strategy?

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Proposed Objective 1: Measurement

6. Beyond the schemes already noted above, is your organisation involved in any existing or planned initiatives to measure and report on health system emissions and/or energy use in Australia?
7. What additional data and information is required to support targeted emissions reduction efforts within health and aged care?

Proposed Objective 2: Mitigation

Proposed focus areas for emissions reduction:

- Built environment and facilities
- Travel and Transport
- Supply Chain
- Medicines and gases
- Waste
- Prevention and optimising models of care

8. What do you think of these proposed focus areas for emissions reduction? Should anything else be included?
Research Australia supports the proposed focus areas. As noted above, Travel and Transport should include travel and transport by patients and their families to access healthcare.
9. Which specific action areas should be considered relating to the **built environment and facilities (including energy and water)**, over and above any existing policies or initiatives in this area?
10. Which specific action areas should be considered relating to **travel and transport**, over and above any existing policies or initiatives in this area?
As noted above, Travel and Transport should include travel and transport by patients and their families and measures to reduce the associated emissions. Actions can include planning for the location of health services with consideration for public transport accessibility, and the opportunities for remote and virtual healthcare to recue emissions associated with travel and transport of healthcare providers, patients and their families.

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11. Which specific action areas should be considered relating to **supply chain**, over and above any existing policies or initiatives in this area?

Research Australia proposes the creation and funding of a Centre for Sustainable Healthcare Innovation. This Centre would have two primary purposes:
1.Identify and evaluate areas for potential mitigation of emissions across the supply chain, medicines and gases, waste and prevention and optimising models of care.
2. Solicit proposals for solutions to the identified areas for mitigation.

The Centre would engage clinicians, medical administrators, engineers and health economists in the identification and evaluation of areas to target for mitigation, and the development of calls for proposals to address specific areas. In addition to providing opportunities for established Australian companies it could support start-ups through a stage gated research and development process to the delivery of the solution.

12. Which specific action areas should be considered relating to **medicines and gases**, over and above any existing policies or initiatives in this area?

As per our response to Question 11, Research Australia proposes the creation and funding of a Centre for Sustainable Healthcare Innovation, to support the identification and develop of mitigation measures for supply chain, medicines and gases, waste and prevention and optimising models of care.

13. Which specific action areas should be considered relating to **waste**, over and above any existing policies or initiatives in this area?

As per our response to Question 11, Research Australia proposes a Centre for Sustainable Healthcare Innovation, to support the identification and develop of mitigation measures for supply chain, medicines and gases, waste and prevention and optimising models of care.

The following case study provides an example of the kind of innovation that can be developed to mitigate emissions across the health system. Innovations like this could be identified, supported and accelerated by the proposed Centre for Sustainable Healthcare Innovation.

Case Study: Stelect
Stelect is a Melbourne based innovative medical device company creating technology that removes the guesswork out of many procedures, by allowing clinicians access to areas in the human body that imaging has not been able to access before. For example, cardiac stents are placed in an artery using a catheter. Stents come in various sizes (both length and diameter) to suit patients of different artery sizes and different blockage lengths. There is currently guesswork in which sized stent to use, and this can lead to several stents of different sizes being used to ensure the entire coronary blockage is covered and it is sitting correctly against the artery wall. Each catheter is a single use item, and is discarded after the procedure. Stelect can reduce this waste by ensuring the stent is correctly fitted the first time. This reduces medical waste, saves money spent on multiple catheters and stents, and reduces the time for the procedure, which has savings for the health system and benefits for the patient.

https://www.stelect.com.au/

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14. Which specific action areas should be considered relating to **prevention and optimising models of care**, over and above any existing policies or initiatives in this area?

As per our response to Question 11, Research Australia proposes the creation of a Centre for Sustainable Healthcare Innovation, to support the identification and develop of mitigation measures for supply chain, medicines and gases, waste and prevention and optimising models of care.

We need a much greater national focus on reducing unnecessary care, which has benefits for patients, the health system and the environment. This requires a renewed focus on driving adoption of best evidence-based models of care and the research that produces this data.

Case Study: Institute for Evidence Based Healthcare

The IEBH, based at Bond University, is a national and international resource for scholars, clinicians, system leaders, patients and families in the implementation of evidence-based clinical care.

The IEBH addresses four big, neglected problems in healthcare:

- Antibiotic resistance
- Overdiagnosis
- Non drug pharmaceutical treatments
- Waste in research.

The IEBH focus in these areas assists health systems to provide care that is patient-centred and informed by evidence and enables patients to make decisions that are congruent with their values, preferences and circumstances.
https://bond.edu.au/iebh

15. What can be done to involve private providers within the health system in the Strategy's emissions reduction efforts?

Private providers are already motivated to reduce their emissions, and doing so can benefit the business bottom line. Private providers should be encouraged to participate in the Centre for Sustainable Healthcare Innovation proposed by Research Australia above at Question 11.

16. Where should the Strategy prioritise its emissions reduction efforts?

    a. How should the Strategy strike a balance between prioritising emissions reduction areas over which the health system has the most direct control and prioritising the areas where emissions are highest, even if it is harder to reduce emissions in these areas?

    b. Which of the six sources of emissions discussed above (on pages 13 to 18 of the Consultation Paper) are the highest priorities for action?

17. What 'quick wins' in relation to emissions reduction should be prioritised for delivery in the twelve months following publication of the Strategy?

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Proposed Objective 3: Adaptation

18. What health impacts, risks and vulnerabilities should be prioritised for adaptation action through the Strategy? What process or methodology should be adopted to prioritise impacts, risks and vulnerabilities for adaptation action?
In public opinion polling undertaken by Roy Morgan in June 2023 on behalf of Research Australia, 40.4% of Australians reported that they had been impacted by climate change. 10.7% reported having a physical illness linked to climate change and 12.5% reported mental illness linked to climate change. 12.8% reported they had been affected by the impact of climate change on health services. Clearly, both physical and mental illness are key risks associated with climate change where specific strategies for their mitigation can be developed. In the same polling, 50.2% of respondents indicated they believed research into the effects of climate change on human health should be a higher priority for the Government than it is now. **Research Australia submits that we need research to identify effective programs to build resilience and address the impact of severe weather events on local populations. Funding for this research should be an action under the proposed National Health and Climate Strategy; it should not be pushed back to existing funding programs such as the NHMRC's Medical Research Endowment Account or the Medical Research Future Fund.**
19. Should the Australian government develop a National Health Vulnerability and Adaptation Assessment and National Health Adaptation Plan? If yes: a. What are the key considerations in developing a methodology? b. How should their development draw on work already undertaken, for example at the state and territory level, or internationally? c. What are the key areas where a national approach will support local/jurisdictional vulnerability assessment and adaptation planning?

20. Would there be value in the Australian government promoting a nationally consistent approach to vulnerability assessment and adaptation planning for the health system specifically, for instance by issuing guidance and associated implementation support tools for states, territories and local health systems? If yes, what topics should be covered to promote a nationally consistent approach? What examples of existing guidance (either from states/territories or internationally) should be drawn from?
21. What immediate high-priority health system adaptation actions are required in the next 12 to 24 months?

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Proposed Objective 4: Health in All Policies

22. What are the key areas in which a Health in All Policies approach might assist in addressing the health and wellbeing impacts of climate change and reducing emissions?
23. What are the most effective ways to facilitate collaboration and partnerships between stakeholders to maximise the synergies between climate policy and public health policy? What are some successful examples of collaboration in this area?

Enablers

24. How could these enablers be improved to better inform the objectives of the Strategy? Should any enablers be added or removed?
25. For each of these enablers: a. What is currently working well? b. What actions should the Strategy consider to support delivery?
Research Australia supports the scan of current research activities pertaining to climate change and health proposed as an action for the enabler of research. While the action is useful, what will happen with the results of the scan? We expect that it will identify additional areas where research needs to be funded but what will happen with this information? Existing funding sources such as the NHMRC's Medical Research Endowment Account and the Medical Research Future Funds are already effectively fully committed. **Research Australia submits that providing funding for the research identified by the scan should be an additional action under the proposed National Health and Climate Strategy; it should not be pushed back to existing funding programs such as the NHMRC's Medical Research Endowment Account or the Medical Research Future Fund.**

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Thank you for taking the time to complete this survey – your feedback is greatly appreciated!

Please submit this form in Word format to Health.Climate.Consultation@health.gov.au.

Submission by the Australian Nursing and Midwifery Federation

National Health and Climate Strategy - Consultation

24 July 2023

Australian Nursing & Midwifery Federation

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Australian Nursing and Midwifery Federation
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Introduction

The Australian Nursing and Midwifery Federation (ANMF) is Australia's largest national union and professional nursing and midwifery organisation. In collaboration with the ANMF's eight state and territory branches, we represent the professional, industrial and political interests of more than 320,000 nurses, midwives and carers across the country.

Our members work in the public and private health, aged care and disability sectors across a wide variety of urban, rural and remote locations. We work with them to improve their ability to deliver safe and best practice care in each and every one of these settings, fulfil their professional goals and achieve a healthy work/life balance.

Our strong and growing membership and integrated role as both a professional and industrial organisation provide us with a complete understanding of all aspects of the nursing and midwifery professions and see us uniquely placed to defend and advance our professions.

Through our work with members we aim to strengthen the contribution of nursing and midwifery to improving Australia's health and aged care systems, and the health of our national and global communities.

The ANMF recognises that we are in a climate emergency and, as per the United Nations Sustainable Development Goals, need to accelerate the transition to net zero in order to appropriately and holistically meet the challenge presented to health and the environment. Nurses and midwives work in a global context, see daily the ways in which human health is inextricably linked to the health of the environment in which we live, and are equally affected by climate disasters in their professional and personal lives. Nurses and midwives, as the primary providers of healthcare to all communities in all settings, are key to the achievement of these goals. If investment in the nursing and midwifery professions is not made, they cannot succeed. We acknowledge the well-documented need for drastic transformation, with implications cascading through the national healthcare sector. The ANMF welcomes the opportunity to provide feedback on the Australian Government's National Health and Climate Strategy consultation paper.

Consultation Questions:

1. How could these objectives be improved to better support the vision of the Strategy?

The ANMF broadly supports these objectives, but believes they must be strengthened in order to translate them into meaningful action, institutional change, and accountability.

Due to the importance of bold, holistic action on climate change in order to secure a safe future for current and existing generations, the Strategy would benefit from a vision statement which underpins the objectives and actions of the Strategy. The ANMF recommends the Strategy is amended to reflect a health systems paradigm, including the promotion of health and wellbeing, climate resiliency, and a net zero health and aged care system. It should also articulate specific emissions reduction targets reflecting best scientific evidence.

Measurement

The ANMF agrees that the coordinated and standardised collection and public reporting of carbon emissions data across the healthcare sector should be prioritised. This establishes the baseline from which we progress, identifies hotspots, and establishes a case for action. The Australian health sector needs the mandated tools, information, and personnel to measure and report on its carbon footprint.

The ANMF is firm in the belief that measurement risks becoming a reductionist box-ticking exercise if accountability and performance mechanisms are not intentionally built in. The data can be captured and entered, without being accompanied by meaningful action, let alone transformative change. Therefore there must be a clear plan, with an accountability body built in, to action the information assessed concurrently with measurement. The measurement objective should be accompanied by a list of specific elements to be measured.

Health in all policies

The ANMF fully supports a health in all policies approach (HiAP). All dimensions of climate change are interlinked with human health. Action to reduce the health risks from climate change requires working across all sectors and all levels of government. The overall focus of the Strategy needs to be strongly directed towards reducing the current risks to population health from climate change, caring appropriately for a population already affected by climate change, and maximising the health benefits of carefully designed climate actions.

The outcome of the Strategy must be to prevent illness, injury and death associated with climate change, minimise the healthcare systems' contribution to Australian emissions and ensure health systems' resiliency. This requires dedicated systems and processes to bring a health lens to policy development that evaluates the potential for health benefits and health harms in other sectors, including energy, resources, transport, agriculture, infrastructure, planning, and environment.

There are many recommendations with a HiAP approach, already outlined in the 'Healthy, Regenerative and Just Framework' (authored by the Climate and Health Alliance) – this should be drawn upon when drafting the Strategy.

2. How could these principles be improved to better inform the objectives of the Strategy?

First Nations leadership

The ANMF supports a YES vote for the Voice to Parliament. This will mean that Aboriginal and Torres Strait Islander peoples will have a say on policies and issues that directly affect their lives. Aboriginal and Torres Strait Islander peoples have 65,000 years of continuous connection to the land and water. At present there is no systemic way that Aboriginal and Torres Strait Islander peoples can have their say and provide their views on decisions and legislation directly impacting them, including the inequitable impacts of climate change and human-made decisions that impact on Country and on health issues.

Tackling health inequities

The strategy should focus on disease prevention and management in the face of increasing environmental stressors as well as discussing the health system's response to climate change.

The Strategy must more clearly recognise how vulnerable our rural and remote communities are to the impacts of climate change. Access to resources is severely limited in rural and remote communities, further impacting day-to-day and emergency health responses. In rural and remote health care, nurse and midwife-led care is key to ensuring accessibility. Rural areas must be prioritised throughout the strategy as an integral part of climate and health.

The Australian Government also must be mindful of unintended consequences. As we shift to renewable energy, there must be structures in place to ensure that the critical minerals we use are not associated with human rights and child labour abuses internationally.

Population health and prevention

One of the most effective ways to reduce the impact of the healthcare sector on climate change is to keep people as healthy as possible for as long as possible – this is the core tenet of population health and prevention. The ANMF would like to see this be more central to this Strategy.

Preventive healthcare and readily available local community services can reduce reliance on hospital-based, carbon-intensive healthcare. This principle can be expanded to include the availability of prompt, local professional assessment and care within hospitals, aged care, mental health facilities, and community services.

The ANMF has been involved in a number of interventions that provide structure to support early intervention and avoid unnecessary deterioration/escalation. We specifically refer to the availability of prompt and professional assessment and care within hospitals, aged care, mental health and community services. We embrace a commitment to population health and prevention, utilising the existing workforce to their full scope of practice.

The ANMF has collaborated on numerous preventive health interventions, most recently of note, the National Preventive Health Strategy 2021-2030, Australia's Primary Health Care 10 Year Plan 2022-2032, the Strengthening Medicare Taskforce and the Nurse Practitioner Workforce Plan.

One health

The ANMF suggests that the Strategy uses the internationally recognised term 'planetary health' rather than 'one health' in order to address the holistic nature of the climate crisis.

The rate of extinction is accelerating and over the last 200 years Australia has suffered the largest documented decline in biodiversity of any continent.[1,2] This is primarily due to anthropogenic activity.[3] This is of concern given our use of nature for therapies and healing. Penicillin, morphine, and some of the most effective cancer chemotherapeutics we have today all derive from natural sources. Many of humanity's biggest killers, including cancer, infection, and heart disease, are treated with medicines that originate from plants and fungi.[4]

In 2022, the Australian Government joined more than 90 countries in signing the global Leaders Pledge for Nature, committing us to reverse biodiversity loss by 2030. This pledge sits alongside decarbonisation pledges and renewable energy strategies that come with demand for resources, development, and technology.

Renewable energy development can impact habitat availability, ecological corridors and pollution from noise, waste and chemicals. Australia needs research and rigour in setting a path for renewable energy that does not come at the expense of biodiversity. There will be need to designate areas for legal protection as a conservation tool, both to mitigate climate change in and of itself, and to halt the loss of biodiversity. Where a trade-off cannot be avoided, the choice must be for the least possible impact. We must also end our wasteful use of raw resources and incentivising recapture of recycled content for reuse.[5]

The ANMF recommends that the Strategy sets a path for renewable energy and critical minerals that does not come at the expense of biodiversity. Where a trade-off cannot be avoided, the choice must be for the least possible impact. There will be need to designated areas for legal protection as a conservation tool, both to mitigate climate change in and of itself, and to halt the loss of biodiversity.

In consideration of both just transition and health inequity principles, it should also include the safe mining of rare metals internationally because of the associated human rights and child labour abuses around the world.

Evidence-informed policymaking

Research is needed to identify carbon and low value care hotspots to drive evidence-based decision making for clinical care and related protocols and guidelines.

Government needs to support and consult with organisations such as Choosing Wisely Australia and Wiser Carbon Neutral who are endeavouring to work with health professionals and researchers, in order to develop and communicate such an evidence base.

Partnership-based working across all levels of government and beyond

The ANMF encourages investment in the nursing and midwifery workforce in order to better increase primary healthcare availability. We welcomed the announcement of Australia's Net Zero Authority to support workers in decarbonising sectors to access new employment, skills and support as the net zero transformation continues.[6] An important aspect of partnership across all levels of government and industry is supporting a just transition. As part of partnership principles, the government must consult and work with unions on our energy transition.

We are aware that the development of new industry around decarbonisation and renewable energy zones will require supportive infrastructure, including hospitals and health services. This will require addressing the national shortage of nurses and midwives. Modelling shows a projected shortfall of 85,000 nurses nationwide by 2025.[7] Investment in the nursing and midwifery workforce increases healthcare availability, reducing hospital admissions and readmissions. The ANMF encourages investment in the nursing and midwifery workforce in order to better increase primary healthcare availability, particularly as a retraining option for workers from emissions-intensive sectors. The Strategy should reflect the principles of a just transition to sustain thriving and healthy communities in decarbonising industry.

In the absence of national coordination, various states have developed Sustainable Development Units (SDU's), or their equivalent, within their Departments of Health. Western Australia Health has developed a Sustainable Development Unit; New South Wales Health a Climate Risk and Net Zero Unit; and Queensland Health an Office of Hospital Sustainability.

In States and Territories where these SDU's have not yet been established, the ANMF recommends this be implemented, and these bodies engage directly with the National Climate and Health Body. The SDU's should take a supportive role with dedicated Sustainability Officers and local green-champions within healthcare services. These partnerships can be vehicles for the exchange of accurate information, ideas and to channel project resourcing.

3. Which of the various types of greenhouse gas emissions discussed above should be in scope of the Strategy's emission reduction efforts?

All types of emissions are in scope. In order to reduce global warming by 1.5 C as recommended by the IPCC report, net zero must be achieved by 2050.[8] In order to reach these targets, emissions reduction must be ambitious and far-reaching. A planet threatening tipping point, and net zero targets require that every emission in the system requires urgent address.

4. What existing First Nations policies, initiatives, expertise, knowledge and practices should the Strategy align with or draw upon to address climate change and protect First Nations country, culture and wellbeing?

5. What types of governance forums should be utilised to facilitate co-design of the Strategy with First Nations people to ensure First Nations voices, decision-making and leadership are embedded in the Strategy?

The ANMF's members in nursing and midwifery understand that racism is a serious health issue, which can negatively impact on both mental and physical health outcomes in Aboriginal and Torres Strait Islander communities. The ANMF is endorsing a YES vote in The Voice to Parliament and encourages the Strategy to embed a clear plan for Aboriginal and Torres Strait Islander peoples cultural knowledge and practice into goals, targets and actions. The Strategy will only be effective for First Nations peoples if it is underpinned by genuine engagement and co-design principles.

The Strategy must utilise Aboriginal and Torres Strait Islander peoples expertise and knowledge of Country to guide policy and practice. Specifically:

a. The ecological knowledge of Traditional Owners and Indigenous Rangers should be combined with scientific and fire-fighting knowledge as part of post-fires regenerative work to preserve and re-populate species and habitat;
b. State and national emergency response and recovery programs must include representation, consultation and respect for the specific needs of Aboriginal and Torres Strait Islander communities;
c. Resources must be provided for Aboriginal and Torres Strait Islander peoples to develop climate adaptation plans and risk assessments suited to context, availing Indigenous insight and unique expertise;
d. It is essential that the interest of First Nations peoples are strongly represented as we develop Australia's minerals.

A range of critical minerals are indispensable to the manufacture of solar panels, wind turbines, batteries and electric vehicles and demand is strong. Indigenous people must be included as genuine partners in any strategies (for example in the Critical Minerals Strategy) and any associated programs or grants (for example the Critical Minerals Development Program).

6. **Beyond the schemes already noted above, is your organisation involved in any existing or planned initiatives to measure and report on health system emissions and/or energy use in Australia?**

7. **What additional data and information is required to support targeted emissions reduction efforts within health and aged care?**

For Australian health sector omissions targets to be set and met the mode of data collection needs to be consistent nationally, transparent, and automated. Given that the healthcare system is buckling under current 'business as usual' the targets need to be achievable and not onerous, particularly for health practitioners.

The Australian Commission on Safety and Quality in Healthcare has recently drafted a Sustainable Healthcare Module. The Commission recognises that delivering environmentally sustainable and adaptable services is an important national priority. Improving sustainability can improve the safety and quality of care, improve the health of the community, reduce low value care, reduce unwarranted variation and reduce waste. It is imperative that the ambitious approach to climate action does not compromise consumer experience or health outcomes. Where possible, the Strategy should enable person-led solutions.

Additional initiatives that could be considered include:

- The health sector being added to the National Greenhouse Gas Inventory along with energy, industrial processes, agriculture, waste, and land use sectors.
- Expanding the National Greenhouse and Energy Reporting Scheme beyond scope 1 and 2 emissions. Scope 3 emissions embodied in the supply chain are not a regulatory requirement under the scheme so are not measured or reported despite being the largest contributor to the healthcare footprint.
- The Australian Health Performance Framework (AHPF) contains 45 indicators to track the performance of Australian health and the healthcare system, and yet indicators that could be used to measure the impacts of carbon emissions generated by the health sector on health and health outcomes is lacking.
- State-led annual employee opinion surveys could incorporate sustainability for employee feedback on specific workplace improvement.

- Federal government could introduce regulatory frameworks to facilitate implementation and assessment of environmental performance standards as a mandatory component of quality healthcare accreditation. This should include both the public and private sectors.

8. What do you think of these proposed focus areas for emissions reduction? Should anything else be included?

Built environment, including energy and water

Design considerations need to include climate-change related variances such as:

- Flexible spaces (for example to accommodate increased need for space from surge presentations, or decreased need for space due to developing models of care which shift screening, therapy, and treatment into home and community).
- Improved infrastructure to support telemedicine reducing demand in outpatient areas.
- Green spaces and respite areas for staff.

Where new hospitals and buildings are required, they should be future fit, zero emissions, and fossil fuel free. For example, the Melton Hospital in Victoria, the Adelaide Women and Children's Hospital in South Australia, or the expansion of the Canberra Hospital in the ACT.

The NHS have developed a new Net Zero Carbon Hospital Standard which will be applied as part of the government's Health Infrastructure Plan. This will drive both clean energy and energy conservation, as well as utilising technologies such as real-time-monitoring.

As states and territories shift to 100% renewable energy, design must pay regard to the provision and staffing of sterilisers to facilitate material/equipment reuse and tracking procedures, rather than single use. This will also generate savings.

There needs to be further research to capture other opportunities this shift to renewable energy will bring. There needs to be adequate footprint allowed in building design and planning for recycling stations in local departments and collection points on the dock.

Consider on-site laundry to allow for gown washing and reducing the emissions from transport and nano-particulate pollution and impacts from plastic.

The Strategy should ensure buildings include particular attention to back up generator placement with protection from heat and water invasion.

Buildings should include green spaces built in for horticultural therapy, staff rejuvenation and countering heat island effect. These should be watered by recaptured water from roof tops and reverse osmosis capture. No new build should have reverse osmosis water going down the drain. Composting facilities should be utilised in these spaces where appropriate in order to divert food waste from landfill.

Consult with those who will use the space when designing, especially nurses and midwives, and consideration should be given to work health and safety in design ensuring there are adequate systems of work and footprint, as above.

Consider the potential of reducing the construction and maintenance of clinic buildings through optimising telemedicine and reducing travel requirements.

Increase primary care and community services to avoid escalation and preserve hospitals for acute service provision.

Travel and transport

Strengthen reliable public transport – both near hospitals and health services and in the community in general, especially in regional and new communities. Public transport to hospitals must be reflective of hospitals' 24-hour nature, ensuring staff can safely access their workplace for their 24-hour roster, and that people require emergency care around the clock.

The creative expansion of digital technology and telehealth services reduces the need for vehicle transport.
Local policies should include a framework for reducing emissions related to staff commute. The Strategy should actively encourage non-fossil fuel transportation options, for example e-bikes for staff transport, after-trip services, secure bicycle storage and showering/changing facilities, car-pooling initiatives, and electronic vehicle fleets and charging.

As a part of HiAP, the Strategy should prioritise onshore manufacturing in order to reduce emissions from shipping and airfreight transport. When designing health campuses, towns and cities, active transport should be promoted and encouraged, through cycle and walkways, adequate lighting (night), and shade structures (daytime).

Supply chain

The Strategy must consider both supply chain resilience and decarbonisation. The government supports coordination in the Pacific region and internationally to take advantage of bulk procurement opportunities such as combined use of purchasing power similar to the UK and US, who have joined forces in purchasing only from manufacturers making progress towards net zero.

The NHS in the UK has legislated zero emissions targets for procurement. If Australia does not initiate similar policies in a timely manner, the global supply chain will force our health care system to purchase the remaining high-emissions supplies.

Developing onshore manufacturing of hospital supplies not only reduces the carbon footprint of these supplies, but also increases supply chain resilience.

Consider opportunities for locating suppliers and manufacturers in newly de-carbonising geographical areas to provide local jobs for those moving out of high-carbon industries. This supports the newly announced Net Zero Authority.

The ANMF Victorian Branch is a patron of Medical Pantry, a Victorian company that rescues unused medical supplies and equipment and delivers it to underserved communities around the world. Around 80-90% of what they receive is unexpired and unused. A significant portion of this is due to stockpiling of supplies and equipment in Australia in case of supply chain interruption. That has included critical personal protective equipment (PPE) supplies.

Onshore manufacture can be part of stopping this stockpiling. This can also include pharmaceuticals. There has been an antibiotic shortage in 2022-23.[9] The Australian Medical Association (AMA) has called for a comprehensive medicine supply strategy, including domestic manufacturing, to help ensure supply of critical medicines in Australia.[10]

Medicines and gases

Desflurane should be federally banned. NHS Scotland announced a ban in early 2023.[11]

All health care services should have a mandatory nitrous oxide management plan which takes into account consumer education, worker health and safety, and pain management alternatives.

The Strategy should implement learnings from similar international healthcare systems. One paper published a study showing 70-90% of procured nitrous leaks out before getting anywhere near the person requiring care. Their recommendations are worth considering:

1. Establishment of multidisciplinary medical gas committees;
2. Assessment of N_2O use and waste at all sites with piped N_2O or Entonox®;
3. Review of N_2O stock management and security;
4. Proactive identification of leaks from the manifold, outlets, or pipes;
5. De-commissioning redundant manifolds;
6. Introducing portable supply where clinically necessary;

7. Building new operating theatre complexes without piped N_2O systems.

PBS criteria for inhaler use should be updated. Metered dose inhalers should be restricted to those who have a demonstrated need for one. When appropriate these people should be provided with a dry powder inhaler.

Waste

ANMF members have called for better provision of regional recycling, and extended producer responsibility for manufacturers to take responsibility for their own packaging materials and requirements for clear labelling about the recyclability of packaging.

The Strategy must support research to reduce the number of single use items that are used for either convenience or assumed infection control reasons. Infection control is at risk of being used as a marketing opportunity to a risk adverse consumer group. We need an in-depth evidence base to guide procurement decisions in a shift to items that can be safely reused. Examples to explore include tourniquets, blood pressure cuffs, washable gowns, processable surgical trays, bowls, and kidney dishes.

In addition, all new healthcare builds must have waste stations and waste segregation facility built into wards, departments and docks. Re-sterilisation opportunities must be maximized and accommodated both in new builds and in sterilizing department staffing.

As part of the Strategy, training materials must be developed for health practitioners and all health service workers. If used in health service orientation and mandatory education, training materials can provide consistent messaging around recycling, pharmaceutical waste disposal, clinical waste disposal, and food waste. This can also stretch to education providers, ensuring that health waste remains top of mind throughout health practitioner's careers. Waste reduction will need to be incentivised and simple with visible outcomes to ensure that health practitioners at the bedside see results. Quick wins will be essential because nurses and midwives are overwhelmed by the task.

The measurement phase of the Strategy should capture savings of appropriately segregating clinical waste. It is possible to develop clear pathways for healthcare waste to be part of circular economies and go back into new builds. Investing in product development for products made from reusable content will also help to reduce waste footprints.

Research has found that up to 40% of hospital food doesn't get eaten and is thrown away.[12] The Strategy must support and upscale projects which are diverting food from landfill. An audit at the Epworth Hospital in Richmond, Victoria found food waste was 30% of the waste stream by volume but 73% by weight.[13] Another study at Box Hill Hospital, Victoria found 6 tonnes of non-perishable, unopened, unexpired single use food sachets, for example: salt/pepper/fruit juice cartons, going to landfill that were tested as microbiologically safe. Melbourne Health won

the 2019 Premier's Sustainability Award for re-diverting 4,000 meals a month from landfill to a food charity which diverted 9 tonnes from landfill and reduced greenhouse gas emissions by 17 tonnes of CO2e per year.[14] Hospital food should be local, plant forward, and nutritious, and can be made at scale while reducing waste volume.

Additional

Health Care Without Harm has developed a global roadmap for healthcare de-carbonisation. They identify seven high impact areas, including the addition of:

- the provision of healthy, sustainably grown food and climate resilient agriculture; and
- incentivising and producing low carbon pharmaceuticals.

Likewise, Global Green and Healthy Hospitals has an agenda of 10 goals for the health sector to address and promote greater sustainability and environmental health. It adds leadership and chemicals to this list.

As well as moving from high to low carbon alternatives, the emphasis should be on reducing unnecessary testing, admissions, and treatments. Nurses and midwives are best placed among health practitioners to lead this work in the primary health care setting. Governments need to prioritise primary health care and health prevention funding as a strategy to keeping consumers out of our tertiary centres. Strengthening the nursing and midwifery workforce, and empowering nurses and midwives to work to their full scope of practice shifts the health system from low to high value models of care.

9. Which specific action areas should be considered relating to the built environment and facilities (including energy and water), over and above any existing policies or initiatives in this area?

The COVID-19 pandemic highlighted the need to develop an evidence-based approach to indoor air ventilation that meets infection control requirements, and decarbonisation needs.

10. **Which specific action areas should be considered relating to travel and transport, over and above any existing policies or initiatives in this area?**
11. **Which specific action areas should be considered relating to supply chain, over and above any existing policies or initiatives in this area?**
12. **Which specific action areas should be considered relating to medicines and gases, over and above any existing policies or initiatives in this area?**
13. **Which specific action areas should be considered relating to waste, over and above any existing policies or initiatives in this area?**
14. **Which specific action areas should be considered relating to prevention and optimising models of care, over and above any existing policies or initiatives in this area?**

The ANMF advocates strongly for the increased support and funding for nurse- and midwife-led primary models of care. Nurse and midwife-led models of care contribute to reduced acute hospital presentations, avoid over diagnosis and overtreatment, reduce waste, and support early disease-identification.

The Strategy should explore opportunities for health system funding reform to support health promotion, strengthen primary care, optimise high value care and prevent low value and harmful care. Nurses and midwives are key to providing care within communities and the ANMF has been a consistent leader in this space.

15. **What can be done to involve private providers within the health system in the Strategy's emissions reduction efforts?**

Climate accountability cannot only depend on public providers. Regulation across the healthcare sector is necessary, and should be included in director responsibilities across all health care facilities. Health and aged care systems should require accreditation dependent on their climate portfolio. Recognition of high achievers will drive competition in this sector. Similarly to public providers, climate targets must be transparent and incentivised.
The ANMF encourages membership to Global Green and Healthy Hospitals. In addition, climate change should be included in undergraduate and postgraduate education of all health practitioners and in the training of all care workers.

16. Where should the Strategy prioritise its emissions reduction efforts?

a. How should the Strategy strike a balance between prioritising emissions reduction areas over which the health system has the most direct control and prioritising the areas where emissions are highest, even if it is harder to reduce emissions in these areas?

Platform priorities:

The ANMF suggests the following platform priorities:

a. Establish the platform by which the project will operate, considering:
   a. Communication with the NHS to identify how they established priorities. The NHS trajectory modelling suggests the trajectory identify:
      - Big emitters, for example medical equipment and pharmaceuticals;
      - Emissions the government was leading on, for example Australia's National Electric Vehicle Strategy;
      - Disproportionate problems such as MDI use, anaesthetic gases. This sets macro level targets broken down to achievable but inspirational aspects that could be delivered, and could easily be replicated in Australia.
   b. Establishing a robust regulatory framework, rather than depending on varied levels of elective action.
   c. Establish State Development Units in Departments of Health that do not yet have one to establish the communication pathways that will enable them to communicate with local services and green champions. ANMF suggests including Sustainability Officers across health networks. For example, Barwon Health has a regional coordinator across 12 healthcare services, providing a replicable model that may provide inclusivity for regional areas. NSW Health has created a Climate Risk and Net Zero Unit and appointed 10 Net Zero Leads to lead and coordinate Net Zero programs at a local level across carbon hotspots including allied health, anaesthetics, emergency, ICU, medical imaging, nursing and midwifery, pharmacy and surgery.
   d. Establish nationally coordinated data collection, monitoring, and reporting, with a consistent carbon accounting methodology. Release strategic pathways describing how this will be translated into emissions reduction. Include performance indicators and accountability mechanisms.

Practice priorities:

The ANMF suggests the following practice priorities:

1. Procurement opportunities. While supply chain may be one of the more difficult areas to address, it is also one of the most critical, coming with both precedent, and, with the right promotion, clinical visibility.
2. Join in with other nations (UK, EU, and US) who are using their procurement power to move suppliers to de-carbonise their own supply chain. This is a high priority given the impact it can have on our emissions. Low emissions supply chain has high relevance to nurses and midwives, the end users of procurement decisions, who have often taken on the additional task of researching best alternatives within imprest availability. This action would appropriately shift this work onto governance, and would have clinical visibility therefore clearly driving practice and cultural change.
3. To bring staff on board, and build momentum, identify high visibility projects and accompany them with education and promotion.

   For example:

   Medical gases: work with anaesthetic and perioperative groups in Australia – a smaller group of professionals to target, and investment with potential high return.

Waste: waste is a lower percentage of our footprint, yet because of its high visibility, it can feel like it is the bulk of it. The huge amounts of disposable PPE that were used during the COVID-19 pandemic, are a recent underscoring of this. Working on a few waste projects as a visible early starter and encouragement can grow a sense of government support, momentum, and engagement opportunity. Single-use gowns is an example of relevance to health practitioners all over Australia that could be replaced with reusable gowns. This would bring triple bottom line savings for people, planet and profits.

b. Which of the six sources of emissions discussed above (on pages 13 to 18) are the highest priorities for action?

Immediate action is needed across all these priority areas.

17. What 'quick wins' in relation to emissions reduction should be prioritised for delivery in the twelve months following publication of the Strategy?

Built environment and facilities

Hospitals and healthcare services represent both a large capital investment and long-term infrastructure intended for use beyond 2050's emissions targets. They must be future-fit, and not rely on technology and function which is rapidly becoming obsolete. Hospitals need to be all electric, with facilities for re-sterilising and resource harvesting. When designing new buildings, the end of life re-use of materials must be considered.

Medicines and gases

As discussed above, anaesthetic gases represent an easily regulated priority area with disproportionate impact.

Travel and transport

As discussed above, enhancing healthy transport options such as increased public transport, electric vehicles, and electric bicycle and scooter facilities to and in hospitals has a greater public health impact, as well as reducing emissions.

Supply chain

Given that clinical service delivery is a major part of our ecological footprint, supply chain must be addressed. Further, the NHS has demonstrated how to do so. Similar models must be explored in Australia and others within our geographical region.

Waste

Waste management offers quick-win projects which offer visible evidence to hospital workers and patrons that the government is taking tangible action to reduce the health care industry's impact.

Preventing and optimising models of care

The ANMF advocates strongly for the increased support and funding for nurse- and midwife-led primary models of care. Nurse and midwife-led models of care result in fewer hospital presentations, avoid over diagnosis and overtreatment, reduce waste, and identify disease early. Utilising robust nurse and midwife-led models of care eliminates low-value care, increases employment, and provides the most economical, evidence-based community care.

18. What health impacts, risks and vulnerabilities should be prioritised for adaptation action through the Strategy? What process or methodology should be adopted to prioritise impacts, risks and vulnerabilities for adaptation action?

The ANMF strongly supports protecting healthcare practitioners from the significant psychological, physical, and financial impacts of climate change. Research has identified that nurses are ill-equipped with disaster knowledge, which challenges their capacity to provide clinical decision-making and leadership during climate crises.[15] The Strategy should have a clear plan to research the learning needs of health practitioners in relation to climate change. Examine how health professionals can be equipped and supported to work within community healthcare and with people receiving care in climate risk recognition, mitigation, and adaptation.

Develop educational materials to be incorporated into health care organisations' e-learning systems, and include it in orientation and on boarding sessions. The Strategy can work with the Australian Commission on Safety and Quality in Health Care in a mandated implementation of the Sustainable Healthcare Module that is currently proposed as an elective Standard, in order to achieve this.

Identify new and existing healthcare tools that can be leveraged as part of developing an evidence base and tools supporting change. Public health employee opinion surveys are a current opportunity to determine priorities.

While the ANMF strongly supports the inclusion of harms for communities experiencing vulnerability in times of crisis, it is crucial the Strategy seeks to address health harms associated with incremental climate change, including heat stress, drought, and sea level rise. The Department of Health must take an active role in promoting uptake of the Sustainable Healthcare Module being developed by the Australian Commission on Safety and Quality in Health Care.

Incorporate climate risk and mitigation into the governance and management of health care, with particular emphasis on Board and Executive roles. For example, in Victoria the directors' duty of care diligence and skill under the Public Administration Act 2004 requires consideration of risk, including climate change-related risks. Foreseeable risks of harm may arise from adverse impacts to assets, service delivery and financials as well as reputational losses or other consequences. In line with this priority, the Victorian government has released a guide "Director's duties with respect to climate risk; a guide to help you oversee the management of climate related risks in your entity." It contains advice and high level principles based frameworks for Directors.

Work with local councils to identify community centres suitable for use as safety or heat health refuges. Councils can identify suitable venues that could potentially be enlisted with consideration for potential subsidies and grants. For example, in Blacktown City Council in New South Wales, an air-conditioned church and hall is being offered as a venue with toilets, seating, and cold water that would become go-to places on high heat days for the local community to gather at. In Shepparton, Victoria, the "Winter Night Shelter Initiative" provides shelter and overnight sleeping accommodation for the homeless.

In conjunction with community nurses and midwives, develop comprehensive risk registers of vulnerable people groups and resource adequate numbers of community nurses to monitor these people during identified risk events. Ensure adaptation, research, and outcomes are inclusive of culturally and linguistically diverse communities.

Predictive climate modelling should be a mandatory inclusion in determining structural design and location of new hospitals and health centres. Best practice sustainable design should be standard in all new builds and refurbishment including materials choice, facility operations and resilient design.

Climate adaptation action and risk assessment must draw on Aboriginal and Torres Strait Islander peoples cultural knowledge and practice in relation to health and wellbeing. Include First Nations youth in consultations.

In conjunction with traditional owners, evaluate legal protections for landscapes and areas identified as significant fire refuge areas for biodiversity and threatened species as part of restoration and preservation priorities.

The WHO Hospital Safety Index is being implemented as part of the Queensland Human Health and Wellbeing Climate Change Adaptation Plan. The Index is a diagnostic tool for assessing the probability of a hospital remaining operational in emergencies and disasters. It assists authorities to determine quickly what actions and measures improve safety and what capacity the hospital has to respond.

Consider the impact of climate-related internal and external migration and adequately resource reception communities to safely and warmly receive climate migrants.

22. What are the key areas in which a Health in All Policies approach might assist in addressing the health and wellbeing impacts of climate change and reducing emissions?

A HiAP approach requires dedicated systems and processes to bring a health lens to policy development that evaluates the potential for health benefits and health harms in sectors outside of health, including energy, resources, transport, agriculture, infrastructure, planning, and environment.

The areas provided in the consultation paper – transport policy; food, agriculture and trade policy, and housing policy – are excellent examples. To draw on one example, housing, and provide some context specific to our membership – housing affordability. This is a major issue for many ANMF members, who are often required to travel long distances from their home to their place of work. This results in various impacts, including a long time spent commuting (often using inactive modes of transport), financial burden, and time away from family. This can result in impacts to members' physical and mental health, and also an impact on the climate.

Health care must be facilitated to participate in the production of other national targets and strategy. The ANMF strongly supports the use of the HiAP approach. The current implied structure of the Strategy needs revision in order to fully address the health risks posed by climate change. The overall focus of the Strategy needs to be strongly directed towards reducing the current risks to population health from climate change, and to maximise the health co-benefits of carefully designed climate mitigation and adaptation actions.

Budget

The amount of money spent on federal fossil fuel subsidies in Australia is indefensible in our climate-threatened world. Fossil fuel subsidies cost Australians $10.3 billion in 2020-21. Despite this, while 2022 inflicted hardship upon many people around the world due to climate-driven disasters and war, the five largest western oil and gas companies alone made a combined $200 billion in profits. Coal, oil and gas companies in Australia give the impression that they are major contributors to the Australian economy, but research from the Australia Institute demonstrates that they are major recipients of government funds.

Just transition

The ANMF supports the establishment of the Net Zero Authority to ensure that a just transition does not allow industry to disregard the communities and environmental devastation left behind. The ANMF looks forward to working with Governments and unions to capture market opportunities that create new thriving communities. This is a preventive health strategy, which avoids the physical and mental health issues that stem from mass unemployment and community degradation, as well as an economic strategy as we develop new export markets.

Training, recruitment, and employment:

As renewable energy hubs develop, there will need to be both skills taught for new industries, and supportive infrastructure including health services. There is already a dire shortage of nurses and midwives to service these new builds and services. Ongoing commitment to investment in nurse and midwife training will help to mitigate the ongoing shortage.

Transport

As the grid decarbonises and more electric vehicles and associated charging stations are developed, there is opportunity to leverage more of gas and diesel fuel into electricity funding. In addition, public transport networks must be maintained and funded as public transport impacts access to healthcare, cost of transport, and air quality. City planning must consider 24 hour access to health care facilities for staff and people requiring care to meet the 24 hour needs of these locations. Active transport measures should be encouraged as they contribute to a reduction in air pollution, traffic congestion, and to positive population health outcomes.

Pharmaceuticals

Renewable energy can contribute to reducing the footprint of pharmaceutical production. For example, a life cycle assessment on morphine production found that sterilisation and packaging contributed 90% of morphine's carbon footprint.[16] Onshore manufacture of pharmaceuticals, such as the Australian Medical Association has called for, strengthens our resilience in the face of supply shortages and delays, while reducing the footprint of pharmaceuticals used in Australia.

23. What are the most effective ways to facilitate collaboration and partnerships between stakeholders to maximise the synergies between climate policy and public health policy? What are some successful examples of collaboration in this area?

24. How could these enablers be improved to better inform the objectives of the Strategy? Should any enablers be added or removed?

25. For each of these enablers:

- **a. What is currently working well?**
- **b. What actions should the Strategy consider to support delivery?**

The ANMF believes that all these enablers are of value.

Workforce, leadership, and training

The Strategy must include adequate support for workforce involvement in the change process, beyond training, and provide detail about the change theory and process. The Strategy must recognise that in emergencies and disasters, healthcare workers are often supporting immediate family and friends. There must be contingency for workforce shortages in extreme weather events and public-health crises. The Strategy does not currently support workforce capacity building and training. There is a need for a national cross-discipline continuing professional development program on climate change and health for the health and social sector as well as other sectors.

Research by Sustainability Victoria determined that:

- 80% of healthcare practitioners say that climate change is already harming public health;
- 86% see a role for health practitioners in helping inform the public;
- 76% believe their own practice or organisation could be doing more;
- 18% feel confident in their level of knowledge on the impacts of climate change.

This research demonstrates that deliberate attention to education for new and existing health practitioners and health workers is a priority area. Climate change does not need to be a standalone topic introduced into already crowded curriculums; it can be incorporated into existing learnings. Doctors for the Environment Australia have developed ready-to-use materials.

Concurrently, health services must prioritise environmental sustainability, climate change responses, and mitigation opportunities into staff orientation. The Strategy should articulate metrics that State and Territory Departments of Health must meet – for example: Sustainability Officers in each health service/region. It is crucial that frontline health practitioners can be supported by Sustainability Officers in protected positions within health services. Combined with State Sustainability Development Units in Departments of Health, these roles will assist in delivery on Enabler 3: Communication and Engagement.

Conclusion

Thank you for this opportunity to provide feedback on the Australian Government's National Health and Climate Strategy consultation paper. We look forward to the ambitious innovations that this heralds.

Additional Information

- Global Green and Healthy Hospitals (https://greenhospitals.org/)
- Real, Urgent, and Now: Insights from health professionals on climate and health in Australia (https://www.caha.org.au/)
- Sustainability Victoria (https://www.sustainability.vic.gov.au/)
- Healthcare Without Harm (https://noharm.org/)
- Doctors for the Environment Australia "Health Professional Education Resources" (https://dea.org.au/publications/healthprofessionaleducationresources/)

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NATIONAL HEALTH AND CLIMATE STRATEGY CONSULTATION PAPER

Asthma Australia submission

July 2023

Released under the Freedom of Information Act 1982

ABOUT ASTHMA AUSTRALIA

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

Our purpose is to help people breathe better so they can live freely. We deliver evidence-based prevention and health strategies to more than half a million people each year. Asthma Australia has an ambitious goal to halve avoidable hospital presentations for asthma by 2030, with an initial focus on reducing preventable hospitalisations in children aged 5-9.

ASTHMA AND CLIMATE CHANGE IN AUSTRALIA

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; an adverse feedback loop exists in which the emissions that cause climate change increase the risk of developing asthma and trigger asthma symptoms in people with asthma, which in turn increases the need for healthcare utilisation, generating additional emissions. At the same time, climate change-driven events and conditions further increase the risk of developing asthma and trigger symptoms, continuing the adverse feedback loop.

The high prevalence of asthma in Australia makes the links between asthma and climate change particularly concerning. Asthma affects 1 in 9 Australians, or 2.7 million people. It is the 9th leading contributor to the overall burden of disease in Australia,[1] having risen from 10th place in 2003 to 9th place in 2018.[2] Asthma is the leading cause of burden of disease for people aged 5–14 years.[3] People with asthma experience poorer health outcomes and quality of life.[4] They may live for a long period of time with its associated disability, and experience reduced participation in paid employment, education, care responsibilities, sports and social events. Further, asthma mortality[5] and hospitalisations[6] in Australia are high by international standards. Approximately 400 people die each year in Australia due to asthma[7] and there were 351 deaths due to asthma in 2021.[8] In 2021-22, there were 25,480 hospitalisations for asthma, of which 90% were considered potentially preventable.[9] 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 burden of disease amounted to a cost of $24.7 billion.[10]

There are numerous climate change pathways that can cause and exacerbate asthma in Australia, including 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 events.[11] This means people with asthma – and those at risk of developing the condition – are particularly vulnerable to the risks associated with climate change. Asthma is also unique among chronic conditions as many of the inhalers used to deliver medicines to treat asthma contain potent gases, which contribute significantly to health sector carbon emissions.[12]

Consumer attitudes to health and climate change: Asthma Australia's Bushfire Smoke Impact Survey[13]

Asthma Australia surveyed 12,000 people during the catastrophic 2019–20 bushfires about the impacts they experienced as a result of exposure to bushfire smoke. 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. These results demonstrated that many people with asthma, and their carers, recognise the impact of climate change on their health and wellbeing, and want action taken to address it.

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ASTHMA AND THE NATIONAL HEALTH AND CLIMATE CHANGE STRATEGY

The high asthma prevalence, growing asthma burden resulting from climate change and contribution of asthma to health sector emissions combine to present a concerning future for asthma in Australia. However, the development of the National Health and Climate Change Strategy (the Strategy) presents an opportunity to break the adverse feedback loop between asthma and climate change. **There is huge potential to improve health and wellbeing – and reduce health system use – in the short term by addressing the factors that make around 90% of asthma hospitalisations potentially preventable, and implementing adaptation actions that support people with asthma (and those at risk of developing it) to reduce their exposure to climate-related triggers.** Additionally, reducing emissions across society, including the health system, will deliver immediate benefits for asthma by improving air quality, as well as contributing to global efforts to limit temperature increase.

To achieve these outcomes, **the Strategy must prioritise the protection of health and wellbeing as its purpose and commit to meaningful actions to strengthen the ability of vulnerable communities and individuals to adapt to the inevitable impacts of climate change**, while also committing to fast and effective health sector decarbonisation.

Unfortunately, the Consultation Paper fails to recognise protecting health and wellbeing in its objectives. Further, the Consultation Paper does not commit to specific community adaptation actions that would protect people with asthma, and those at risk of developing the condition. Instead, the Consultation Paper largely focuses on health system mitigation and adaptation, and working with healthcare providers to address these challenges. **Asthma Australia is disappointed that our comments addressing these omissions from the 2022 Discussion Paper have not been addressed.** While commitments to health sector decarbonisation and adaptation in the Consultation Paper are important, **the final version of the Strategy will need to expand its scope and reorient its focus towards protecting health and wellbeing, to avoid becoming a narrow national health *sector* and climate strategy**.

Given the importance of this Strategy to the health and wellbeing of everyone in Australia as climate change progresses, Asthma Australia is commissioning a nationally representative survey of 2,000 people in Australia to understand the current level of knowledge of the health impacts of climate change, how this knowledge differs by population groups and whether and how people believe climate change is affecting, or will affect, their health. We will be happy to share the results of this survey with the National Sustainability Health and Climate Unit once finalised.

Asthma Australia has responded to the questions within the Consultation Paper that are most relevant to asthma in the hope of contributing to a strategy that genuinely commits Australia to improving health and wellbeing outcomes in the face of the climate crisis. We appreciate the opportunity to provide these comments. However, we also note the relatively short consultation period and the lack of clarity around the next steps of the consultation, including whether we will have an opportunity to see a revised draft of the Strategy. Given the Strategy's current skewed focus on health sector decarbonisation, **we strongly recommend that Government extends the timeframe for the Strategy's finalisation to enable stakeholders to review the subsequent draft and ensure that it appropriately responds to the current and future health needs of people in Australia as climate change progresses**.

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RESPONSES TO CONSULTATION QUESTIONS

Introduction

1. How could these objectives be improved to better support the vision of the Strategy?

Asthma Australia notes the Consultation Paper does not detail a "vision" of the Strategy. The Consultation Paper states an overarching purpose of the Strategy, which is "protecting the health and wellbeing of Australians from the impacts of climate change", and we assume this is the vision. However, this purpose/vision is not supported by the objectives in the Consultation Paper as they do not recognise the need to improve human health outcomes or reduce adverse health outcomes relating to climate change. Asthma Australia therefore suggests the addition of a clearly defined vision statement, alongside objectives that reflect and support its realisation.

Further, the Consultation Paper does not specify measurable goals or timelines for achieving the Strategy's objectives and actions, which makes it difficult to comment on their feasibility. The Strategy should be supported by an Implementation Plan that sets measurables goals and timelines.

Asthma Australia makes the following comments on the objectives stated in the Consultation Paper:

- **Objective 1 (Measurement):** Asthma Australia notes and agrees with the Climate and Health Alliance's (CAHA) position that measurement is an enabler rather than an objective, and that an objective around measuring emissions reductions from the health system should specify what will be measured.
- **Objective 2 (Mitigation):** Health sector decarbonisation is an important objective in the Strategy, but it should be secondary to supporting human health and wellbeing. We note and support CAHA's position that this objective should be reframed as a net zero health and aged care system. The Strategy should include targets for mitigating emissions in line with evidence from the Intergovernmental Panel on Climate Change. Additionally, we note that mitigation across all sectors is critically important to protecting human health and wellbeing because fossil fuel emissions worsen air quality, as well as causing climate change.
- **Objective 3 (Adaptation):** Increasing community and health system resilience in responding to the health impacts of climate change is a worthy objective. However, this objective would require very different actions and it should be separated into discrete objectives for: a) building community resilience, and b) increasing health system resilience. Additionally, there should be an specific objective around supporting the adaptation needs of priority populations at greater risk of climate change health impacts.
- **Objective 4 (Health in All Policies [HIAP]):** A HIAP approach will be critical if the Strategy is to achieve the broad purpose of protecting the health and wellbeing of Australians from the impacts of climate change. Asthma Australia also welcomes the recognition of the importance of the determinants of health. However, this objective focuses on lessening the impact of climate change on the determinants of health, when the primary motivation should be improving human health outcomes.

Lastly, Asthma Australia notes the word "Australians" excludes people living in Australia who are not citizens. This is particularly important in the health context with the challenges faced by culturally and linguistically diverse communities in navigating complex healthcare systems to access care.[14]

RECOMMENDATION 1. An objective should be added around protecting human health and wellbeing and strengthening the social, cultural and environmental determinants of health.

RECOMMENDATION 2. Objective 3 (adaptation) should be separated into three objectives, with standalone objectives for:

a) Strengthening resilience in communities to anticipate and respond to the health impacts of climate change.
b) Supporting priority populations to respond to the increased health and wellbeing risks they face due to climate change.
c) Strengthening resilience in the health system to anticipate and respond to the health impacts of climate change.

RECOMMENDATION 3. The objectives, and any other areas of the Strategy where this is appropriate, should refer to "people in Australia" rather than "Australians".

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2. How could these principles be improved to better inform the objectives of the Strategy?

Asthma Australia welcomes the principles that centre Aboriginal and Torres Strait Islander leadership in policy decisions on climate and health, recognise the importance of health inequities in addressing climate health impacts and recognise the need for a holistic approach to the challenges we face through a paradigm like One Health.

However, Asthma Australia is concerned the principles focus disproportionately on health sector mitigation and adaptation and inadequately recognise the importance of protecting human health and wellbeing against climate change impacts. While Principle 3 is titled "Population health and prevention", the text suggests the motivation behind this principle is further action on mitigation and adaptation. Asthma Australia recommends that the principles, like the objectives, recognise and support a primary focus on improving human health and wellbeing, and preventing the adverse health impacts of climate change.

In 2022, the United Nations (UN) General Assembly passed a resolution recognising a clean, healthy, and sustainable environment as a human right and called upon nations, businesses and other stakeholders 'to scale up efforts' to uphold this right.[15] This recognition responds to the global public health crisis resulting from climate change, pollution, environmental degradation and biodiversity loss. The ACT Government is in the process of embedding this right into the Human Rights Act and we consider that this right should be incorporated into all human rights legislation in Australia. The environment is integral to human health and ongoing environmental damage is compounded by climate change. The Strategy should include a principle that recognises the right to a healthy environment to acknowledge the critical link between the environment and human health, and to help ensure environmental health is prioritised in government responses to climate change.

Asthma Australia also suggests the Strategy should include a principle around person-centredness. Incorporating this principle would embed the need to involve consumers in the implementation of the Strategy's actions that affect them, such as changes to healthcare practices or climate adaptation actions that support health and wellbeing. The value of a person-centred approach is exemplified by the transition to low-carbon inhalers: currently, the Consultation Paper (2.4.3) only refers to working with primary care stakeholders to reduce prescribing and dispensing pressurised metered dose inhalers, and only notes clinical appropriateness as a factor influencing choice of inhaler. A person-centred approach would include people who use inhalers and their carers, ensuring that their preferences, needs and values are considered in designing a program to transition towards low-carbon inhalers. This approach not only respects consumers and their input, it increases the likelihood of a successful program as consumers are more likely to support it.

While Asthma Australia welcomes the inclusion of a principle of evidence-informed decision-making, we suggest cost-effectiveness analysis may not be an appropriate approach for all decisions and that alternative types of economic evaluation may be more suitable. We also note that as the effects of climate change compound and cascade,[16] policy responses will need to be nimble to protect health and wellbeing.

Further, Asthma Australia suggests that Principle 6 should recognise not only the need to work across *levels* of government, but also across *portfolios* within levels of government to accommodate a HIAP approach.

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RECOMMENDATION 4. The Strategy should include principles that support the new objectives in Recommendation 1 around improving human health and wellbeing, preventing and reducing adverse human health outcomes related to climate change and recognising climate change as a focus area for preventive health policy.

RECOMMENDATION 5. The Strategy should include a principle that recognises the right to a healthy environment to acknowledge the critical link between the environment and human health and wellbeing.

RECOMMENDATION 6. The Strategy should include a principle around person-centredness to embed the importance of involving consumers in the implementation of the Strategy's actions.

RECOMMENDATION 7. Principle 5 should be amended to remove the specification of cost-effectiveness analysis and recognise the importance of responsive policymaking.

RECOMMENDATION 8. Principle 6 should be amended to recognise the need to work across portfolios within levels of government (as well the need to work across levels of government).

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3. Which of the various types of greenhouse gas emissions discussed above should be in scope of the Strategy's emission reduction efforts?

Asthma Australia supports the inclusion of Scope 1, 2 and 3 emissions as defined in the Consultation Paper, including emissions from pressurised metred dose inhalers (pMDIs) used in hospitals or other healthcare facilities. However, this approach as detailed in the Strategy is too limited as it focuses on emissions linked to organisations, and reflects the focus evident throughout the Consultation Paper on the health system.

The Strategy should include emissions that originate in the community in the scope of its emissions reduction efforts, particularly where actions have the potential to improve health outcomes, as exemplified by a transition to low carbon inhalers. As the Consultation Paper currently explains Scope 3 emissions in relation to organisations, it is not clear that this would capture inhalers used in the community purchased over the counter or prescribed by primary care providers, for example.

Transitioning to low carbon inhalers exemplifies the need for a comprehensive approach to reducing emissions. pMDIs use propellant gases that contribute significantly to health sector greenhouse gas emissions.[17] In contrast, dry powder inhalers (DPIs) not only have a smaller carbon footprint but also offer improved asthma management compared with pMDIs for most people with asthma.[1] It is likely there are low levels of understanding in the Australian community around the contribution of asthma inhalers to greenhouse gas emissions.

Any actions in the Strategy around transitioning to low carbon inhalers must be co-designed with people with asthma and their carers, with input from relevant consumer and peak bodies. These actions must be supported by adequate resourcing to raise consumer and healthcare professional awareness around the benefits of DPIs for asthma management as well as reducing emissions. Further, cost impacts on consumers should be considered and minimised. Consumer research should

[1] Asthma Australia notes these inhalers are used to treat conditions other than asthma and it is important to consult with consumers with those conditions, their carers, and the organisations that represent them.

be conducted to understand the likely response to initiatives to increase low carbon inhaler use. Asthma Australia is well placed to contribute to the design of policy measures and public education around low carbon inhalers and is undertaking work with key stakeholders on this issue currently.

Additionally, inhaler waste should be included in the scope of the Strategy's emissions reduction efforts. This is particularly important for pMDIs as they can release potent greenhouse gases when they are disposed of in landfill.[18] An inhaler recycling scheme would allow for the capture and appropriate reuse of propellant gases from discarded pMDIs, as well as the reuse or appropriate disposal of the remaining component parts of pMDIs and DPIs.

Another area where emissions reduction actions under the Strategy could contribute to immediate health impacts is by reducing emissions that contribute to localised air pollution. These emissions should be prioritised for action.

RECOMMENDATION 9. The Strategy should include emissions that originate in the community, particularly where policy measures can influence both emissions reduction and positive health outcomes.

RECOMMENDATION 10. The Strategy should include an action around transitioning to low carbon inhaler use in the community and healthcare settings, which should be co-designed by people with asthma and their carers.

RECOMMENDATION 11. The Strategy should include inhaler waste as a priority for reducing emissions.

RECOMMENDATION 12. The Strategy should prioritise emissions reduction actions that will reduce localised air pollution and lead to short term health benefits.

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4. What existing First Nations policies, initiatives, expertise, knowledge and practices should the Strategy align with or draw upon to address climate change and protect First Nations country, culture and wellbeing?

Aboriginal and Torres Strait Islander people have a critical role to play in the development and implementation of the Strategy. As recognised by the Consultation Paper, they have significant knowledge and policies that they can contribute to mitigate against, and adapt to, climate change impacts. However, many Aboriginal and Torres Strait Islander people feel they have not been sufficiently included in national conversations about climate change and most reporting on climate change does not include their local assessments.[19]

Aboriginal and Torres Strait Islander organisations have developed a range of policies on health and climate change, such as the Lowitja Institute's report on Climate Change and Aboriginal and Torres Strait Islander Health[20] and the Indigenous Peoples Organisation report Heal Country, Heal Climate: Priorities for climate and environment.[21] These policy documents have a range of findings, objectives and actions that should be integrated within the Strategy. The Strategy should also seek to integrate objectives and actions that have been developed through other Government processes including the Measuring What Matters Framework community consultation[22] and the objectives of the Australian Centre for Disease Control related to Aboriginal and Torres Strait Islander communities.[23]

Climate change not only disrupts spiritual and cultural connections to Country by degrading the land, waters and air on Country, causing physical, emotional, cultural and spiritual ill-health, but also compounds existing health inequities in Aboriginal and Torres Strait Islander communities.[24] For example, the prevalence of asthma – which, as we have noted, is greatly affected by climate change impacts – is significantly higher among Aboriginal and Torres Strait Islander people (18%) than the general population (11%), and asthma mortality rates for Aboriginal and Torres Strait Islander people are 2.5 times higher than for non- Aboriginal or Torres Strait Islander people.[25] In addition, Aboriginal and Torres Strait Islander people living in remote communities have lower life expectancy than their peers in urban areas and non- Aboriginal or Torres Strait Islander communities, which climate change compounds when health services and health workers are disrupted by significant climate change weather events.[26]

Aboriginal and Torres Strait Islander leadership is key to developing meaningful and sustainable approaches to health for populations affected by climate change in rural, remote and urban settings. The Strategy should foster this leadership with climate change viewed as 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 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, [27]
- 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, and
- Foster greater self-determination and empowerment for Aboriginal and Torres Strait Islander communities.

RECOMMENDATION 13. The Strategy should reflect the needs, experiences and knowledge of Aboriginal and Torres Strait Islander people by:

a) Fostering their leadership within communities and in protecting Country in the Strategy's development and implementation,
b) Developing culturally specific health services designed to reduce existing health inequalities and meet increased demand resulting from climate change, and
c) Integrating and drawing from existing policy on health and climate change developed by, and with, Aboriginal and Torres Strait Islander people.

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5. What types of governance forums should be utilised to facilitate co-design of the Strategy with First Nations people to ensure First Nations voices, decision-making and leadership are embedded in the Strategy?

Asthma Australia welcomes the intention to co-design the Strategy with Aboriginal and Torres Strait Islander people as they are among the groups most vulnerable to the effects of climate change in Australia, through impacts on Country and on social, emotional and cultural wellbeing. To ensure this co-design is meaningful, Aboriginal and Torres Strait Islander groups across the nation must determine the most appropriate governance forums to support this work. The current consultation process risks a tokenistic approach to the Strategy's co-design and requires well-defined opportunities for all Aboriginal and Torres Strait Islander people to identify their priorities in relation to addressing climate change health impacts and how best to address these priorities.

The Strategy should recognise the need for a strengths-based approach to co-design with Aboriginal and Torres Strait Islander groups and ensure they remain critical, ongoing partners throughout the development and implementation of the Strategy so that the health system appropriately learns from and adapts to their needs, views, knowledge and experiences.

> ***RECOMMENDATION 14. The Strategy should provide well-defined opportunities for Aboriginal and Torres Strait Islander people to identify their priorities in relation to addressing climate change health impacts and meaningfully lead or co-design responses to addressing these priorities.***

PROPOSED OBJECTIVE 1: Measurement

6. Beyond the schemes already noted above, is your organisation involved in any existing or planned initiatives to measure and report on health system emissions and/or energy use in Australia?

No.

7. What additional data and information is required to support targeted emissions reduction efforts within health and aged care?

It will be necessary to capture data and information on health system use to understand the health services delivered which cause the current emissions footprint, and compare this with health services maintained and health gains achieved for the emissions avoided through future mitigation actions.

It will also be important to collect data around emissions avoided due to preventive health actions and improved care models. The Consultation Paper proposes prevention and optimising models of

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care as a focus area in the Strategy, recognising that keeping people healthy avoids healthcare use and the associated emissions.

Asthma provides an excellent case study for measuring health gains from avoided emissions, given the multiple climate-related pathways associated with asthma onset and exacerbations, and reducing emissions from healthcare use as around 90% of asthma hospitalisations are considered potentially preventable.[28]

Finally, it will be important to ensure all health-related emissions outside health facilities are measured under scope 3, as noted in our response to Question 3.

> ***RECOMMENDATION 15: Data and information on health system use should be collected to understand the gains in avoided emissions achieved by the Strategy.***

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PROPOSED OBJECTIVE 2: MITIGATION

8. What do you think of these proposed focus areas for emissions reduction? Should anything else be included?

Asthma Australia supports the proposed focus areas for health system emissions reduction. However, we refer to our comments in response to Question 1, that this objective should be reframed as a net zero health and aged care system, and that mitigation across all sectors is needed to protect health and wellbeing. We note that this is not only important from a climate change mitigation perspective, but would also improve air quality and prevent adverse health impacts caused by exposure to fossil fuel emissions. Additionally, we note and agree with CAHA's position that the mitigation objective should set clear targets for decarbonisation of the health and aged care sectors.

9. Which specific action areas should be considered relating to the built environment and facilities (including energy and water), over and above any existing policies or initiatives in this area?

(No comment.)

10. Which specific action areas should be considered relating to travel and transport, over and above any existing policies or initiatives in this area?

(No comment.)

11. Which specific action areas should be considered relating to supply chain, over and above any existing policies or initiatives in this area?

(No comment.)

12. Which specific action areas should be considered relating to medicines and gases, over and above any existing policies or initiatives in this area?

Asthma Australia refers to our response to Question 3 regarding the inclusion of inhaler emissions. We reiterate that while inhalers should be included in the medicines and gases focus area, any efforts to transition to low carbon inhalers must be co-designed with consumers, with input from relevant consumer and peak bodies. Prescribers must also be included in such efforts and are a key stakeholder in implementing a transition to low carbon inhalers.

Asthma Australia is concerned that the action proposed in the Consultation Paper regarding inhaler dispensing (2.4.3) does not recognise the need to consult with people with asthma, their carers, or peak bodies. Instead, it focuses on primary care providers, suggesting a top-down approach, rather than a consumer-centred approach.

We note that other jurisdictions have undertaken work to transition to low carbon inhalers.[29] Any actions in Australia should refer to these efforts and seek to understand both strengths and weaknesses of these approaches. It is also important to recognise the unique conditions in Australia, such as the availability of reliever medicines over the counter (and most are pMDIs, which have higher emissions), and to understand how the local context presents different challenges that need to be addressed.

> ***RECOMMENDATION 16: The Strategy should include an action to consult with consumers, consumer and peak bodies, and healthcare professionals on the development of a program to transition to low carbon inhalers, noting the importance of referring to international examples and understanding local conditions.***

13. Which specific action areas should be considered relating to waste, over and above any existing policies or initiatives in this area?

The majority of asthma medicines are delivered via devices that cannot be refilled and present challenges for disposal. As noted in response to Question 3, pMDIs contain powerful propellant gases that contribute to greenhouse gas emissions. Disposing of used inhalers in landfill risks these gases leaking, while incineration wastes a potential opportunity to repurpose the remaining gas.[30]

Asthma Australia supports the introduction of a pilot inhaler recycling scheme to explore the feasibility, challenges and benefits of recycling inhaler devices. We are aware of interest from pharmaceutical companies in exploring the potential for inhaler recycling in Australia, and note that recycling programs have been introduced internationally.[31] Any Australian recycling scheme should

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include consumer consultation and co-design, and Asthma Australia is well placed to contribute to the design of a scheme and seek consumer input.

In addition, we note and support the Lung Foundation Australia's position on the need to minimise the environmental harms of nicotine vaping products that contain hazardous waste, plastic and batteries.

> ***RECOMMENDATION 17: The Strategy should include an action to consult with consumers, consumer and peak bodies, and other stakeholders on the development of an inhaler recycling scheme.***

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14. Which specific action areas should be considered relating to prevention and optimising models of care, over and above any existing policies or initiatives in this area?

Asthma Australia welcomes the inclusion of prevention and optimising care models as a focus area for health system mitigation since efforts to prevent asthma and improve care models will greatly benefit people with asthma – and those at risk of developing it – in addition to reducing health system emissions. While primary prevention of asthma is complex, there is a growing body of evidence around risk factors and protective factors for the development of asthma.[32] Addressing many of the risk factors, such as reducing smoking, improving maternal health, and supporting healthy diets, would achieve additional health benefits beyond asthma. Further, risk factors for asthma development such as outdoor air pollution, moulds and pollens[33] are becoming more prevalent due to climate change. This means that implementing environmental protection measures that mediate pollution, extreme weather and pollen proliferation will reduce the asthma burden.

Tertiary prevention in the asthma context means managing asthma to reduce symptoms and prevent flare-ups. For most people, asthma can be well-managed by the individual or their carer under the guidance of a primary healthcare professional by using medicines and avoiding triggers. However, we know that asthma care is often suboptimal, and around 90% of asthma hospitalisations are considered potentially preventable.[34]

Areas for improvement include increasing the proportion of people who receive good quality, personalised healthcare as set out in the Australian Asthma Handbook,[35] including effective inhaled preventer therapy, alongside risk management and multi-disciplinary care approaches for those with complex disease. Ineffective tertiary prevention leads to the massive, avoidable burden of asthma, which in turn leads to excessive use of higher carbon pMDIs and emergency health services, which have significant carbon footprints. Investing in models of care and asthma management health promotion can improve health outcomes and disrupt this adverse feedback loop, also reducing emissions and climate change impacts.

Trigger management is also critical. Asthma Australia's consumer research on common triggers in Australian homes found that many people – including priority populations – face considerable barriers to reducing their exposure to triggers in the home.[36] Increasing health literacy and empowering consumers to manage triggers are critical to optimising asthma care.

Asthma presents an excellent case study for both increasing prevention activities and improving models of care. Asthma Australia is well placed to collaborate on any actions that would improve

asthma outcomes and reduce the burden of asthma on the health system as we are already committed to our overarching strategic goal of halving avoidable asthma hospitalisations by 2030.[37]

Asthma Australia also notes that rapidly accelerating the transition to renewable and non-emitting sources of energy and transport will benefit asthma prevention, as fossil fuel emissions can contribute to the development of asthma and its exacerbation.[38]

Finally, Asthma Australia supports proposed action 2.6.1 to encourage social prescribing and patient education. Implementation of this action should be co-designed with consumers and would require adequate resourcing.

> ***RECOMMENDATION 18. Prioritise asthma as a case study for prevention and optimising models of care by investing in improving asthma management and empowering people to minimise their exposure to risk factors for the development and exacerbation of asthma.***

15. What can be done to involve private providers within the health system in the Strategy's emissions reduction efforts?

(No comment.)

16. Where should the Strategy prioritise its emissions reduction efforts?

a. How should the Strategy strike a balance between prioritising emissions reduction areas over which the health system has the most direct control and prioritising the areas where emissions are highest, even if it is harder to reduce emissions in these areas?

Asthma Australia supports developing and implementing actions across sectors and carefully prioritising these actions based on considerations including emissions reduction potential, resources required, and timeframes. Further, we support prioritising emissions reduction actions that will significantly reduce air pollution and the associated adverse health impacts. This would necessarily include emissions outside the health system, such as coal fired power stations and vehicle emissions.

In considering whether to prioritise actions to reduce emissions from inhalers, we again state that any efforts should be co-designed with consumers with input from consumer and peak bodies.

> ***RECOMMENDATION 19. Emissions reductions actions should be developed and implemented across sectors with careful prioritisation, including consideration of the potential to reduce air pollution and the associated adverse health impacts.***

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b. Which of the six sources of emissions discussed above (on pages 13 to 18 of the Consultation Paper) are the highest priorities for action?

Asthma Australia does not support an approach in which these areas compete for importance in taking action. Action plans should be developed and implemented across the 6 focus areas for emissions reductions in a holistic approach to decarbonising the healthcare sector.

> ***RECOMMENDATION 20: The Strategy should place equal priority on each of the 6 emission sources and develop action plans for each area with realistic timeframes for implementation.***

17. What 'quick wins' in relation to emissions reduction should be prioritised for delivery in the twelve months following publication of the Strategy?

Asthma Australia is currently exploring a low carbon inhaler transition. While this should be a priority for action, we emphasise that it should not be seen as a 'quick win'. It is critical to include consumers in developing and implementing an inhaler transition program. Further, it may take time to shift towards low carbon inhaler use while maintaining consumer choice and improving asthma management.

> ***RECOMMENDATION 21: A low carbon inhaler transition should be a priority action but it should not be considered as a 'quick win'.***

PROPOSED OBJECTIVE 3: Adaptation

18. What health impacts, risks and vulnerabilities should be prioritised for adaptation action through the Strategy? What process or methodology should be adopted to prioritise impacts, risks and vulnerabilities for adaptation action?

Asthma Australia refers to our response to Question 1, where we recommend separating out the adaptation objective in the Consultation Paper to create standalone objectives for strengthening health system resilience, strengthening community resilience and supporting priority populations to respond to climate change. We note the latter two proposed objectives overlap with the current Objective 4 on Health in All Policies (HIAP) and suggest HIAP is more appropriate as a principle that informs the Strategy, its actions and its implementation, rather than as a standalone objective.

We note the disproportionate focus in the adaptation section of the Consultation Paper on adaptation within the health system, and the lack of detail on the adaptation actions needed to minimise population health impacts.

Asthma Australia recommends that the adaptation section of the Strategy should identify priority population groups that are at increased risk of adverse health outcomes resulting from climate change. The approach in the Consultation Paper, presenting a long list of health impacts and asking

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stakeholders to prioritise these impacts for adaptation action, is not helpful. Further, we support the prioritisation of adaptation actions that holistically support population groups at greater risk of multiple adverse health outcomes caused by climate change, such as improving housing conditions and supporting adaptation to poor air quality (discussed in more detail below), as these actions are likely to deliver broader health benefits than actions focused on specific impacts.

While Asthma Australia does not support an approach that prioritises some health outcomes above others, we recognise there are populations who will require more support and their need for health care is likely to increase due to climate change, including people with asthma. Asthma is a highly prevalent chronic condition that is both caused and exacerbated by the emissions that lead to climate change, and the conditions created by climate change. Asthma disproportionately burdens some population groups including Aboriginal and Torres Strait Islander people, people with disabilities and people living in low socioeconomic areas.[39] Additionally, comorbidity of other chronic conditions is common among people with asthma,[40] which further reinforces the need for holistic adaptation actions.

Prioritising Aboriginal and Torres Strait Islander people and communities for adaptation actions

Asthma Australia notes the particular importance of the first principle around First Nations leadership in prioritising and planning adaptation actions. Climate change impacts adversely affect the social, emotional and cultural wellbeing of Aboriginal and Torres Strait Islander people, as well as existing health inequities, which include higher prevalence of asthma.[41] Aboriginal and Torres Strait Islander people should therefore be considered a priority population for climate adaptation actions in the Strategy. Assessment, planning and decision-making about responding to risks, vulnerabilities and health impacts must prioritise Aboriginal and Torres Strait Islander knowledges and experiences.

While a broad range of adaptation actions would protect people with asthma and those at risk of developing asthma, there are two critical areas for prioritisation that would protect these populations as well as all others against a range of other climate-related health impacts: improving housing conditions and empowering people to protect themselves against air pollution.

d) Improving housing conditions

Housing is a critical focus area for adaptation because we are increasingly required to shelter in our homes to protect ourselves against climate change-driven conditions such as bushfires, heatwaves, storms and infectious diseases. However, homes are not healthy places for all people in Australia, harbouring triggers that can increase the risk of developing asthma or trigger symptoms.[42] Priority populations at greater risk of exposure to these triggers include Aboriginal and Torres Strait Islander people, people living in social housing, renters, people with low incomes and people with asthma.[43]

The Strategy must therefore commit to actions to ensure everyone lives in a safe and healthy home that protects against climate driven conditions. Actions should include remediating social housing, improving building standards, incentivising landlords to improve rental properties without disadvantaging tenants, and supporting people to make their own homes healthier.

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e) Addressing the health impacts of air pollution

Responding to air pollution is an adaptation priority as many impacts of climate change involve unhealthy air, including prolonged bushfire smoke, thunderstorm asthma events, elevated pollen levels, increased ground level ozone and airborne infectious diseases. In 2018, 1.3% of the total disease burden in Australia was due to air pollution,[44] while estimates suggest air pollution from vehicle emissions alone results in:[45]

- 11,105 premature deaths in adults per year.
- 12,210 cardiovascular hospitalisations per year.
- 6,840 respiratory hospitalisations per year.
- 66,000 active asthma cases per year.

The financial cost of premature deaths due to air pollution is estimated to around $11 billion to $24 billion per year.[46]

Asthma Australia has developed and piloted an AirSmart public education campaign that aims to empower people with the knowledge and tools they need to protect themselves against air pollution.[47] However, we have struggled to secure Commonwealth funding for a national rollout of AirSmart, despite multiple inquiries into the catastrophic 2019-20 bushfires recognising the need for improved air quality education.

Additionally, many communities lack access to local air quality information as air quality monitoring largely relies on expensive monitoring stations. An urgent climate change adaptation action should be using low-cost air quality sensors to fill gaps in the monitoring network, particularly for regional and rural communities, which are often closest to bushfires and the smoke they produce.

Finally, vulnerable population groups exposed to air pollution, including people with asthma on low incomes, urgently need assistance with the costs of purchasing and running air purifiers. These populations include people exposed to emissions from coal fired power stations, transport and industrial sites, as well as people exposed to pollution from climate-driven events such as bushfires and dust storms.

RECOMMENDATION 22: People with respiratory conditions, including asthma, should be recognised as a priority population for climate change adaptation actions in the Strategy.

RECOMMENDATION 23: Aboriginal and Torres Strait Islander people should be recognised as a priority population for climate change adaptation actions in the Strategy given the health impacts of climate change and existing disparities in social, emotional and cultural wellbeing.

RECOMMENDATION 24: Improving housing conditions should be an adaptation priority in the Strategy given the importance of having a healthy home in which to shelter against climate change impacts. Housing improvement actions should be prioritised for the populations at greatest risk, including:

a) Aboriginal and Torres Strait Islander people.
b) People living in social housing.
c) People living in private rental housing.
d) People with low incomes.
e) People with asthma and other chronic conditions that increase their risk of adverse health outcomes related to climate change.

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RECOMMENDATION 25: The health impacts of air pollution should be an adaptation priority in the Strategy given fossil fuel emissions cause health impacts and climate change reduces air quality. Priority actions should include:

a) A national air quality education campaign, such as Asthma Australia's AirSmart campaign.
b) Expanding air quality monitoring coverage so that all communities can access local air quality information, including the use of low-cost air quality sensors.
c) Supporting vulnerable population groups exposed to air pollution with the costs of purchasing and running HEPA air purifiers, including people with asthma and people exposed to emissions from coal fired power stations, transport and industrial sites, and people exposed to pollution from climate-driven events.

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19. Should the Australian government develop a National Health Vulnerability and Adaptation Assessment and National Health Adaptation Plan? If yes:

Yes. The World Health Organisation (WHO) has provided guidance on undertaking health vulnerability and adaptation assessments since 2013, and 50 countries and settings have used the tool to help prepare their healthcare systems and services locally for climate change, and to inform their contributions to UN Climate Change frameworks.[48] A National Health Vulnerability and Adaptation Assessment and Plan are key parts of the Health and Climate Strategy that can help identify weaknesses in health care systems and populations who are most vulnerable to climate change effects to help inform local health service preparedness and resilience. However, the development of this Plan should not delay the Government from taking prompt action.

RECOMMENDATION 26: ***The Australian government should develop a National Health Vulnerability and Adaptation Assessment and National Health Adaptation Plan.***

a. What are the key considerations in developing a methodology?

Asthma Australia again urges that any efforts to assess and plan for health vulnerability and adaptation focus on population health and wellbeing impacts of climate change, with health system adaptation supporting protection of health and wellbeing. We additionally urge that these efforts identify and consult with priority population groups at greatest risk of health impacts caused by climate change.

RECOMMENDATION 27: Efforts to assess and plan for health vulnerability and adaptation should focus on the population health and wellbeing impacts of climate change, with healthy system adaptation efforts supporting those outcomes.

b. How should their development draw on work already undertaken, for example at the state and territory level, or internationally?

Asthma Australia is aware that many jurisdictions are undertaking work to assess vulnerability and adaptation challenges and plan their responses to these challenges. We are not aware of specific

examples, nor whether these examples comprehensively capture the challenges climate changes presents not just to health systems, but also population health and wellbeing.

c. What are the key areas where a national approach will support local/jurisdictional vulnerability assessment and adaptation planning?

Air quality and housing are two key areas for climate change vulnerability and adaptation planning in which a national approach has strong potential to improve local responses. Please refer to Asthma Australia's response to Question 18 for more detail, where we stated that housing is a critical focus area for adaptation because we are increasingly required to shelter in our homes to protect ourselves against climate change-driven conditions, yet homes are not always healthy places to seek refuge. A national approach to housing adaptation could ensure consistency among jurisdictions and increase equity in ensuring priority populations are a focus for assessment and planning.

We also stated in our response to Question 18 that responding to air pollution is another adaptation priority, as many impacts of climate change involve unhealthy air. We noted the potential for Asthma Australia's AirSmart public education campaign to empower people with the knowledge and tools they need to protect themselves against air pollution, and that this would ideally be funded and its implementation supported by all levels of government in a coordinated campaign. Further, a national approach to addressing gaps in air quality monitoring through the use of low-cost air quality sensors would increase consistency in monitoring and reporting, as well as allowing jurisdictions to share their knowledge and experience.

20. Would there be value in the Australian government promoting a nationally consistent approach to vulnerability assessment and adaptation planning for the health system specifically, for instance by issuing guidance and associated implementation support tools for states, territories and local health systems? If yes, what topics should be covered to promote a nationally consistent approach? What examples of existing guidance (either from states/territories or internationally) should be drawn from?

The WHO guidance on developing Health Vulnerability and Adaptation Assessments has been used to inform the assessments of many countries to date and should form a good basis for the development of assessments by the Australian governments and local health systems.[49]

21. What immediate high-priority health system adaptation actions are required in the next 12 to 24 months?

Asthma Australia notes the absence of a question in the Consultation Paper around prioritising adaptation actions that increase community resilience to anticipate and respond to climate health impacts, which is recognised in Objective 3 alongside health system resilience. We suggest the actions listed in our recommendation below should be top priorities for community adaptation measures to support health and wellbeing.

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RECOMMENDATION 28: Include the following actions as top priorities for community adaptation measures to support health and wellbeing in response to challenges presented by climate change:

a) Strengthen Australia's air quality standards by aligning with the World Health Organisation's Global Air Quality Guidelines.
b) Align the next National Clean Air Agreement work plan with the National Climate and Health Strategy, ensuring the work plan responds to risks to air quality presented by climate change and the Strategy recognises and responds to the health impacts of poor air quality.
c) Introduce a national air quality public education campaign, such as Asthma Australia's AirSmart campaign.
d) Ensure all communities can access local air quality information by supporting jurisdictions to incorporate low-cost air quality sensors into monitoring networks.
e) Improve housing standards, particularly for priority population groups.
f) Support priority populations at greater risk of health problems caused by climate change-related air pollution with the costs of purchasing and running air purifiers.

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PROPOSED OBJECTIVE 4: Health in All Policies

22. What are the key areas in which a Health in All Policies approach might assist in addressing the health and wellbeing impacts of climate change and reducing emissions?

Asthma Australia refers to our response to Question 18, where we suggest HIAP is more appropriate as a principle that informs the Strategy, its actions and its implementation, than as a standalone objective. Further, while we support the principles underlying HIAP, we question whether it is realistic that HIAP will be implemented over the course of a short-term strategy given the lack of collaboration and integration between government departments. The failure of governments to adequately respond to the health impacts of air pollution presents an example of the challenges encountered when health risks are generated outside the remit of health policy.

If HIAP is to be retained as an objective, Asthma Australia suggests the following as key areas where a HIAP approach would help to address climate change health and wellbeing impacts, particularly for people with asthma, or those at risk of developing asthma:

- Air quality.
- Housing.
- Planning.
- Transport.

Further, if HIAP is to be retained as an objective, the Strategy will need to ensure that responsibility and timelines for actions are clearly identified and are supported by appropriate monitoring and evaluation to ensure that the departments and agencies responsible for implementation deliver on these commitments.

RECOMMENDATION 29: Health in All Policies (HIAP) should be a principle which informs the Strategy and its implementation. However, if HIAP is retained as an objective, the key areas in which a HIAP approach would support climate change health and wellbeing impacts should include air quality, housing, planning and transport.

23. What are the most effective ways to facilitate collaboration and partnerships between stakeholders to maximise the synergies between climate policy and public health policy? What are some successful examples of collaboration in this area?

Asthma Australia's AirSmart public education campaign is an example of a successful collaboration between for-purpose, government and corporate stakeholders that responded to one of the largest climate health challenges Australia has faced: the 2019-20 bushfire smoke crisis. Asthma Australia took the lead on developing and piloting the public education campaign and air quality app after the need for improved community education and guidance around air quality was identified by the bushfire crisis. This need was recognised by the Royal Commission into National Natural Disaster Arrangements, among other inquiries. Asthma Australia formed an expert advisory committee with representatives with expertise in air quality standards, public health, environmental health and technology who contributed to the design of the AirSmart campaign and planning its implementation and evaluation.

While Asthma Australia received funding from the NSW Government for the pilot AirSmart campaign, our efforts to secure further funding for a wider rollout have had limited success. We have observed a general lack of responsibility among government agencies to address air quality health impacts. Yet this is a critical area where a HIAP approach would be beneficial, given responsibility is shared between portfolio areas.

The need for access to air quality information and guidance will only grow as climate change continues to increase the frequency and severity of events causing poor air quality. One of the key findings of the State of the Environment Report for 2021 was that better information can reduce the impact of poor air quality.[50] The report stated that communities needed real-time local information during periods of poor air quality.

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ENABLERS

24. How could these enablers be improved to better inform the objectives of the Strategy? Should any enablers be added or removed?

Asthma Australia generally supports the enablers included in the Consultation Paper but we set out below a number of ways in which they could be strengthened.

- **Workforce, leadership and training**

The health workforce has a pivotal role to play in implementing the actions arising from this Strategy to help adapt and prepare for climate change health impacts, and to reduce the healthcare sector carbon emissions and environmental impact. Adequate training is therefore important to prepare the workforce to meet these challenges. As climate change is a public health issue, there is also a need for a national, interdisciplinary continuing professional development program on health and climate change within the health, social and other relevant policy sectors. Additionally, existing communities of practice for sustainable healthcare that facilitate the sharing of achievements and common challenges should be invested in and scaled up.

In addition to training, treatment guidelines will have to be reviewed to ensure they incorporate climate change preparedness to guide the work of healthcare professionals. To this end, Asthma Australia can help to advance the Strategy through advocating for more content relating to health and climate change in future iterations of the Australian Asthma Guidelines.

During climate emergencies and disasters, healthcare workers will often be supporting immediate family and friends or unable to reach their workplace so the Strategy must incorporate the development of workforce contingencies when there are shortages in extreme weather events.

- **Research**

More research on health and wellbeing outcomes relating to climate change is needed to ensure the health sector, its workforce and the wider policy environment appropriately adapts to and mitigates against the impacts of climate change and uses evidence to guide program investment and disinvestment.

- **Communication and engagement**

Consumer organisations, like Asthma Australia, play an important role in educating consumers and other stakeholders (e.g. healthcare professionals) about a range of issues relating to asthma treatment, triggers and emergencies. Consumer engagement is an important enabler (and should be viewed as a separate enabler in the Strategy) in terms of how they respond to efforts made by the health sector to reduce emissions and to any changes they may personally have to make to managing their condition or interacting with healthcare services. Working with consumer organisations, including Asthma Australia, will be an important step to ensuring reasons for change are effectively and appropriately communicated with different consumer groups and to ensuring that any concerns or barriers they encounter are captured and accommodated.

An example of how Asthma Australia engages with consumers and responds to their needs in relation to climate change is our AirSmart public health campaign, which aims to empower people with the knowledge and tools they need to protect themselves against air pollution**,** as we set out in our response to Q18. 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. Funding is required to roll-out this campaign nationally, which would fill a notable gap in relation to current health and climate change events.

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- **Collaboration**

The Strategy needs to foster collaboration within the health sector and with other federal and state/territory departments where their policies, such as air quality, housing, planning and transport, intersect with health and climate change. For significant headway to be made on the social determinants of health and climate change **interdepartmental work is key**. However, resources to develop mechanisms for collaboration are lacking and Government leadership in supporting collaboration has until now been missing. Government investment is required to scale up the outcomes of the health sector's self-organised activities to date as well as to develop and expand collaboration efforts with stakeholders across government, policy areas and, as noted in our response to questions 4 and 5, with Aboriginal and Torres Strait Islander leaders and communities.

- **Monitoring, evaluation and reporting**

Regular assessment and forecasting of climate-related, health impacts across the country is vital and this should be core work of the National Climate Risk Assessment (NCRA),[51] to which the health sector must contribute in terms of monitoring climate health presentations, outcomes and trends. The Strategy must work with the NCRA to ensure that long-term, robust indicators on health and climate change are included, which will help governments and services understand and respond to climate change risk, identify vulnerabilities, highlight regional climate mitigation and adaptation challenges, and track responses.

Climate change is inextricably linked to air quality, with its adverse impacts such as increasing bushfire smoke, ground level ozone and pollen contributing to air pollution, which have known health effects. Below, we set out the importance of improving air quality monitoring in Australia and the need for national indoor air quality standards as enablers to improving health.

Monitoring air quality

The UN has deemed air pollution as 'the most important environmental health risk of our time', with it being responsible for 1 in 9 deaths globally.[52] For people with asthma, air pollution is a notable concern since certain air pollutants can trigger asthma symptoms and exacerbations and increase the risk of developing asthma. For example, findings from our survey on the 2019-20 bushfire crisis showed people with asthma reported higher rates of serious health outcomes than people without asthma, including attending the emergency department, hospitalisation and requiring oral or injected corticosteroid medication.[53] The unprecedented levels and duration of exposure to bushfire smoke during this period also had significant impacts on mental health, including new and increased symptoms of anxiety and depression. The survey revealed that beyond health impacts, people with asthma disproportionately suffered financial strain and reduced participation in everyday activities.

Air quality monitoring is therefore a critical aspect of health and climate change preparedness. The 2021 State of the Environment Report found that better information could reduce the impact of poor air quality,[54] concluding that harmful pollutants are only assessed by Australian jurisdictions at 211 fixed air quality monitoring stations across Australia, leaving sensitive populations living in other areas with an absence of information and unable to protect their health. The report also notes that new networks of low-cost sensors are helping to fill in gaps between monitoring stations.

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Regional and rural populations commonly lack local air quality monitoring facilities, which can be particularly problematic during bushfires and hazard reduction burns as people in these communities are disproportionately affected by smoke. Even in metropolitan areas, air quality monitoring stations span many suburbs, meaning localised peaks of air pollution are neither detected nor reported on.

Recommendations 25 and 28 include the need to improve Australia's monitoring of outdoor air quality.

National indoor air quality standards

There are currently no standards for indoor air quality, which is of concern for people seeking refuge at home, school, work or even within health services during extreme weather climate change events. During the 2019/20 bushfire season, for example, the air quality in Canberra's hospitals – including the neonatal intensive care unit, the emergency ward and the respiratory and sleep disorders, were found to be unhealthy for everyone.[55] A patient with asthma was reportedly advised to go home due to the poor indoor air quality in the hospital.[56] Hospitals were found to be equipped with air conditioners that failed to filter out the smoke, while machinery failed and sterilised equipment was contaminated.[57] To ensure health care services are equipped to improve, not worsen, health during climate disasters, Asthma Australia recommends that the Australian Government develops, implements and monitors indoor air quality standards that cover the air quality of public buildings, work and education environments and homes.

> ***RECOMMENDATION 30: Include in the Strategy the development, implementation and monitoring of indoor air standards for all public buildings, work and education environments, and homes.***

25. For each of these enablers:

a. What is currently working well?

As discussed in our response to question 24, Asthma Australia's AirSmart public health campaign is an example of an effective communication and engagement enabler.

b. What actions should the Strategy consider to support delivery?

Funding is required to enable a national roll-out of the AirSmart, which would help empower people with the knowledge and tools they need to protect themselves against air pollution during extreme weather events.

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Australian Government
Department of Health and Aged Care

NATIONAL HEALTH AND CLIMATE STRATEGY

Detailed submission form

This form allows you to provide responses to the full set of questions in the Consultation Paper available here.

Alternatively, you may wish to complete the briefer online survey available here.

Please submit this form in Word format to Health.Climate.Consultation@health.gov.au.

Respondent details

What is your name?
Stephen Richardson
What is your email address?
stephen.richardson@sanofi.com
What is your organisation?
Sanofi Australia & New Zealand
Have you read and agreed to the Privacy Statement? (NB we will not be able to use your submission unless you tick this box)
☒ I have read and agreed to the Privacy Statement
Do you identify as Aboriginal and/or Torres Strait Islander? (Yes/No/Prefer not to say)
☐ Yes ☒ No ☐ Prefer not to say
Please select which applies to you: ☐ Individual citizen ☐ Health Service Provider ☒ Industry and Life Sciences Organisation or Representative ☐ Academic or Researcher ☐ Primary and/or Allied Health Peak or Advocacy Organisation or Representative ☐ Aged Care Service Provider ☐ First Nations Health Service Provider ☐ First Nations Community Group ☐ First Nations Peak or Advocacy ☐ Medical College or Peak professional body

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Questions for feedback from the Consultation Paper

Introduction

1. How could these objectives be improved to better support the vision of the Strategy?
Sanofi welcomes the Australian Government's commitment to establish a National Health and Climate Strategy with the overarching purpose of protecting the health and wellbeing of Australians. This purpose is in keeping with the aims of the National Medicines Policy, which was updated in 2022, to achieve the world's best health, social and economic outcomes for all Australians. The health of the planet and the health of people are intrinsically linked. As the climate changes, human health will be directly and indirectly impacted through the increased prevalence and severity of existing or emerging diseases. Sanofi recognises that the triple planetary crisis (climate change, biodiversity loss, and pollution) requires action from all stakeholders. Sanofi is supportive of the four objectives outline in the Consultation Paper. To better support the vision of the Strategy, consideration could be given to: 1. Providing financial incentives to increase health system resilience. Recognising that systems need to be financially viable to be sustainable, there may be a need for government funding to support initiatives across some parts of the health sector in the short term. 2. A health and wellbeing lens should be applied to all government policies, in recognition of the interdependencies between good health and good economic outcomes at the individual and population level. To this end, Sanofi welcomes the Federal Government's commitment to 'measure what matters' to improve the lives of all Australians.
2. How could these principles be improved to better inform the objectives of the Strategy?
Sanofi is supportive of the six principles identified in the National Health and Climate Strategy Consultation Paper, namely: • First Nations leadership • Tackling health inequities • Population health and prevention • One Health • Evidence-informed policymaking • Partnership-based working across all levels of government and beyond We believe these principles can be improved by ensuring people with lived experience of disease, as well as healthcare consumer organisations, are empowered to have their voices heard in policy development. Equally important, will be to ensure frontline healthcare professionals, including GPs, specialists, nurses, and aged care workers, are given an opportunity to have their insights and perspectives considered as health policies are developed. To ensure alignment and efficiencies across government, the principles of the National Health and Climate Strategy should be complementary to those in other government health-related strategies and policies e.g., National Medicines Policy, National Preventive Health Strategy 2021-2030, and Australian Cancer Plan. Further, a longer-term ambition for Australia should be for environmental credentials of new technologies to be factored

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into health technology assessment (HTA). The current HTA Review of methods and policies presents an opportunity to consider what data and methodologies would be needed to realise this ambition.

Finally, the Australian Centre for Disease Control is being established to enhance Australia's preparedness for acute and time-limited public health emergencies. However, consideration should be given to how the principles and objectives of the National Health and Climate Strategy can dovetail into the work of the Australian CDC, noting that climate change is likely to drive an increase in the prevalence and spread of infectious diseases, which is one of the primary areas the Australian CDC will seek to mitigate.

3. Which of the various types of greenhouse gas emissions discussed above should be in scope of the Strategy's emission reduction efforts?

Globally, the healthcare sector generates approximately 5% of total CO2 emissions and care pathways are responsible for over 45% of these. Choices in patient care, including the design of healthcare facilities, the way care is delivered, or the choice of interventions can play a critical role in reducing the environmental impact.

In Australia, it is estimated the healthcare sector represents 7.2% of the nation's total CO2 emissions. Of these, more than one-third are produced by public hospitals. Capital expenditure increases this further if it is included.

To optimise the impact on mitigating climate change related health challenges, Sanofi believes it is appropriate for the Strategy to consider emissions across scopes 1, 2 and 3. However, we would encourage a staged approach, whereby scope 1 and 2 emissions are prioritised in the first instance, in recognition of the complexities involved in tracking and reducing scope 3 emissions.

At Sanofi, like many of our peers in the innovative medicines industry, we have been on the journey to net zero greenhouse emissions for several years. Globally, we aim to reach net zero by 2045. We had this commitment validated by the Science Based Target initiative (SBTi) in early 2023. SBTi have also signed off on our commitments to:

1. Reduce our scope 1 and 2 greenhouse gas emissions by 55% in absolute terms by 2030, versus a 2019 baseline.
2. Increase our annual supply of renewably sourced electricity from 11% in 2019 to 80% in 2025 and 100% in 2030.

To achieve these commitments, globally we have launched company-wide initiatives that promote renewable energy and optimise energy consumption and are designing new factories with low environmental footprints. Further, we have joined the RE100 initiative, committing to 100% renewable energy across all our operations by 2030.

In addition, Sanofi has been working with our global partners to reduce 'scope 3' emissions for many years. For example, we are a member of the global ENERGIZE program, which aims to help global pharmaceutical supply chains to adopt 100% renewable electricity and reduce greenhouse gas emissions. This first-of-its-kind industry program enables pharmaceutical suppliers to learn more about renewable energy adoption and contracting. It gives suppliers, who may not otherwise have the internal resources or expertise available, the opportunity to participate in the market for power purchase agreements (PPAs).

In addition, we have joined with Manufacture 2030 to deliver 'Activate' – an innovative new program to accelerate the decarbonisation of shared Active Pharmaceutical Ingredients (APIs) supply chains.

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APIs, a key constituent in medicines and vaccines that produce the intended health effects, can be resource-intensive to manufacture due to material use, energy demanding processes and waste recovery. The program, which begins with onboarding API suppliers, capturing footprint data, establishing a reference point baseline, and tackling the most prominent areas of environmental impact, supports the decarbonisation of a key segment of the pharmaceutical value chain through measurement, provision of practical tools, expert advice, and access to green financing.

4. What existing First Nations policies, initiatives, expertise, knowledge and practices should the Strategy align with or draw upon to address climate change and protect First Nations country, culture and wellbeing?

Sanofi acknowledges the importance of and is taking steps toward reconciliation. As an innovative global healthcare company with a strong presence in Australia, we are committed to working towards an Australia where all people have equitable access to healthcare.

We believe one of the best ways to include the knowledge and expertise of First Nations people in policy development to address climate change, and its associated health challenges, will be to establish a constitutionally enshrined Aboriginal and Torres Strait Islander Voice to Parliament. We have been a public supporter of the Uluru Statement from the Heart, including a constitutionally enshrined Voice to Parliament for more than 12 months.

As an organisation we listen to the voices of the people and communities we are working with. That is no different for our First Nations healthcare partners.

The Uluru Statement from the Heart, of which the Voice to Parliament is the first step, will empower First Nations to have a say in shaping the policies that impact them. Given the disparities in healthcare between Indigenous and non-Indigenous Australians, the Voice will be particularly impactful in helping to realise the goals of the Close the Gap campaign.

5. What types of governance forums should be utilised to facilitate co-design of the Strategy with First Nations people to ensure First Nations voices, decision-making and leadership are embedded in the Strategy?

Aboriginal and Torres Strait Islander peoples having an enduring connection to Country that dates back tens of thousands of years. In a world where sustainability, environmental awareness, and climate change are high on government agendas, we have much to learn from the ways First Nations cultures are connected to Country.

The Consultation Paper recognises that nearly one fifth of First Nations people live in rural or remote areas of Australia. However, it does not adequately articulate the fact that First Nations people form the majority of populations in many remote, highly vulnerable environments, where climate change impacts on Country are already evident, including extreme weather events, climate variability and sea level change.

As the frequency and intensity of climate change related events increases, existing health vulnerabilities and infrastructure challenges faced by those living in remote communities are likely to be exacerbated. This may include impacts on natural systems, such as water, food, and air, as well as human systems, including impacts on infrastructure, such as homes, education, and health facilities, and more.

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The Close the Gap Campaign Report 2022 notes climate change is already having a disproportionate impact on the health and wellbeing of Aboriginal and Torres Strait Islander peoples and exacerbating existing levels of health inequity.

The Report also notes there is an urgent need for greater action on climate change that understands the need to learn from past mistakes and address existing inequities. This includes the need to urgently address living conditions through better designed houses and energy infrastructure, and development of comprehensive place-based climate adaption and mitigation plans built on the profound cultural knowledge of Aboriginal and Torres Strait Islander peoples.

Sanofi recognises that culturally appropriate solutions must be self-determined. We support calls by Aboriginal and Torres Strait Islander leaders for increased investment in models and approaches which are self-determined and Aboriginal and Torres Strait Islander-led.

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Proposed Objective 1: Measurement

6. Beyond the schemes already noted above, is your organisation involved in any existing or planned initiatives to measure and report on health system emissions and/or energy use in Australia?

As a global healthcare company, we understand the urgency of addressing climate change. For us, improving people's lives goes hand in hand with preserving the planet.

Sanofi has embedded environmental sustainability within our business strategy. We're committed to the United Nations' Race to Zero initiative, are building a road to carbon neutrality by 2030, and to net zero emissions by 2045.

In Australia our recent emissions reduction efforts have included the successful transition of our fleet to hybrid electric vehicles and investment in a new solar at our Queensland based manufacturing facility with 1500 rooftop solar panels now operating and a doubling of that capacity expected by the end of 2023.

According to the WHO, the health care sector is responsible for approximately 4-5% of global greenhouse gas emissions per year - and care pathways are responsible for over 40% of these. Choices in patient care, in terms of the design of healthcare facilities, the way care is delivered, or the choice of intervention, can play a critical role in reducing emissions. It follows that all stakeholders must work together to drive actions along the entire pathway of care that improve patient outcomes and reduce the environmental impact of care.

In Australia, Sanofi is an inaugural member of Medicines Australia's Medical Sustainability Group. Together with several industry peers, our goal is to help the pharmaceutical sector to become a leader within the healthcare industry in reducing emissions, as well as adaptation to a changed climate, and optimising human health in response to climate change-related health challenges.

7. What additional data and information is required to support targeted emissions reduction efforts within health and aged care?

Sanofi is committed to achieving carbon neutrality by 2030, and net zero emissions by 2045.

One of the biggest limiting factors to calculating a national-level carbon footprint of a health system is the lack of available data. This is particularly true for scope 3 emissions, which are challenging to track for all industries, as it requires the entire supply chain to produce data on their emissions, often of specific products. In addition, it is often challenging for suppliers to calculate their emissions at the level of an individual product, as the methodology for such a calculation is limited.

Despite these challenges, Sanofi's ambition is to partner with the best-in-class suppliers. We plan to achieve this by including sustainability needs at the core of procurement activities. For example, in 2021, Sanofi, along with other global pharmaceutical companies, launched the ENERGIZE program, aiming to help our supply chains to adopt 100% renewable electricity and reduce greenhouse gas emissions. This first-of-its-kind industry program will enable pharmaceutical suppliers to learn more about renewable energy adoption and contracting. This gives suppliers, who may not otherwise have the internal resources or expertise available, the opportunity to participate in the market for power purchase agreements (PPAs).

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APIs, a key constituent in medicines and vaccines that produce the intended health effects, can be resource-intensive to manufacture due to material use, energy demanding processes and waste recovery. The program, which begins with onboarding API suppliers, capturing footprint data, establishing a reference point baseline, and tackling the most prominent areas of environmental impact, supports the decarbonisation of a key segment of the pharmaceutical value chain through measurement, provision of practical tools, expert advice, and access to green financing.

Proposed Objective 2: Mitigation

8. What do you think of these proposed focus areas for emissions reduction? Should anything else be included?

Today, patient journeys are often arduous, involving multiple appointments for diagnosis, treatment, and monitoring. With the increasing number of co-morbidities in ageing populations, this is frequently replicated across more than one disease. Therefore, it will be important to reduce the environmental footprint of health technologies, as well as improving the healthcare system, by investing in prevention, precision diagnosis, minimally invasive therapies, and home care. This should also be extended to telemedicine, where appropriate.

Sanofi is one of seven pharmaceutical companies that have come together to reduce greenhouse gas emissions through the Sustainable Markets Initiative (SMI) Health Systems Task Force. In addition to private sector members, the Task Force includes leaders from the World Health Organization (WHO), UNICEF, and healthcare, academic and non-governmental organisations.

One of the priority areas for the Task Force is decarbonising clinical trials. Commitments include:

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1. Establishing a common framework by 2023 and subsequently measuring greenhouse gas emissions in phase 2 and 3 clinical trials. Companies aim to report phase 2 and 3 trial emissions for trials starting in 2025.
2. Align new trials to companies' decarbonisation pathway and set trial emissions reduction targets for 2030 at the latest
3. Incentivise clinical research organisations and clinical trial-related suppliers to commit to a framework to measure and reduce emissions, including through the use of digital solutions
4. Target 90%+ of trials starting in 2025 to include a review of how digital solutions can reduce emissions

A 2021 study, *Does telemedicine reduce the carbon footprint of healthcare? A systematic review*, revealed telemedicine reduces the carbon footprint of healthcare as compared with face-to-face scenarios. This reported benefit was primarily through travel-associated savings which greatly outweighed the carbon footprint of the telemedicine equipment. The savings ranged from 0.70 to 372 kg CO_2e per consultation. The authors noted these findings were highly context specific.

Clinical trials are another facet of healthcare where there is an opportunity to reduce the carbon footprint. To this end, Sanofi has joined the industry Low Carbon Clinical Trial Initiative under the Sustainable Healthcare Coalition - a healthcare sector led group that looks for the greatest opportunities to inspire sustainable practices in healthcare through the collaboration of its members. The other area of effort relates to the adoption of green packaging for clinical trials to reduce waste along the supply chain. Finally, speeding up the clinical development process and making it more efficient will also help to reduce the carbon footprint associated with clinical trials.

9. Which specific action areas should be considered relating to the **built environment and facilities (including energy and water)**, over and above any existing policies or initiatives in this area?

In Australia, it is estimated the healthcare sector represents 7.2% of the nation's total CO2 emissions. Of these, more than one-third are produced by public hospitals. Capital expenditure increases this further if it is included. It has been shown that hospitals have the highest energy intensity of all publicly funded buildings. They emit 2.5 times more greenhouse gases than commercial buildings. Therefore, there is a significant opportunity for Australian hospitals, and other health service providers, to reduce direct emissions via programs that many private sector organisations have long been embracing, such as:

- Capital programs to improve the overall energy efficiency of built environments.
- Reducing energy consumption.
- Switching to renewable 'green' energy.

Adopting greater use of digital healthcare solutions has the potential to reduce the reliance on resource-intensive built healthcare facilities. Shifting to lower-cost settings, including an increased emphasis on preventive case and telehealth (i.e., enabling remote interaction between patients and healthcare professionals) will be more environmentally friendly, due to less travel and related CO2 emissions. It may also improve healthcare equity to those who may otherwise not have access to care due to a lack of time and/or resources to travel.

Water stewardship is an important goal for Sanofi. Globally, we are committed to responsible management of water, and to have an environmentally sustainable and a socially equitable usage of this essential resource. This includes:

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- Implementing water stewardship and water efficiency plans in all our industrial sites by 2030.
- For those with a high level of water-related risks (especially those in water stress zones) this will be achieved by 2025.

Our progress to consistently reduce the water footprint of our industrial operations over several years was recognised by the 2022 Water Security Carbon Disclosure Project (CDP) with the A- score, confirming our position in the "leadership band". In addition to accelerate the development of relevant and impactful local actions, we've joined the Alliance for Water Stewardship (AWS) whose vision is a water-secure world that enables people, cultures, business, and nature to prosper, now and in the future.

10. Which specific action areas should be considered relating to **travel and transport**, over and above any existing policies or initiatives in this area?

Sanofi is a signatory of the Zero Emission Vehicles declaration – a commitment to work towards all sales of new cars and vans being zero emission globally by 2040, and by no later than 2035 in leading markets.

Moving to electric vehicles is an important way to decrease carbon emissions across our sales car fleet. We've pledged to move toward a carbon-neutral car fleet by 2030, bringing us even closer to the goals of the Paris Agreement.

In Australia, we completed the transition of our fleet to hybrid electric vehicles in 2022, which reduced our fleet emissions by 40%. In addition, we are working to implement an eco-driving policy and culture, improving fuel efficiency, and reducing travel where possible.

11. Which specific action areas should be considered relating to **supply chain**, over and above any existing policies or initiatives in this area?

Sanofi is committed to move towards carbon neutrality by 2030 across our entire value chain (scope 3), and net zero greenhouse gas emissions by 2045.

Globally, since 2019, we have worked with our partners to reduce scope 3 emissions, including purchased goods and services, capital goods, fuel and energy consumption from upstream transport and distribution, waste generated in operations, business travel and employee commuting from our value chain by 7%. We are aiming for 30% by 2030. To do this, we have launched decarbonisation programs across our supply chain, and we are helping our suppliers join us.

Through the Energize Program, we have teamed up with other pharmaceutical companies to help our shared supply chains convert to renewable energy.

Sanofi is also member of Pharmaceutical Supply Chain Initiative where among others, a decarbonisation maturity model has been developed aiming to help suppliers evaluate how responsible their current practices are toward Net Zero, as well as provide corresponding content to help them proceed to the next level.

12. Which specific action areas should be considered relating to **medicines and gases**, over and above any existing policies or initiatives in this area?

N/A

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13. Which specific action areas should be considered relating to **waste**, over and above any existing policies or initiatives in this area?

At Sanofi our approach to waste management, is underpinned by the principles of a circular economy that advocates a more frugal and optimised consumption of resources and a limited generation of waste.

Globally, Sanofi is developing a dedicated circular economy roadmap that aims to close the loop on our entire value chain:

- Promote sober and sustainable procurement
- Eco-design our products and processes
- Promote responsible consumption of our products
- Extend the useful life of our products
- Reduce our waste and better reuse and recycle it.

Eco-design is an approach that aims to improve our medicines' environmental performance by integrating environmental criteria into our product design and development. We have a holistic approach which considers:

- All steps of the life cycle (Raw material extraction & transformation, Manufacturing, Packaging, Distribution, Patient use phase, End of life treatment)
- Multi-criteria indicators (e.g., climate change, water scarcity, resource depletion)
- To reduce the overall product environmental impacts.

Our commitment is for all our new products to be Eco-designed by 2025, and all top-20-selling products by 2030. We'll also remove the use of plastic in blisters for all our vaccines' syringes by 2027.

In Australia, the most recent vaccine launched by Sanofi does not contain traditional plastic blister packing. Instead, it uses eco-design packaging that is more compact and uses recycled cardboard that can be recycled again after use.

14. Which specific action areas should be considered relating to **prevention and optimising models of care**, over and above any existing policies or initiatives in this area?

To tackle the severe global threat of climate change on health, environmental and human health must be treated as an integrated system. Given Sanofi's strong legacy in Australia, established portfolio of medicines and promising pipeline of pharmaceutical innovation, we are uniquely positioned to help alleviate the impact of climate change on public health. For example, a significant proportion of Sanofi's portfolio and R&D pipeline potentially addresses diseases affected by the environment.

In particular, disease areas heavily impacted by the environment can be well-addressed by Sanofi's portfolio and emerging R&D innovations, including:

1. Inflammatory diseases, leading to severe dermatological and respiratory conditions, where we have unrivalled immunology treatment solutions and pipeline geared to finding new indications.
2. Non-communicable diseases, notably chronic cardio-respiratory conditions, which may be exacerbated by environmental factors. As a leader in cardiovascular drugs, we have a wide portfolio to address the most urgent conditions, complemented by an oncology portfolio and pipeline to tackle respiratory cancer.
3. Vector-borne infectious diseases, such as Yellow Fever and Dengue, as well as air-borne pathogens, like meningitis and pertussis, which can be prevented by our life-saving vaccines.

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4. Pandemic pathogens from zoonoses, such as coronaviruses and influenza viruses, against which vaccines remain the best public health response, and where we are further developing our preparedness capabilities, both in terms of expertise in mRNA technology and manufacturing with Evolutive Vaccine Facility (EVF).
5. Rise in allergies, leading to severe conditions, where we provide over-the-counter (OTC) drugs alleviating symptoms of allergies.

Optimising models of care has been identified as a means of helping to achieve the overarching purpose of the Strategy (i.e., to protect the health and well-being of Australians from the impacts of climate change). As such, we recommend the Department of Health and Aged Care ensures health technology assessment processes (HTA) - and associated policies - are fit-for-purpose so that all Australians can benefit from fast and equitable access to the latest medical innovations, including vaccines. Further, a longer-term ambition for Australia should be for environmental credentials of new technologies to be factored into health technology assessment (HTA). The current HTA Review of methods and policies presents an opportunity to consider what data and methodologies would be needed to realise this ambition.

Once established, an Australian Centre for Disease Control ('CDC') should seek to emulate the United States CDC i.e., it becomes a source of truth and expertise in optimising public health and climate policies.

15. What can be done to involve private providers within the health system in the Strategy's emissions reduction efforts?

Global action by all stakeholders across industries, including healthcare, will be critical to mitigating and adapting to climate change. The global transformation of our economies cannot take place without the involvement of everyone. There is therefore a need to mobilise different forms of investment and public-private climate financing to be able to rise to the challenges of mitigation and adaptation.

16. Where should the Strategy prioritise its emissions reduction efforts?

    a. How should the Strategy strike a balance between prioritising emissions reduction areas over which the health system has the most direct control and prioritising the areas where emissions are highest, even if it is harder to reduce emissions in these areas?

    b. Which of the six sources of emissions discussed above (on pages 13 to 18 of the Consultation Paper) are the highest priorities for action?

a. The emissions reduction policies of the Strategy should be evidence-informed and easily replicated across multiple sectors of the healthcare system.

b. Sanofi believes there is need for action all the six sources of emissions outlined in the Consultation Paper. There is an opportunity for immediate action in built environment, travel and transport, and waste. Prevention and optimising models of care will require prioritisation across the totality of the healthcare system and include input from all stakeholders.

17. What 'quick wins' in relation to emissions reduction should be prioritised for delivery in the twelve months following publication of the Strategy?

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1. Embrace digital healthcare solutions. For example, reduce emissions and reduce paper waste by promoting electronic processes for patient medical records, data collection and communication e.g., increase utilisation of My Health Record

2. Review existing health services and models of care, including telehealth and 'hospital in the home' programs, to understand their potential to contribute to emissions reductions.

3. Greater emphasis on preventive health, including public health campaigns (e.g., encouraging Australians to be vaccinated against influenza every year) to improve health outcomes and reduce demand on more resource intensive healthcare services.

4. A longer-term ambition for Australia should be for environmental credentials of new technologies to be factored into health technology assessment (HTA). The current HTA Review of methods and policies, scheduled for completion by the end of 2023, presents an ideal opportunity to consider what data and methodologies would be needed to realise this ambition.

Proposed Objective 3: Adaptation

18. What health impacts, risks and vulnerabilities should be prioritised for adaptation action through the Strategy? What process or methodology should be adopted to prioritise impacts, risks and vulnerabilities for adaptation action?

Climate change is predicated to cause a myriad of new health challenges that the Australian health system will need to be able to respond to. Of the health risks and vulnerabilities identified in the Consultation Paper, Sanofi believes the following should be prioritised:

- Respiratory illness (such as increased frequency and severity of asthma attacks due to bushfire smoke)
- Zoonoses (such as H5N1 influenza)
- Vector-borne diseases (such as malaria, Japanese encephalitis, dengue)
- Noncommunicable diseases (such as healthcare implications for patients with long-term treatment needs due to disruptions caused by extreme weather events; and higher environmental exposures to air pollution)
- Mental and psychosocial health (such as climate anxiety, post-traumatic stress disorder related to climate-related disasters and extreme weather events and, for First Nations communities, reduced opportunities to access and connect with country and culture).

19. Should the Australian government develop a National Health Vulnerability and Adaptation Assessment and National Health Adaptation Plan? If yes:

    a. What are the key considerations in developing a methodology?

    b. How should their development draw on work already undertaken, for example at the state and territory level, or internationally?

    c. What are the key areas where a national approach will support local/jurisdictional vulnerability assessment and adaptation planning?

Sanofi supports Medicines Australia's position regarding the value of developing a National Health Vulnerability and Adaptation Assessment and a National Health

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Adaptation Plan, as well as the proposed governance structures to set the assessment and plan up for success.
20. Would there be value in the Australian government promoting a nationally consistent approach to vulnerability assessment and adaptation planning for the health system specifically, for instance by issuing guidance and associated implementation support tools for states, territories and local health systems? If yes, what topics should be covered to promote a nationally consistent approach? What examples of existing guidance (either from states/territories or internationally) should be drawn from?
Sanofi supports Medicines Australia's position regarding the importance of the federal government promoting a nationally consistent approach to vulnerability assessment. Further, we note that vulnerability to climate change will be variable across time and location, across communities, and among individuals within communities. For example, there is potential for increases in mosquito borne diseases in areas where they are not typically present. Consequently, it would be beneficial for the federal and state and territory governments to engage collaboratively regarding access and provision of vaccines.
21. What immediate high-priority health system adaptation actions are required in the next 12 to 24 months?
Sanofi believes that improving data collection and analysis (which may require specialised training) should be prioritised. Data is critical to assist policymakers set robust and effective health policies to help communities adapt to climate change. Many different types of data are needed e.g., data on the greenhouse gas emissions associated with energy consumption, transportation, or production of goods is needed to calculate an organisation's carbon footprint, set carbon reduction goals, and prioritise emissions reductions efforts. Climate data, such as the climate conditions faced by a given operational site, can help companies assess operational and infrastructure risk and inform mitigation and adaptation strategies. Further, data on other corporations' emissions, climate goals, and progress toward achieving those goals helps companies benchmark their own goals and progress. Data on 'green energy' and technologies that can help reduce greenhouse case emissions, such as emissions abatement potential, cost, and maturity, can help organisations prioritise different alternative paths to net zero. Finally, data on sustainability-related government incentives, including tax credits, and the pricing and other characteristics of carbon offsets and credits, can also play an important role in developing business cases for investment.

Proposed Objective 4: Health in All Policies

22. What are the key areas in which a Health in All Policies approach might assist in addressing the health and wellbeing impacts of climate change and reducing emissions?
The health of the planet and the health of people are intrinsically linked. As the environment degrades and the climate changes, human health will be directly and

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indirectly impacted through the increased prevalence and severity of existing or emerging diseases. A changing climate will also exacerbate existing disparities relating to the social determinants of health.

Factors such as socioeconomic position, conditions of employment, the distribution of wealth, empowerment, and social support – attributes that are known collectively as the social determinants of health – act together to strengthen or undermine the health of individuals and communities.

Generally, every step up the socioeconomic ladder is accompanied by a health dividend. Further, the relationship is two-way i.e., poor health can be both a product of, and contribute to, lower socioeconomic position.

Health in All Policies is complementary to the Principle of One Health, as outlined in the Consultation Paper i.e., an approach which recognises that the health of people is closely connected to the health of animals and our shared environment.

As a result, for the National Health and Climate Strategy to be successful, it should consider the totality of inputs (e.g., access to healthcare, housing, and employment, among others) that shape an individual's health outcomes.

23. What are the most effective ways to facilitate collaboration and partnerships between stakeholders to maximise the synergies between climate policy and public health policy? What are some successful examples of collaboration in this area?

Collaboration and partnerships should be grounded on mutual decision-making where stakeholder input is considered in a transparent and respectful manner. Further, evidence and due process, including genuine consultation, are fundamental to good public policy development.

Sanofi is proud to collaborate with our pharmaceutical industry peers as a member of the Medicines Australia Medical Sustainability Group. The sharing of knowledge and practical examples among members helps us all improve our understanding about what is possible with respect to reducing our respective greenhouse gas emissions and striving to be more environmental responsible corporate entities.

Enablers

24. How could these enablers be improved to better inform the objectives of the Strategy? Should any enablers be added or removed?

Sanofi is supportive of the five enablers outlined in the Consultation Paper.

For enabler 5: Monitoring and evaluation – it may be prudent to add the importance of consistent and robust data collection. In addition, specialised training may also be required so collected data can be effectively scrutinised and used for the optimal benefit of all Australians.

25. For each of these enablers:
    a. What is currently working well?
    b. What actions should the Strategy consider to support delivery?

Enabler 1: Workforce, leadership and training

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a) N/A
b) Ensure a Health in All Policies lens is applied in relation to workforce development, skills and training.

Enabler 2: Research
a) N/A
b) Ensure government resources all allocated to research projects in a fair and transparent manner, and that duplication of effort is minimised.

Enabler 3: Communication and engagement
a) Public awareness of the health implications arising from climate change could be improved.
b) Climate change expands the ethics of healthcare beyond individual ill health and population health of current generations, to encompass the care of future generations and the care of the planet and its ecosystems. Communication and engagement should seek to motivate behavioural change at the individual, community, and organisational levels.

Enabler 4: Collaboration
a) N/A
b) To optimise the likelihood of success, the Strategy should prioritise multi-sectorial collaboration for the development of health and climate policies.

Enabler 5: Monitoring and evaluation
a) N/A
b) Effective and transparent monitoring and evaluation will be vital to tracking and reporting progress against agreed key performance indicators

Thank you for taking the time to complete this survey – your feedback is greatly appreciated!

Please submit this form in Word format to Health.Climate.Consultation@health.gov.au.

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The Royal Australian & New Zealand College of Psychiatrists

Your Health in Mind

Department of Health and Aged Care

National Health and Climate Strategy

July 2023

Connected and contemporary College for community and member benefit

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Royal Australian and New Zealand College of Psychiatrists submission

Department of Health and Aged Care National Health and Climate Strategy

About the Royal Australian and New Zealand College of Psychiatrists

The Royal Australian and New Zealand College of Psychiatrists (RANZCP) is responsible for training, educating and representing psychiatrists in Australia and New Zealand. The RANZCP has more than 7900 members, including around 5600 fully qualified psychiatrists.

Introduction

The RANZCP welcomes the opportunity to contribute to the Department of Health and Aged Care's (DoHAC) consultation on the development of a National Health and Climate Strategy (the Strategy). The recommendations contained within this submission are based on extensive consultation with the RANZCP Committees, including the Climate and Sustainability Steering Group, the Aboriginal and Torres Strait Islander Mental Health Committee and the Committee for Evidence Based Practice, which are made up of community members and psychiatrists with direct and lived experience. As such, the RANZCP is well positioned to provide advice about this issue due to the breadth of expertise it represents.

As the peak body representing psychiatrists in Australia and New Zealand, the RANZCP is in a unique position to comment on the Strategy from the perspective of mental health service providers and consumers. The RANZCP represents members practicing in both the public and private health systems, as well as those in clinical and academic research.

The RANZCP has taken a strong position on the issue of the climate emergency and has established a Climate and Sustainability Steering Group chaired by the President – Dr Elizabeth Moore – to spearhead efforts in this area. The RANZCP is also divested from companies exposed to fossil fuels, as noted in the 2022 Financial Report. The RANZCP also has published resources highlighting the effects and interactions of climate change on mental health and the psychiatry profession, including PS35: Addressing the mental health impacts of natural disasters and climate change-related weather events and PS106: The mental health impacts of climate change. These resources, along with the consultation with our members and the RANZCP Strategic Plan have guided the details of this submission.

Summary

The RANZCP acknowledges that the Strategy is a critical requirement for dealing with the climate crisis and supports the efforts of the DoHAC. Developing the Strategy is a complex undertaking requiring evaluating countless variables and managing competing stakeholder preferences and requirements. The RANZCP is encouraged by the care and diligence with which the DoHAC is conducting the development process.

The RANZCP does however, have several concerns about the method, priorities, and scope by which the Strategy is being developed. It is the opinion of the RANZCP that the current focus of the Strategy is too narrow to achieve the objectives of the plan, and that some key areas are overlooked. Addressing climate change from a health perspective cannot be solely measured and driven by an emissions-only target and focus. There are connected issues that need to be adequately understood and dealt with for the Strategy to have a truly holistic approach.

Objectives

The current objectives of the Strategy are too narrowly focussed on the reduction of emissions. Although the Strategy does mention the risks to health created by climate change, there is no clear detail as to how the Strategy will work to reduce and remove these health risks. Any strategy that is targeting health

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systems must have, as its main goal, the reduction of health risks caused by climate change. The RANZCP highlights that current research shows that climate change has both direct and indirect impacts to mental health.[1,2] Impacts to mental health and healthcare needs occur through multiple pathways, and people living with mental illness are among those at substantially increased risk of climate-change health harms including death. Climate change impacts mental health directly, such as through heatwaves, bushfires and floods, indirectly through unemployment and lack of social cohesion with land degradation and reduced crop yields, through physical health impacts (such as bidirectional relationships between asthma and mental health) and through awareness of climate change.

In order to provide a more detailed and health-oriented strategy, there should be clearly stated goals or visions, which should include preventing mental health harms of climate change and equitable access to excellent mental healthcare. The current objectives are more akin to processes and procedures (enablers) designed to achieve an overall, yet unstated, outcome. It is the opinion of the RANZCP that the Strategy needs a clear purpose of intent regarding protecting human health and quality healthcare in addition to healthcare sector emissions reduction.

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Measurement

The RANZCP believes this objective is too narrow for a National Health and Climate Strategy. To measure and track success solely by the reduction of emissions within the health sector is inadequate and leaves room for unwarranted belief in success due to net health sector emissions reductions, without improving or protecting health. Measurement of climate change impacted health outcomes is necessary for healthcare system adaptation to provide quality healthcare, as well as to ensure that healthcare and related health costs are included in an objective way in health in all policies across government.

The RANZCP asserts that a significant data is needed to support the Strategy. The mental health of Australians is already deeply impacted by the climate crisis, creating increased mental health care needs, a reduced workforce, and mental health related deaths.[3,4,5] These are ongoing and increasing problems that consistently affect the health system. More acute effects on mental health are seen after climate disasters, such as bushfires and heatwaves.[3,5] Heatwaves are increasing in frequency in Australia,[6] and are Australia's deadliest 'natural' disaster.[7] These have a profound impact on mental health. Days of excessive heat have an increased rate of mental health presentation to Emergency Departments of up to 12%.[8] In Perth alone the costs of healthcare due to heatwaves was $79.5 million over 6 years, with mental health presentations accounting for the largest portion of projections.[9]

The RANZCP asserts that the mental health care costs of climate change in Australia are substantial and increasing. This holistic data needs to be collected across the heath system at a Federal level. Cost savings and emission reductions due to preventative action must be collected in order to obtain an accurate picture of the requirements and effectiveness of the Strategy. Without a broader objective to collect a wider pool of data that is relevant and pertinent to climate change and health systems, the RANZCP believes the Strategy is an incomplete plan. This data collection would also be a crucial tool for researchers and as a guide for evidence-informed policy and process creation.

Mitigation

The RANZCP highlights that the Strategy's objective of mitigation has the same weakness as that of Measurement – it is too narrowly focussed. The goal of a Health and Climate Strategy cannot solely concentrate on the reduction of emissions by the healthcare sector. As greenhouse gas emissions (GHGs) from all sectors impact on mental health, protecting and reducing mental health risk from climate change

requires health (including mental health) impacts to be considered across all government policies, particularly those with substantial impacts on GHGs (and therefore climate change), such as fossil fuel exports and land clearing

Improving access to high value mental healthcare, and to evidence-based public mental health measures could substantially reduce the demand on carbon-intensive mental health care while improving mental health outcomes. Currently there is a dire workforce shortage in mental health, which leads to consumers relying on more intensive or emergency interventions in many cases where preventative or primary mental health services are either unavailable, inadequately resourced or financially unattainable. As noted in the RANZCP 2023-2024 Pre-Budget Submission both the Productivity Commission and the National Skills Priority List have identified that there is a shortage of psychiatrists, and mental health care workers in general.[10,11]. Preventing the use of last-resort services, such as Emergency Departments will work to reduce emissions in the health system, as community-based preventative supports have a lower carbon footprint than acute or emergency interventions due the reduced travel requirements and use of consumable goods such as Personal Protective Equipment (PPE) which make up a substantial portion of health sector emissions.[12] Providing easily accessible preventative care by funding workforce expansion is an investment that the RANZCP strongly recommends.

The Consultation Paper outlines 6 priority areas for focus, including travel and transport and waste. The RANZCP asserts that the best way to lower carbon emissions, by actions such as travel, is to provide affordable and equitable access to mental health care, Australia wide. Local community services with a well-funded and supported mental health care service with an adequate workforce well integrated with primary care including General Practice and Aboriginal Medical services, in conjunction with an evidence-informed approach to telehealth services, reduce or remove the need to travel. This is especially true for rural, regional and remote communities and consumers and could easily be monitored and translated to cost benefits analyses.

The RANZCP supports the focus of the 'Prevention and Optimising Models of Care' actions. However, a greater understanding of the particular challenges and nuances of mental health care is needed. Actions 2.6.1, 2.6.3 and 2.6.4 should all be assessed regarding these particulars as they are currently designed for physical rather than mental health care needs in mind. The RANZCP urges DoHAC that any actions regarding models of care should be designed with a consumer and lived experience perspective at the forefront to ensure that standards and equity of services are not compromised.

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Adaptation

The RANZCP acknowledges and supports the efforts of DoHAC to ensure that communities are adequately prepared for adverse climate events and that efforts to build resilience occurs prior to any such event. The RANZCP acknowledges the inclusion of these policies that were recommended in our previous submission to the National Health and Climate Strategy Discussion Paper. The RANZCP also supports the inclusion of preparedness and resilience for both extreme events and gradual changes, based on the best available evidence.

As noted in the Consultation Paper, the first principle of health services, supports, and clinicians must be to do no harm. The RANZCP is concerned that the goal of reducing emissions as the sole focus fails to understand and account for the areas where current mitigation to deal with the effects of the climate crisis are desperately needed. As previously noted, evidence shows that the climate crisis is having a profound health effect which, in turn, has significant financial implications. By acting to mitigate the effects of climate change on health systems and outcomes, and evaluating and monitoring these, the corresponding cost and emission savings could be used to guide both practical and policy decisions.

Some groups and communities in society are more vulnerable to, or have special needs in the event of, adverse climate events. Aboriginal and Torres Strait Islander people, children, people from culturally and linguistically diverse backgrounds, people in rural, regional or remote areas, elderly people and those with existing mental or physical health conditions are more likely to experience greater negative effects from climate change.[13,14,15] The RANZCP acknowledges that the Consultation Paper does refer to particularly vulnerable groups. There is a need for a greater detail and practical adaption regarding these communities in the proposed actions. There must be a concrete understanding and plan for how vulnerable groups will be affected and require specialised support beyond just 'mapping'.

Within action 3.3 there should also be a greater emphasis on long term supports for recovery from disasters and extreme weather events, based on the research evidence which is of increased occurring for years after such events, and that communities experiencing multiple such events can be expected to have greater complexity and severity of presentations. Communities, especially rural, regional and remote communities, often suffer greater harm or re-traumatisation after the removal of acute and emergency supports.[16] Person-centred care with an emphasis on the ongoing wellbeing of affected communities must be built into the adaption actions. This can be accomplished by increasing the number and funding of services in these communities to ensure that ongoing care can be provided by a trusted local workforce once emergency response services are removed.

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Health in all Policies

The RANZCP strongly supports a Health in all Policies approach. As climate change effects all aspects of human health, there must be concerted and collaborative approach to addressing climate change through the lens of health from all sectors and government departments. The maintenance of health for the community and a focus on reducing the risks of anthropogenic climate change to population health must be at the forefront of the Health in all Policies approach. The RANZCP is a member of the Climate and Health Alliance (CAHA) and, as such, endorses the recommendations outlined in the Healthy, Regenerative and Just framework.

As previously mentioned, data is the key component in maintaining a Health in all Policies approach. It is crucial that there is an evaluation and tracking of the health, economic and social costs of climate change both now and in the future. Savings associated with the reduction of the climate health burden should be tracked and publicised, along with the productivity and health co-benefits of climate mitigation such as associated with reduced air pollution with reduced fossil fuel use or increased physical activity with active transport. All policy decisions should be evidence-informed and wellbeing focussed, with emissions savings being achieved as outlined in the Healthy, Regenerative and Just framework, and not coming at the cost of service provision or equity of access.

A further benefit in a greater focus of data collection and publishing across the health system is the ability to assess the Strategy in terms of the 'moral injury' of climate policy in Australia..[17] The negative mental health impacts of climate change related incidents are even more pronounced in vulnerable communities such as youth, rural, regional and remote and Aboriginal and Torres Strait Islander people.[17,18] A Health in All Policies approach supported by corroborating data collection practices can help to mitigate the mental health effects of moral injury and climate distress.

An Australian Centre for Disease Control (Australian CDC) would be ideally placed to undertake the sourcing, management and collation of data, and would likely be a powerful tool in facilitating any Health in all Policies approach, providing that mental health outcomes were included with resourcing and coordination and linking with academics with the relevant expertise and with appropriate, transparent management of conflicts of interest. The RANZCP encourages the government in scoping the Australian

CDC with the National Health and Climate Strategy in mind, as the functions of pandemic preparedness, preventing communicable diseases and climate change health effects require many of the same considerations and resources.

Key findings

- Mental health needs to be at the forefront of any health and climate strategy
- Objectives of the National Health and Climate Strategy need to be widened
- Effects and impacts of climate change on the health system need to be addressed as being current and significant, including those which are cumulative effects beyond initial incidents.[18]
- Increased data collection is crucial to the strategy being implemented effectively
- Monitoring and measuring effects and outcomes needs to be a key priority
- Resources should be provided specifically for training and implementation regarding anticipatory, preventative and mitigation strategies
- Health workforce funding and training must be increased to deal with the impacts of climate change and the implementation of all policies and procedures.
- Particularly vulnerable communities such as Aboriginal and Torres Strait Islander people, Culturally and linguistically diverse groups, rural, regional and remote communities and people with existing mental health conditions must be a priority in resourcing.
- Aboriginal & Torres Strait Islander, other traditional cultural communities and those with rural/remote and communal mobilisation expertise should be involved in designing and implementing all strategies.
- An Australian Centre for Disease Control would be a powerful tool in implementing the National Health and Climate Strategy

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Royal Flying Doctor Service
VICTORIA

Royal Flying Doctor Service Victoria

National Health and Climate Strategy Submission



Introduction

The Royal Flying Doctor Service (RFDS) Victoria supports the Federal Government's commitment to develop Australia's first National Health and Climate Strategy and welcomes the opportunity to contribute as part of the Strategy consultation process. The importance of a National Health and Climate Strategy cannot be understated. Urgent climate action is required to support the health and wellbeing of people in Australia and around the world.

We have reviewed the draft objectives, principles, enablers and actions of the National Health and Climate Strategy and view them as a good starting point for further discussion and iteration. We support the holistic approach the Government is taking in creating this Strategy and the acknowledgment that it will take a whole of system response to the effects of climate change on health and wellbeing.

RFDS Victoria believes we can offer a valuable perspective as a not-for-profit organisation providing health and wellbeing services to regional and rural communities. As a result of the services we provide, we've seen the devastating impacts of climate-fuelled extreme weather events and are there to support rural and regional communities to adapt and recover. In addition, we acknowledge our own emission footprint – largely driven by road and aeroplane transport fuels – and are committed to reducing our emissions in service of better health and wellbeing.

About RFDS Victoria

For more than 90 years, the RFDS has supported the health care needs of rural, regional and remote communities located across Australia. RFDS Victoria is part of the RFDS Federation, a group of organisations that share the same motivation to reduce barriers to accessing quality healthcare.

In Victoria, due to the geography of our state, we have evolved into a multi-faceted health provider, taking healthcare to communities, providing services remotely and transporting people to the healthcare they need. Our services include speech pathology, community transport, dental care, non-emergency patient transport, mobile eye care, mental health, GP services, telehealth and more. The way we deliver these services differs from being completely mobile, to brick-and-mortar clinics, to digital health services.

At RFDS Victoria, we recognise that our health, wellbeing, and relationships are all precious and all three are essential for individuals and communities to thrive. Improving rural access and outcomes to health and wellbeing services requires collaboration from local, state, and federal organisations. We partner with local agencies with the knowledge and experience to become a trusted and valued service within the communities we serve.

We recently launched RFDS Victoria's inaugural Environmental Roadmap[1], which will support us to take a coordinated, whole-of-organisation approach to environmental sustainability and climate action. To deliver on our commitment to be net zero and climate resilient by 2040, this Roadmap outlines three priorities:

[1] RFDS Victoria, *Environmental Roadmap* <www.flyingdoctor.org.au/vic/about/environmental-sustainability/>

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- Reducing our emissions;
- Decreasing waste to landfill; and
- Preparing for climate change impacts.

Summary of Key Points

RFDS Victoria is a member of the Global Green and Healthy Hospitals network and supports the high-level guidance from the Climate and Health Alliance (CAHA):

1. Make the protection of population health and wellbeing the primary focus of the Strategy.
2. Establish a Board to advise the Minister on Strategy.
3. Establish an interdepartmental committee on climate change and health.
4. Have a clearly articulated vision and purpose.
5. Set targets and timeframes for actions and implementation.
6. Establish targets and measures for climate-related injury and disease prevention.
7. Include Mitigation targets in the Strategy.
8. Expand Adaption beyond the health system.
9. Include the human right to health and intergenerational justice as principles of the Strategy.
10. Conduct genuine engagement with First Nations Elders and communities.
11. Consult with affected communities.
12. Undertake expert consultation.
13. Outline how the Strategy will support ongoing collaboration to contribute to the coordination and implementation of initiatives.
14. Maximise current activities to reduce carbon emissions.
15. Align with and inform national health and environment strategies.
16. Make terminology consistent.

Please refer to CAHA's submission for further information on these points.

RFDS Victoria would also like to add and emphasise the following points based on our own experience:

A. We welcome the development of a National Health and Climate Strategy by the Federal Government and view the draft objectives, principles, enablers and actions as a good starting point for further discussion and iteration;
B. We would like to see greater emphasis on regional, rural and remote communities (potentially within the 'tackling health inequities' principle as well as elsewhere in the Strategy);
C. We support the focus on mitigation and adaptation as two of the four draft objectives, and query whether recovery (3.3) may benefit from greater prominence;
D. We support the draft enablers and suggest adding financial and information resources as a sixth enabler;
E. We strongly endorse and seek greater emphasis on prevention and optimising models of care (2.6) within the Strategy; and
F. We would like to see explicit acknowledgement that the health system does not work in isolation and that government has a role to play in influencing and engaging the broader ecosystem.

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We understand that RFDS QLD are also submitting a response on the National Health and Climate Strategy and would like to indicate our support of their submission paper.

Full Response

A. We welcome the development of this Strategy

Climate change, biodiversity loss and environmental degradation pose risks to our health and wellbeing. The World Health Organization states that climate change is "the biggest health threat facing humanity".[2] Climate change poses direct and indirect risks to individual health, as well as to health infrastructure and service delivery. The health sector is also a significant contributor to Australia's greenhouse gas emissions.

At RFDS Victoria, we recognise the connection between planetary health and human health, and strongly support the development of Australia's first National Health and Climate Strategy.

B. We would like to see greater emphasis on regional, rural, and remote communities

Rural and remote Australians experience poorer health outcomes than their urban counterparts, including life expectancy, mortality rates and hospitalisations.[3] Regional, rural, and remote Australians experience additional access barriers when seeking health care compared with their urban counterparts. These barriers include proximity, affordability, wait lists, culturally appropriate service delivery and the availability of different models of care.

Regional, rural, and remote communities are likely to be more vulnerable to other climate change impacts, such as damage to community, communication, technology and transport infrastructure. These communities are already experiencing significant health and wellbeing climate change impacts, which are likely to increase in severity and frequency in the future.

As such, we would like to see the National Health and Climate Strategy acknowledge the health and wellbeing impacts of climate change on regional, rural and remote Australians, and prioritise interventions that support these communities. This could potentially be noted within the 'tackling health inequities' principle as well as elsewhere in the Strategy.

C. We query whether recovery may benefit from greater prominence.

As noted earlier in this paper, RFDS Victoria has seen the devastating impacts of climate-fuelled extreme weather events and have been there to support rural and regional communities in Victoria to adapt and recover. In 2022, volunteer drivers from our community transport program evacuated aged care residents and hospital patients out of flood-affected Rochester, even whilst some of their own homes were lost to flood waters. Our mental health services have been helping affected individuals and communities to recover from the devastating Black Summer bushfires since 2020.

[2] World Health Organization, *Climate change and health* <www.who.int/news-room/fact-sheets/detail/climate-change-and-health>

[3] RFDS, *Best for the Bush: Snapshot* <www.flyingdoctor.org.au/what-we-do/research/>

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Three years on, the community need for mental health services and supports remains significant.

In addition to recovery from climate change-fuelled extreme weather events, there are other climate change and environmental sustainability developments which result in additional community health and wellbeing supports being required. For example, as the economy transforms over the coming years in line with growing climate change mitigation and adaptation, various workers and communities will be impacted. Our wellbeing team is currently supporting those employed in the native forest logging industry, with the Victorian Government's announcement that this sector will cease across the state in December of this year.

Our experience demonstrates that ongoing health and wellbeing supports are required for communities to recover from the impacts of climate change and that recovery takes significant time, effort, and resources. In light of this, we encourage further discussion about whether recovery could feature more prominently in the Strategy, potentially as another objective in line with the National Disaster Mental Health and Wellbeing Framework and other relevant policy documents.

D. We suggest the addition of a sixth enabler – financial and information resources

We support the five draft enablers outlined in the National Health and Climate Strategy Consultation Paper. In addition to these five enablers, we propose that a sixth is added which covers the provision of insights, guidance, advice, and networking opportunities to the health system (potentially through CAHA and other similar organisations) and funding for public and not-for-profit health organisations.

RFDS Victoria strongly believes that Strategy implementation will be accelerated by expert guidance, best practice examples, opportunities to connect with peers and funding support, especially for public and not-for-profit entities in the health system.

E. We would like to see greater emphasis on prevention and optimising models of care

We strongly endorse and would like to see greater emphasis on prevention and optimising models of care (2.6) that can support health sector mitigation, adaptation, and recovery, including telehealth and mobile/outreach services. We see wide-ranging and exciting opportunities in this domain, both for the health system to reduce its emissions and also to be equipped to scale up and scale down service delivery to respond to climate change impacts and extreme weather events.

RFDS Victoria's Digital Health program increases access to specialist services to people in the regions, improves continuity of care and reduces emissions for clients and carers, as detailed in an RFDS Victoria-commissioned report completed by LaTrobe University[4]. Reviewing Medicare fees for telehealth and other digital health services could support programs such as Digital Health at RFDS Victoria to reach more

[4] La Trobe University, John Richards Centre, and RFDS Victoria, *Evaluation of the Flying Doctor Telehealth Specialist Service* <https://royal-flying-doctor-service-victoria.multiscreensite.com/specialists-and-nurses-perspectives-of-fdt-specialist-service>

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clients and communities, improving health outcomes and reducing emissions. Alongside broader health system emission reduction targets, we believe an emissions reduction target for patients and carers travelling to receive care could be valuable in the mitigation objective. This would not only increase Australia's transition to net-zero emissions but also improve the adaptiveness of the health care system to be more climate-resilient.

RFDS Victoria seeks to be a part of the whole-of-system response that emphasises protection of population health and wellbeing as its number one priority. This Strategy presents a great opportunity to prioritise prevention and optimising models of care, with a focus on health equity for groups such as regional, rural, and remote communities.

F. We would like to see explicit acknowledgement that the health system does not work in isolation and that government has a role to play in influencing and engaging the broader ecosystem

RFDS Victoria would like to see explicit acknowledgement that the health system does not work in isolation and has many partners and suppliers, and that government has a role to play in influencing and engaging the broader ecosystem around the health sector, including for Scope 3 emission reduction. This could potentially be made more explicit within the 'health in all policies' objective and elsewhere in the Strategy.

This is especially important for smaller and mid-sized health organisations, and those that are not part of the public health system, as they are likely to have less ability to influence partners and less purchasing power to negotiate with suppliers. RFDS Victoria acknowledges that $1.5 billion of the National Reconstruction Fund has been allocated to medical manufacturing and is hopeful that a climate-health lens will be applied to this investment.

We thank the Australian Government for the opportunity to submit this paper as part of the National Health and Climate Strategy consultation process, and are excited to see the positive changes that come about as the Strategy is implemented. RFDS Victoria welcomes the opportunity to be a partner and active participant on initiatives arising from the Strategy.

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Australian Government
Department of Health and Aged Care

NATIONAL HEALTH AND CLIMATE STRATEGY

Detailed submission form

This form allows you to provide responses to the full set of questions in the Consultation Paper available here.

Alternatively, you may wish to complete the briefer online survey available here.

Please submit this form in Word format to Health.Climate.Consultation@health.gov.au.

Respondent details

What is your name?
[redacted]
What is your email address?
[redacted]
What is your organisation?
Orygen
Have you read and agreed to the Privacy Statement? (NB we will not be able to use your submission unless you tick this box)
☒ I have read and agreed to the Privacy Statement
Do you identify as Aboriginal and/or Torres Strait Islander? (Yes/No/Prefer not to say)
[redacted]
Please select which applies to you: ☐ Individual citizen ☒ Health Service Provider ☐ Industry and Life Sciences Organisation or Representative ☐ Academic or Researcher ☒ Primary and/or Allied Health Peak or Advocacy Organisation or Representative ☐ Aged Care Service Provider ☐ First Nations Health Service Provider ☐ First Nations Community Group ☐ First Nations Peak or Advocacy ☐ Medical College or Peak professional body

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Questions for feedback from the Consultation Paper

Introduction

1. How could these objectives be improved to better support the vision of the Strategy?
Orygen commends the focus on a Health in All Policies objective in the Strategy, and provides further input below.
2. How could these principles be improved to better inform the objectives of the Strategy?
Orygen supports the call to expand the principles to include intergenerational justice, which should clearly list young people and future generations. Principle 2, 'Tackling health inequalities', should be expanded to identify young people as a group disproportionately impacted by climate change. While the consultation paper mentions that young people will be hit hardest by climate change, there is no focus on young people as a priority population for the Strategy. The World Health Organization (WHO) has noted that the health and wellbeing of young people is more climate-sensitive than other populations, and that young people will be impacted by the environmental determinants of health in ways not previously experienced.(1) The sixth assessment report of the United Nations Intergovernmental Panel on Climate Change (IPCC) has identified that children and adolescents are particularly at-risk for mental health and wellbeing impacts.(2) Young people are the age group most concerned about climate change,(3-6) which is associated with psychological distress.(6) A report by Orygen and Mission Australia identified that young Australians who were extremely or very concerned about climate change were more likely to be concerned about stress and mental health, and experience greater psychological distress, higher self-reported mental health conditions, lower levels of subjective wellbeing and are more likely to feel negative about the future.(7) Two-in-five (38 per cent) young people who were extremely or very worried about climate change experienced high psychological distress, compared with 22 per cent of young people reporting no climate concern.(7) The Strategy requires a unique focus on the health and wellbeing of young people as a priority population. This requires youth participation approaches in the development and implementation of the Strategy, including dedicated consultations with young people to ensure that their unique needs are met with resourced, youth-specific activities. There is an opportunity for the Australian Governments Youth Advisory Groups to provide guidance in the design of this consultation and in youth-specific content in the Strategy. **Recommendation**: Include intergenerational justice and a clear focus on young people as a key population in Principle 2, and ensure dedicated consultations with young people in the development of the Strategy. Subsequently, there is an opportunity for the Strategy to include youth-specific actions.
4. What existing First Nations policies, initiatives, expertise, knowledge and practices should the Strategy align with or draw upon to address climate change and protect First Nations country, culture and wellbeing?
It has been hypothesised that First Nations people may experience higher levels of climate distress due to the cultural responsibilities of caring for Country.(8, 9) While First Nations young people have reported a lower level of concern about climate change, climate concerns for First Nations young people have a stronger association with psychological distress and a negative future outlook compared to non-Indigenous young people.(7)

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The consultation paper notes that the Strategy will aim to progress Priority 7 of the National Aboriginal Health Plan 2021-2031, which focuses on healthy environments. There is an opportunity for the Strategy to progress additional priorities that are focused on mental health and social and emotional wellbeing (Priority 6 and 10).

Recommendation: Progress Priority 6 and 10 of the National Aboriginal Health Plan 2021-2031 by including actions that benefit the mental health and social and emotional wellbeing of First Nations young people.

Proposed Objective 3: Adaptation

18. What health impacts, risks and vulnerabilities should be prioritised for adaptation action through the Strategy? What process or methodology should be adopted to prioritise impacts, risks and vulnerabilities for adaptation action?

Orygen welcomes the holistic focus on health in the Strategy, while noting a need to clearly focus on mental health and wellbeing as a priority. In Australia, over half (54 per cent) of surveyed health professionals have reported they see people whose mental health has been impacted by climate change, which was the second most frequent climate-related health issue reported.(10) One-in-two (54 per cent) surveyed Australian health psychologists list climate distress as a key challenge that will impact their work over the next 5 to 10 years.(11) In the same survey, 17 per cent identified that the frequency of climate distress has increased since late 2019.

Despite the known impacts that climate change is having on the mental health and wellbeing of Australians, mental health is often neglected in strategies relating to health and climate change. In a WHO survey of 95 countries, 30 countries provided national health and climate change plans, and only nine strategies recognised mental health and psychosocial health.(12) Given the known impacts of climate change on mental health, WHO has recommended that mental health is integrated within health and climate change policies. Additionally, consultations with the mental health sector highlighted a low level of engagement in the Strategy to date. The Strategy requires dedicated consultation with the mental health sector, followed by actions that focus on the mental health impacts of climate change.

Recommendation: Ensure dedicated consultation with the mental health sector and actions that target the mental health and wellbeing of Australians.

21. What immediate high-priority health system adaptation actions are required in the next 12 to 24 months?

As Australian health professionals have reported that they are currently supporting people's mental health due to climate change,(10, 11) there is a need to assess and develop climate distress training and the professional development needs of health professionals. Consultations with health professionals about climate distress identified that mental health clinicians are equipped to support young people in distress, but may need further support and confidence in understanding distress relating to climate change.

While climate change is not well-integrated into tertiary health professional education,(13) there is an increasing call to ensure that health professionals receive training about the impacts of climate change.(14) Four-in-five (84 per cent) Victorian health professionals agree that climate change health impacts and mitigation should be included in their undergraduate training, and most (88 per cent) believe that there should be ongoing professional development opportunities.(15) When asked about climate change

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professional development, surveyed Australian psychologists noted a preference for webinars (71.5 per cent) and online courses (70.5 per cent), and identified time (67.2 per cent) and cost (58.1 per cent) as their key barriers.(11) The development of climate distress microcredentials would align with training preferences and address an existing gap, allowing clinicians to develop additional skills.

Additionally, climate distress intervention research is currently limited, and there are few clinical frameworks to guide health professionals. Orygen have developed a brief interventions in youth mental health toolkit, which includes assessment tools, guidance and handouts on a range of mental health topics.(16) In a previous study, young people have reported a high level of satisfaction with brief interventions, particularly in relation to managing emotions and coping strategies. In partnership with young people, the development and pilot of a climate distress brief intervention module would provide health professionals and mental health clinicians with evidence-informed guidance and activities to complete with young people experiencing climate distress. The pilot module would also equip health professionals with knowledge about climate change and guidance on how to support pro-environmental behaviours.

Recommendation: Include an action to assess the climate distress training and professional development needs of health professionals, and subsequently fund the development of microcredentials focused on young people's climate distress.

Recommendation: Include an action to codesign and pilot a climate distress brief intervention module.

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Proposed Objective 4: Health in All Policies

22. What are the key areas in which a Health in All Policies approach might assist in addressing the health and wellbeing impacts of climate change and reducing emissions?
There is an association between the perception of government climate inaction and climate distress.(17) In a survey of 1,000 young Australians, a lack of climate action by government was the most frequently identified climate-related factor impacting young people's mental health, followed by worry about the future of the planet.(18) Young people are acutely aware of the intersection between government decisions and their mental health and wellbeing. Orygen commends the Health in All Policies approaches, including health impact assessments for climate-related policy. While the consultation paper specifically mentions transport policy, food, agriculture and trade policy, and housing policy, energy policy and investments should also receive a key focus. The Strategy should establish regulatory frameworks for health impact assessments to increase transparency and adherence. Health impact assessments should: • ensure a strong focus on younger and future generations; • include mental health and wellbeing considerations; and • consider the health costs averted by not making a policy decision. **Recommendation:** Include health impact assessments across climate-related policy areas, including energy. Health impact assessments should include a specific focus on mental health and wellbeing, and an emphasis on young and future generations.

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Enablers

24. How could these enablers be improved to better inform the objectives of the Strategy? Should any enablers be added or removed?
The enablers should be expanded to ensure a focus on effective governance, implementation and planning. The Strategy should be adequately resourced to: • deliver tangible activities; • develop an implementation plan with targets and timelines; and • provide regular reporting of measurable outcomes. **Recommendation:** The Strategy should expand the enablers to include a focus on governance and implementation, which should include an implementation plan with clear timelines, funded activities, measurable outcomes and regular reporting.

Thank you for taking the time to complete this survey – your feedback is greatly appreciated!

Please submit this form in Word format to Health.Climate.Consultation@health.gov.au.

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The Thoracic Society of Australia and New Zealand response to the National Health and Climate Strategy Consultation

The Society operates in compliance with the Medicines Code of Australia. Please see the TSANZ Sponsorship Policy for more information.

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Introduction

The Thoracic Society of Australia and New Zealand (TSANZ) is a health promotion charity whose mission is to lead, support and enable all health workers and researchers who aim to prevent, cure, and relieve disability caused by lung disease. TSANZ is the only Peak Body in Australia that represents all health professionals working in all fields of respiratory health.

The TSANZ has a membership base of over 1800 individual members from a wide range of health and research disciplines. The TSANZ is a leading provider of evidence-based guidelines for the treatment of respiratory disease in Australia and New Zealand and undertakes a large amount of professional education and training. The TSANZ is also responsible for significant research administration and coordinates an accredited respiratory laboratory program.

As the leaders in lung health, we promote the:

- highest quality and standards of patient care
- development and application of knowledge about respiratory health and disease
- highest quality air standards including a tobacco smoke free society and effective regulation of novel nicotine delivery systems
- collaboration between all national organisations whose objects are to improve the wellbeing of individuals with lung disease and to promote better lung health for the community
- professional and collegiate needs of the Membership

The TSANZ thank the Department of Health and Aged Care for the opportunity to respond to the consultation on the National Health and Climate Strategy. Much more work is required in this space, and the TSANZ will continue to advocate through evidence-based practice and policy to produce better respiratory health outcomes for all Australians.

Consultation Topic

The Department of Health and Aged Care is seeking stakeholder feedback on the National Health and Climate Strategy via the below survey.

Thoracic Society Feedback

The TSANZ are generally supportive of the National Health and Climate Strategy and commend the Department of Health and Aged Care for the development of this document.

We have provided answers to the survey questions below.

Objectives

It is proposed the Strategy includes the following objectives in support of this vision:

1. *Measurement:*
   Measure and report on health system greenhouse gas emissions, so progress in reducing emissions can be tracked and quantified.

2. *Mitigation:*
   Accelerate the reduction of greenhouse gas emissions from the health system.

3. *Adaptation:*
   Strengthen the resilience of the health system and communities to anticipate and respond to the health impacts of climate change.

4. *Health in All Policies:*
   Maximise the synergies between good climate policy and public health policy by working across policy areas to lessen the impact of climate change on the social and cultural determinants of health and wellbeing.

While our proposed Objective 1 is focused on measuring health system greenhouse gas emissions, we recognise there are many other measurement challenges related to climate change and health – such as measuring environmental exposures and vulnerability indicators related to the resilience of health services to climate change. These are listed under Objective 3 on adaptation.

1. Do these objectives support the vision of the Strategy?

The Thoracic Society are generally supportive of the objectives of the Strategy. The TSANZ has responded in detail on each objective below.

1. Measurement:
   Further definition of greenhouse gas emissions is required, in particular the ones most relevant to the medical sector. Measurement strategies will change based on what exactly is being measured – including location and timing of measurement. Some greenhouse gases are generated immediately, others as part of reactions of non-greenhouse gas emissions from the healthcare sector released into the environment to react with UV light[1]. These are ultimately still greenhouse gas emissions caused by the healthcare sector. With regard to measurement, measurement of waste and development of strategies to minimise waste and create circular economies where waste can be reused and recycled will be critical to reducing the environmental impact of hospital care.

   Of particular note, should the focus only be on greenhouse gas emissions or all airborne pollutant emissions? The National Health and Climate Strategy is designed "to prepare for

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health challenges presented by climate change", of which poor air quality is a highlighted concern. Airborne pollutants other than greenhouse gases also have significant impacts on health. Pollutants such as particulate matter (particularly ultrafine particles), sulphur dioxide, and airborne microplastics go on to form greenhouse gases[1]. Consider measuring the contribution of the healthcare sector towards increasing concentrations of these pollutants as well as general greenhouse gases. This would be more applicable under Objective 1 than Objective 3, which appears to be more about managing the health effects caused by poor air quality.

2. Mitigation:
   The TSANZ note that some medications contribute to greenhouse gas emissions. A TSANZ Working Group has found that some inhalers use greenhouse gases as propellant and alternatives should be made available as soon as possible.

   By prioritizing mitigation efforts, the Strategy aligns with the broader goal of combating climate change and its adverse effects and, consequently, the impact on lung health. This objective demonstrates a commitment to sustainable practices within the health sector, which is essential for achieving the vision.

3. Adaption:
   The TSANZ note that this objective is very vague in its current wording and does not detail how resilience will be strengthened. It is difficult to say that this objective supports the vision of the Strategy when it is not properly defined. Adaptation is critical but clearly there is a long way to go to fully adapt hospital and living spaces to be resilient to airborne infectious diseases. Monitoring of indoor air quality and careful recording on hospital acquired airborne infections will be vital to assessment of our performance in being able to adapt.

4. Health in all policies:
   The TSANZ agrees that this is a very important area and needs to be included. By addressing the social and cultural determinants of health and well-being, the Strategy recognizes the multifaceted nature of climate change's impact on human health as well as lung health. This objective underscores the importance of collaboration across policy areas to achieve the vision effectively. This should be the highest priority objective.

Principles

It is proposed our pursuit of the above objectives are informed by the following principles.

1. *First Nations leadership:*
   First Nations knowledge and experience must be central to decision-making on climate and health policy at all levels.

2. *Tackling health inequities:*
   A health equity approach recognises some populations are more vulnerable to and have less capacity to adapt to the health impacts of climate change, and that responses to climate change need to take account of disparities in health outcomes.

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3. *Population health and prevention:*
The response of the health system, and society more generally, to climate change must be underpinned by a public health perspective. This recognises that prevention of disease and maintenance of good health across the lifespan, in combination with optimal secondary and tertiary prevention, assists both mitigation and adaptation.

4. *One Health:*
The Strategy will be underpinned by the principle of One Health – recognising the connection that exists between the health of people, animals and the environment.

5. *Evidence-informed policymaking:*
The response to climate change must be based on the best available data, evidence and research – but we must also be willing to take action on a prudent and precautionary basis in the face of uncertainty and incomplete information. Where possible, actions should be prioritised based on the principles of cost-effectiveness analysis, considering where resources can be allocated to maximise population health gains, while also taking account of health inequities and rights-based approaches.

6. *Partnership-based working across all levels of government and beyond:*
All levels of government need to work closely with each other, as well as with communities, patients, First Nations, not-for-profit organisations, peak bodies, private industry and education and research institutions to craft and implement a holistic and nationally consistent response to climate change.

2. Do these principles inform the objectives of the Strategy?

The TSANZ agree with the principles of the Strategy.

Global warming, the destruction of our natural environments and pollution/waste affect our lived environment. The most susceptible area is the air we breathe. The historical lessons of industrial revolution cities demonstrate the possibilities of widespread poor air quality. Population health interventions need to be ambitious and broad sweeping in order to avoid unequal applications. In order to mitigate the effects of climate change, our public health apparatus needs to be heavily focused on air quality, both indoor and outdoor.

3. What existing First Nations policies, initiatives, expertise, knowledge and practices should the Strategy align with or draw upon?

It is crucial to engage in respectful and reciprocal relationships with Indigenous communities, ensuring their active participation, leadership, and decision-making power throughout the development and implementation of the Strategy. This requires meaningful consultation, collaboration, and the establishment of mutually beneficial partnerships based on trust, respect, and shared objectives.

4. What types of governance forums should be utilised to facilitate co-design of the Strategy with First Nations people, to ensure First Nations voices, decision-making and leadership are embedded in the Strategy?

Please see above comment.

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5. What additional data and information is required to support targeted emissions reduction efforts within health and aged care?

The TSANZ advocate for a report directly addressing:

- What are the biggest emissions contributors (all emissions, not just greenhouse gases) in the healthcare sector, properly broken down by source/service?
- Why are these items the biggest contributors?
- Then targeted strategies can be properly developed to address them sector by sector, balancing reduction of emissions against impacting health care quality.

Current research appears to be mostly focussing on carbon footprint, not emissions as a whole[2]. We need to measure the parameters we want to change. That means measuring waste, tracking waste, measuring indoor air quality and hospital acquired infections.

6. What can be done to involve private providers within the health system in the Strategy's emissions reduction efforts?

The participation of the private sector will most likely need to involve incentive/penalty based regulation. These businesses are profit oriented by nature and will take a path of least resistance and they need to be engaged at that level.

Specific actions include encouraging non greenhouse gas propellants to be used in inhalers, and recycled packaging for therapeutics. For sectors whose services are used by the healthcare system (transport, utilities), preferentially selecting carbon neutral companies over ones that are not.

7. Please rank the below six sources of emissions in highest priority for action, 1 is the highest priority, 6 is the lowest priority.

1. Waste
2. Medicines and gases
3. Prevention and optimising models of care
4. Travel and Transport
5. Supply Chain
6. Built environment and facilities (including energy and water)

The TSANZ's bottom three priorities for action, built environment and facilities (including energy and water), travel and transport, and supply chain, will have to be addressed largely outside of the healthcare sector. While large contributors in emissions, they are ultimately not wholly encompassed by healthcare, i.e. healthcare is generally only one sector that relies on these facilities and as such can only control the company whose services are being utilised. If this Strategy is designed to address the contributions of healthcare to climate change then the priorities are sources that the healthcare sector is most responsible for and can actively work to change.

8. Which specific actions should be considered to reduce greenhouse gas emissions from the health system?

Waste control[3]. As it stands, there is far too much waste produced by the healthcare sector. The burning of clinical waste, the high amounts of single use plastics, inhalers, and medicines, and waste products are likely to be amongst the greatest contributor to health sector greenhouse gas emissions.

Other actions which should be considered are the provision of training to staff, green transportation, and adoption of sustainable procurement practices, including purchasing energy-efficient medical equipment, eco-friendly supplies, and products with reduced carbon footprints. Reducing the impact

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of hospital based care – waste generation, inefficient buildings (heating, indoor air quality), morbidity and mortality from hospital based infections.

9. What health impacts, risks and vulnerabilities should be prioritised for adaptation action through the Strategy?

Lung and heart comorbidities will be amongst those most highly impacted by poor air quality- air pollution is known to bypass the lung barrier to directly enter the bloodstream and as such has been linked to both cardiovascular disease and stroke[4, 5]. Cancer will be a serious issue from low air quality exposures and it will not be localised to just lung cancer- brain, bladder, blood and liver cancers have also been linked to pollution exposure[6]. Asthma will be another concern, both due to rising incidence of the disease[7, 8] and also because climate change is increasing the incidence and severity of both bushfires and thunderstorms. Both are linked to asthma exacerbations, making them a concern for the future health and wellbeing of a growing Australian population.

Children will be amongst the most highly impacted by the negative effects of climate change[9-12] and special consideration towards preventing young children and infants from being exposed to these negative effects should be considered. Exposure in childhood is more likely to develop into chronic conditions in adulthood, if these exposures can be prevented or reduced then it is likely to have a great effect on the future health of the Australian Population.

10. What immediate, high-priority actions are required in the next 12 to 24 months to enable the health system to respond to the impacts of climate change on health and wellbeing, and reduce the severity of these impacts?

Fund research into climate change, focussed on prevention of negative effects. This will help answer what can be done to reduce negative effects. Asthma will be a growing concern due to increased incidence and severity of bushfires, with exposure to smoke likely to cause a range of health problems.

Increase the number of trained doctors and nurses to help combat health effects caused by climate change. Develop training for current doctors and nurses so that they can be prepared for the future effects of climate change. The health system needs to be adequately funded in order to maintain flexibility. A system that is poorly funded, inefficient, and rigid cannot change to meet needs as they arise. The only thing that is certain about the next decades is that they are likely to be periods of incredible change and preparing our systems to respond and adapt is critical.

11. What actions are needed outside the health system to reduce or avoid the negative impacts of climate change on health and wellbeing?

Switching to renewable energy and reducing industrial waste will likely be the most critical actions. However, the renewable fuel source being used needs consideration. Some types, such as certain varieties of biodiesel, result in more toxic emissions than fossil fuels[13]. Others have the same or greater carbon footprint as fossil fuels due to land clearance to increase farming capabilities and grow the required amounts of the renewable fuel source (bio-ethanol, biodiesel made from crops, etc)[14, 15]. Policy and control around what types of renewable fuels can be used need to be created immediately to help take these points into consideration so that air quality is not lowered further and greenhouse gas emissions actually reduced.

The impact of living conditions on patient well being should also be taken into consideration. With rising incidence of extreme temperatures, access to conditions to help combat these extremes will be critical on patient well being and health.

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Enablers

Enablers provide the foundation for action in the health system to tackle climate change. The World Health Organization has recently found that progress in delivering national health and climate change plans or strategies has been impeded by a number of challenges including insufficient financing, human resource constraints, and limited research, evidence, technologies and tools.[a] Feedback already received indicates the below enablers will be critical to effective implementation of the Strategy.

[a]World Health Organization (WHO), *WHO health and climate change global survey report*, WHO, 2021.

Enabler 1: Workforce, Leadership and Training

This enabler is focused on supporting and engaging the health and aged care workforce to further develop the skills and capacity to: raise public awareness and understanding of the health impacts of climate change; take action to address these impacts, strengthening the resilience of health services and providing care to affected populations; and lead innovation in reducing health system emissions. This enabler is also focused on ensuring the health system and workforce is supported to sustainably retain and attract staff into the future, acknowledging the existing and expected future pressures faced by the health workforce – including stresses related to the COVID-19 pandemic, recent climate-related emergencies such as bushfires and floods, and ongoing workforce shortages, including in areas particularly impacted by climate change.

On workforce, leadership and training, it has already been proposed to the Department that the Strategy consider actions in the following areas:

E1.1. Encourage medical colleges and other education and training institutions to ensure the impacts of climate change on health form part of the training curriculum for all health care professionals.

Enabler 2: Research

Investing in and supporting coordinated climate and health research will improve the evidence base for responses to: better understand current and emerging climate risks and systemic vulnerabilities; strengthen the resilience and sustainability of the health system; improve health and wellbeing by ameliorating the negative health effects of climate change; and reduce health system greenhouse gas emissions. Evidence should inform priority selection and ensure funds are allocated strategically to maximise outcomes.

On research, it has already been proposed to the Department that the Strategy consider actions in the following areas:

E2.1. A scan of current research activities pertaining to climate change and health.

Enabler 3: Communication and Engagement

Effectively communicating and engaging with a wide range of stakeholders and the general public will ensure actions to address the health and health system impacts of climate change are widely understood. There is a particular need for engagement with communities that will be hit hardest by climate change, such as First Nations and young generations.

On communication and engagement, it has already been proposed to the Department that the Strategy consider actions in the following areas:

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E3.1. Increase public awareness of the health impacts of climate change to empower individuals and communities to take actions to reduce emissions and build climate resilience.

Enabler 4: Collaboration

Establishing governance structures – both cross-jurisdictional and beyond government – to facilitate regular collaboration with all stakeholders (and in particular First Nations) will build ownership and facilitate working partnerships where required to plan and deliver shared commitments to reduce emissions and strengthen climate resilience.

Enabler 5: Monitoring and Evaluation

The health system response to climate change should be measured and tracked through regular reporting on progress against key deliverables, to inform future decisions, drive action and hold all stakeholders accountable.

On monitoring and evaluation, it has already been proposed to the Department that the Strategy consider actions in the following areas:

E5.1. Establish agreed indicators to monitor the key deliverables for the Strategy.

E5.2. Provide annual reports on progress against the objectives of the Strategy.

12. In your view, are these the right enablers to inform the objectives of the Strategy? If not, please detail how they could be improved or amended.

Yes, these appear to be the right enablers.

13. For each of the above enablers please detail what is working well and how the Strategy could support delivery?

E1.1 Also provide training to current medical professionals, not just future.

E2.1 a scan of current research activities is critical however targeted funding initiatives would help further the goals of this section.

The Healthy Environments and Lives Network and Doctors for the Environment should also be contacted to help facilitate these actions.

Concluding remarks

The TSANZ thank the Department of Health and Aged Care for their hard work in this space. It is great to see this important document addressing some long overdue gaps for climate and health. The TSANZ hope to continue to work together with the Department of Health and Aged Care to improve respiratory health for all Australians.

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Australian Government
Department of Health and Aged Care

NATIONAL HEALTH AND CLIMATE STRATEGY

Consultation Paper



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Introduction

Why do we need a National Health and Climate Strategy?

Australians are already experiencing the impacts of climate change on health and wellbeing. In just over a century, Australia's climate has warmed by over 1 degree Celsius.[1] Warmer temperatures have increased the frequency of extreme weather events, such as heatwaves, bushfires, floods and droughts. Catastrophic events, such as the 2019-20 Black Summer Bushfires and the 2022 Eastern Australia Floods, highlight the growing toll climate change is likely to have on people's health and lives.

In addition to extreme weather, climate change is already impacting the lives of Australians by disrupting the environmental and human systems that play an important role in maintaining health.[2] Increasing temperatures are making more parts of the world favourable to the spread of food-, water- and vector-borne diseases, whilst threatening food and water security. Air pollution attributed to climate change exacerbates a variety of respiratory conditions, including asthma and lung cancer.[3] Climate change also affects health outcomes including through its impact on mental health, productivity and workforce conditions, housing, infrastructure and population displacement.[4]

With the most recent report of the Intergovernmental Panel on Climate Change projecting Earth is likely to reach a global warming of 1.5°C from pre-industrial levels in the 2030s, climate hazards and their impacts on health and ecosystems will inevitably increase.[5]

The Australian health system (encompassing both health and aged care)[6] needs to be resilient to both prepare for, and be ready to respond to, stresses and shocks from climate change, while continuing to provide quality services to the community. The health system is also a contributor to greenhouse gas emissions. In 2022, the Australian Government committed to reduce the country's greenhouse gas emissions by 43% below 2005 levels by 2030 and achieve net zero emissions by 2050. This creates an opportunity to target emissions reductions as part of health system reform to contribute to this goal.

The Australian Government has committed to the development of Australia's first National Health and Climate Strategy, in recognition of the urgent need to mitigate health system emissions and support the health system and the community be better prepared for and resilient to the health impacts of climate change. Whilst the Consultation Paper discusses mitigation and adaptation separately, the Strategy acknowledges the interdependent relationship between these two areas and recognises building a climate resilient and sustainable health system encompasses both adaptation and mitigation. [7]

Indigenous knowledge has a critical role in informing how Australia can address the problem of climate change. Central to First Nations cultures is the holistic nature of health and wellbeing. Good health is understood not just as the absence of illness and disease but also as being able to maintain a close connection with Country, culture, spirituality, community and family. For millennia First Nations communities have been managing the land and sea and have a deep and enduring relationship with this country – a connection impacted by climate change. To ensure First Nations culture, ecological and economic values and expertise are integrated into climate change and health planning it is essential they are partners in the development and implementation of the Strategy. In addition, it is important the principles of self-determination, cultural safety, and a strengths-based approach are embedded in co-designing the approach with First Nations peoples.

The Australian Government also recognises climate change has impacts on the wider determinants of health and some populations (such as the elderly and people with disabilities and pre-existing

health conditions) are more vulnerable to these impacts. For First Nations communities, climate change will exacerbate pre-existing high levels of ill-health; compound existing challenges in accessing safe water and appropriate housing, infrastructure and health services; and affect cultural and spiritual connections to Country. Many decisions influencing the social, economic, cultural, environmental, and commercial determinants of health are made outside the health system. Many of these decisions not only negatively impact on health and wellbeing, including equity, but also drive climate change, highlighting the importance of developing a holistic response to the health impacts of climate change.

About the Strategy

The Australian Government aims to establish a National Health and Climate Strategy with the overarching purpose of protecting the health and wellbeing of Australians from the impacts of climate change. The Strategy will encompass:

- Emissions mitigation as well as adaptation to the unavoidable impacts of climate change, recognising the interdependent relationship between these two areas
- All levels of the health system – national, state/territory, and local health systems
- Primary and community care, secondary and tertiary care, and aged care -- including public health and preventive health
- Private as well as public providers – including health and aged care providers, providers of diagnostic and pathology services, and providers of health-related education and training
- Manufacturers – including manufacturers of health technology products and consumables used by the health system
- Actions beyond the health system to improve the resilience of communities to prevent and improve health, in line with the Health in all Policies approach.

The Strategy will outline a national plan and will be further developed over time. The Strategy will align with the Government's broader climate mitigation and adaption policies and take account of work already underway. The Strategy acknowledges state and territory governments, healthcare organisations and providers, have already made significant progress on emissions mitigation and health system adaptation. Further consultation will identify where the Commonwealth can facilitate a common approach.

The Strategy will support the coordination of initiatives relating to climate change and health across Australia by:

- Agreeing **principles, objectives**, and **key action areas** to inform national policymaking
- Increased **collaboration** between jurisdictions and other key stakeholders including the sharing and adoption of best practice approaches and reducing duplication of effort
- Regular **monitoring and reporting** of progress in delivering the Strategy.

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Objectives

It is proposed the Strategy includes the following objectives in support of this vision:

1. **Measurement:** Measure and report on health system greenhouse gas emissions, so progress in reducing emissions can be tracked and quantified.[8]
2. **Mitigation:** Accelerate the reduction of greenhouse gas emissions from the health system
3. **Adaptation:** Strengthen the resilience of the health system and communities to anticipate and respond to the health impacts of climate change.
4. **Health in All Policies:** Maximise the synergies between good climate policy and public health policy by working across policy areas to lessen the impact of climate change on the social and cultural determinants of health and wellbeing.



QUESTIONS FOR FEEDBACK:

1. How could these objectives be improved to better support the vision of the Strategy?

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Principles

It is proposed our pursuit of the above objectives are informed by the following principles.

1. First Nations leadership: First Nations knowledge and experience must be central to decision-making on climate and health policy at all levels.

2. Tackling health inequities: A health equity approach recognises some populations are more vulnerable to and have less capacity to adapt to the health impacts of climate change, and that responses to climate change need to take account of disparities in health outcomes.

3. Population health and prevention: The response of the health system, and society more generally, to climate change must be underpinned by a public health perspective. This recognises that prevention of disease and maintenance of good health across the lifespan, in combination with optimal secondary and tertiary prevention, assists both mitigation and adaptation.

4. One Health: The Strategy will be underpinned by the principle of One Health – recognising the connection that exists between the health of people, animals and the environment.

5. Evidence-informed policymaking: The response to climate change must be based on the best available data, evidence and research – but we must also be willing to take action on a prudent and precautionary basis in the face of uncertainty and incomplete information. Where possible, actions should be prioritised based on the principles of cost-effectiveness analysis, considering where resources can be allocated to maximise population health gains, while also taking account of health inequities and rights-based approaches.

6. Partnership-based working across all levels of government and beyond: All levels of government need to work closely with each other, as well as with communities, patients, First Nations, not-for-profit organisations, peak bodies, private industry and education and research institutions to craft and implement a holistic and nationally consistent response to climate change.

QUESTIONS FOR FEEDBACK:

2. How could these principles be improved to better inform the objectives of the Strategy?

Enablers

We propose to develop actions around the following enablers to support realisation of the Strategy's objectives.

1. **Workforce, leadership and training**
2. **Research**
3. **Communication and engagement**
4. **Collaboration**
5. **Monitoring and reporting**

These enablers are discussed later in this paper.

Greenhouse gas emissions sources

Sources of greenhouse gas emissions are commonly categorised as follows:[9]

- **Scope 1 emissions** (direct emissions) are produced from sources within the boundary of an organisation, and as a result of that organisation's activities, and are calculated at the point of emission release. These include emissions from hospitals use of anaesthetic gases and diesel generators, patient use of pressurised metered dose inhalers, and fuel use in vehicles owned by health and aged care such as ambulances and other patient transport.
- **Scope 2 emissions** (energy-related indirect emissions) occur outside of the boundary of an organisation from the generation of electricity consumed by the organisation. They are physically produced by the burning of fuels (such as coal and natural gas) at the power station to create the electricity – for instance, the emissions associated with producing electricity purchased for use in hospitals.
- **Scope 3 emissions** (other indirect emissions) are indirect emissions, other than electricity (scope 2) occurring outside of the boundary of an organisation because of actions by the organisation. Scope 3 emissions may occur:
    - Upstream. For example, a hospital's upstream scope 3 emissions include those emissions generated in the manufacture of medical equipment used by the hospital, or by hospital staff commuting to work.
    - Downstream. For example, a hospital's downstream scope 3 emissions include those emissions generated from the incineration of its waste offsite.

In addition, there are some greenhouse gas emissions associated with the health system functioning, such as patient and visitor transport, that fall outside the traditional definition of scopes 1, 2 and 3.

The Australian Government has committed to reduce national emissions by 43% below 2005 levels by 2030, and to achieve net zero national emissions by 2050. These emission reduction targets cover all scope 1, 2 and 3 emissions occurring within Australia – they do not include emissions occurring in other countries' jurisdictions. This approach reflects the Paris Agreement requirement that each member country estimate and report emissions occurring within its jurisdiction, in accordance with agreed rules and guidelines. For instance, estimating and reporting emissions

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associated with the manufacture of pharmaceutical products imported into Australia are the responsibility of the country of manufacture.

QUESTIONS FOR FEEDBACK:

3. Which of the various types of greenhouse gas emissions discussed above should be in scope of the Strategy's emission reduction efforts?

First Nations health and climate change

The Strategy recognises the role of colonisation in driving both climate change and health inequities experienced by First Nations people. For millennia, First Nations cultures protected and sustainably managed the resources on their traditional lands. This traditional ecological and scientific knowledge was passed down through the generations and allowed First Nations people to maintain their connection to Country. Colonisation disrupted this connection by dispossessing First Nations people of their traditional lands and waterways and by suppressing culture, knowledge, and trading practices (including through the Stolen Generations). Colonisation and dispossession – in addition to institutional racism and exclusion, socio-economic disadvantage and disempowerment – are all drivers of the disparities in health outcomes between First Nations and non-Indigenous-Australians today.[10]

First Nations people have a unique connection with the land, which is intrinsically tied to their culture, spiritualism, and social and emotional wellbeing. Climate change will further exacerbate the health inequities experienced by First Nations people, including through the damage caused to the environment and disconnection from culture and spirituality. Separation from country has been identified as an underlying cause of mental health problems for First Nations peoples.[11]

Nearly one fifth of First Nations people live in rural or remote areas. Rural and remote First Nations communities are particularly vulnerable to the health impacts of climate change, due to socio-economic disadvantage, poor quality housing and infrastructure, and higher rates of chronic disease.[12] Rising sea levels caused by climate change, in addition to other extreme weather events, will have detrimental impacts on traditional homelands through destruction of cultural sites and important ecosystems. Further separation and disconnection from Country is a possible consequence of climate change, which would have profound implications for the health and wellbeing of First Nations communities, as it would harm their ability to connect with, practise culture in and maintain stewardship of Country.[13]

The Strategy seeks to incorporate the strengths of First Nations cultures, recognising they have continued to evolve and thrive despite the ongoing impacts of colonisation, systemic racism and intergenerational trauma. A partnership approach recognises improved outcomes will only be achieved if First Nations peoples are able to make the decisions that impact their health and wellbeing, as also reflected in the development and implementation of the *National Aboriginal and Torres Strait Islander Health Plan for 2021–2031*, the *National Aboriginal and Torres Strait Islander Health Workforce Plan* and the *National Agreement on Closing the Gap*. First Nations people are intimately connected to Country and their knowledges and cultural practices hold solutions to the impacts of climate change on health and wellbeing with First Nations people well positioned to

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inform emergency management planning and preparedness, ensuring greater policy and program effectiveness.

The Strategy will aim to build on the four Priority Reforms of the National Agreement on Closing the Gap: formal partnerships and shared decision making; building the community-controlled sector; transforming government organisations; and shared access to data and information at a regional level. In addition, the Strategy aims to progress Priority 7 of the National Aboriginal Health Plan 2021-2031, 'Healthy environments, sustainability and preparedness'. The Objectives of Priority 7 are:

- Support and grow the First Nations environmental health workforce
- Support community driven housing and infrastructure solutions
- Take action to improve food security
- Support disaster and pandemic planning, preparedness and recovery at the national and community levels.

The Department of Health and Aged Care will work with First Nations people to ensure the Strategy reflects their voices and expertise; respects First Nations data sovereignty; and upholds First Nations self-determination. Embedding First Nations leadership and cultural knowledge within this Strategy will strengthen climate adaptation and emissions mitigation not only for First Nations communities but for
all Australians.



QUESTIONS FOR FEEDBACK:

4. What existing First Nations policies, initiatives, expertise, knowledge and practices should the Strategy align with or draw upon to address climate change and protect First Nations country, culture and wellbeing?
5. What types of governance forums should be utilised to facilitate co-design of the Strategy with First Nations people to ensure First Nations voices, decision-making and leadership are embedded in the Strategy?

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Proposed Objective 1:
Measuring health system greenhouse gas emissions



What do we currently know about health system greenhouse gas emissions in Australia?

To measure and track our success in reducing health system greenhouse gas emissions, we need robust, regularly updated, consistent and sufficiently granular estimates of current emissions levels.

The Department of Climate Change, Energy, the Environment and Water (DCCEEW) administers Australia's National Greenhouse Accounts. The Accounts are a suite of reports and datasets on Australia's greenhouse gas emissions and are used to fulfil Australia's annual reporting obligations under the Paris Agreement; track progress towards Australia's Paris Agreement emission reductions targets; and inform and monitor government policy and future national emissions reduction targets. The Accounts are compiled consistent with Paris Agreement rules and guidelines, including Intergovernmental Panel on Climate Change guidelines for emission estimation.

Wherever possible the Accounts draw on facility-level data. Where facility-level data is not available, other data sources are used. The Accounts' *National Inventory by Economic Sector* provide accurate scope 1 emissions data disaggregated by the Australian and New Zealand Standard Industrial Classification (ANZSIC). In financial year 2021, aggregate scope 1 emissions for health system were up to 1.2 million tonnes carbon dioxide equivalent (Mt CO_2-e), or 0.25% of national emissions. This includes emissions from *Pharmaceutical* and *Medicinal Product Manufacturing*, *Hospitals*, *Residential Care Services*, and *Waste Collection*, *Treatment*, and *Disposal Services*.

Scope 2 emissions from the health system are likely more significant. While the Accounts do not currently produce a disaggregated scope 2 emission estimate for all components of the health system, such emissions would form part of the aggregate 90.5 Mt CO_2-e of emissions in 2021 reported for Commercial Services (37.5 Mt CO_2-e; aggregation of scope 2 emissions for ANZSIC Divisions F-H, J-S), *Manufacturing* (33.3 Mt CO_2-e; ANZSIC Division C) and *Electricity*, *Gas*, *Water* and *Waste Services* (19.8 Mt CO_2-e; ANZSIC Division C).

When the entire supply chain is considered, including emissions generated during production of products manufactured internationally and imported for domestic consumption, initial estimates from the 2020 financial year Accounts suggest the health system could be responsible for up to 6% of national emissions on a consumption basis.[14]

What national schemes involve organisation/facility-level emissions measurement and reporting?

A number of existing or planned Australian Government schemes involve organisation or facility-level emissions measurement and reporting. New initiatives under the Government's Powering Australia plan are likely to increase existing health system participation in such schemes.

- The Government's *National Greenhouse and Energy Reporting scheme* focuses on scope 1 and 2 emissions. It requires facilities covered by the scheme to report annually on their greenhouse gas scope 1 and 2 emissions and energy production and consumption. These data are a key input to Australia's emissions reporting under the Paris Agreement and *Australia's National Greenhouse Accounts*, including the *National Inventory by Economic Sector*.
- The Government's *Climate Active* program includes scope 1, 2 and 3 emissions. It is a voluntary scheme through which Climate Active certification is awarded to organisations that have credibly reached a state of carbon neutrality, based on an agreed emissions boundary for a specific certification type. Scope 1, 2 and 3 emissions are measured in accordance with the program's guidelines, which draw on DCCEEW's *National Greenhouse Accounts Factors*.

- Under the Powering Australia plan, the Government committed to reduce Australian Public Service emissions to net zero by 2030 (*APS Net Zero by 2030*). The policy is under development, with the initial focus on scope 1 and 2 emissions. The 2030 target will initially apply to most non-corporate Commonwealth entities. Corporate Commonwealth entities and Commonwealth companies are encouraged to reduce their emissions, with further consideration being given to these types of entities.
- Under the Powering Australia plan, the Government has committed to ensuring large businesses provide Australians with greater transparency and accountability when it comes to their climate-related plans, financial risks, and opportunities. As part of this commitment, the Government will introduce standardised, internationally-aligned reporting requirements for businesses to make disclosures on governance, strategy, risk management, targets and metrics – including greenhouse gases. Further information is available in the Government's *December 2022 public consultation paper* entitled 'Climate-related financial disclosure'.

What is needed to achieve more granularity in the measurement of greenhouse gas emissions in the health system?

While DCCEEW prepares regular and reliable emissions estimates at the aggregate ANZSIC level, further work with key input data providers is needed to develop additional data inputs to achieve a comparable level of accuracy at a more granular level. To enable measurement and tracking of existing and forthcoming health system emissions reduction initiatives, DCCEEW is working with the Department of Health and Aged Care to assess emissions data currently available from the Accounts and identify opportunities for enhancing the datasets consistent with the Strategy's coverage and approach to be informed by this consultation process.



QUESTIONS FOR FEEDBACK:

6. Beyond the schemes already noted above, is your organisation involved in any existing or planned initiatives to measure and report on health system emissions and/or energy use in Australia?
7. What additional data and information is required to support targeted emissions reduction efforts within health and aged care?

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Proposed Objective 2:
Mitigation



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Why is it important to mitigate health system greenhouse gas emissions?

Reducing the health system's greenhouse gas emissions aligns with the health profession's responsibility to first do no harm.[15] As well as being harmful, greenhouse gas emissions are associated with other harms including biodiversity loss, pollution and waste, and excessive consumption. Emissions reductions from the health system will have major health, social, environmental and economic benefits. For example, the electrification of ambulances and hospital transport vehicles would reduce air pollution and hence reduce the exacerbation of respiratory diseases. Where appropriate given the individual's circumstances, active travel to healthcare facilities (such as walking and cycling) would also have a positive impact in reducing air pollution, whilst also lowering the risk of cardiovascular disease and diabetes, and leading to improved mental health outcomes. Co-benefits such as improved air quality can strengthen the case for emission reductions because they are often realised more rapidly and locally than the benefits from reducing emissions themselves. They also have wider benefits – for example, active travel will benefit the Australian economy through increased productivity from reduced disease and mortality attributed to physical inactivity.

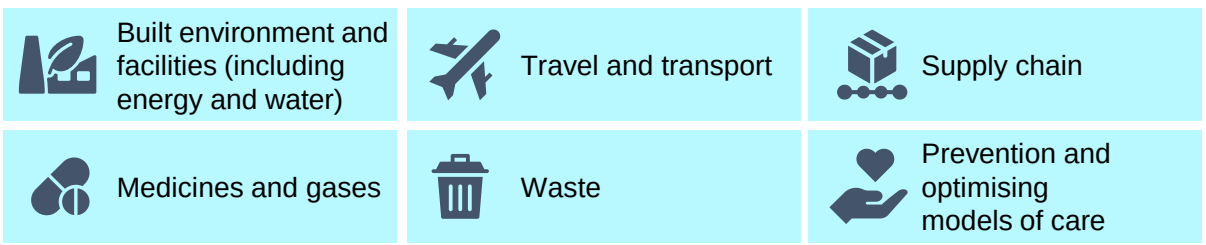
Health system emissions reduction strategies should always be undertaken in a manner that does not undermine quality of care. For instance, asthma patients should not be shifted onto lower-emissions inhalers if a higher-carbon option is clinically preferable, while active transport and diversifying from liquid-fuel-generated electricity may be difficult in remote communities.

What is needed to reduce health system greenhouse gas emissions?

In 2022, the Australian Government lodged an updated Nationally Determined Contribution with the United Nations Framework Convention on Climate Change, committing to reduce national emissions by 43% below 2005 levels by 2030, and reaffirming its commitment to achieve net zero emissions by 2050. The Climate Change Act (2022) legislated these targets. To help achieve these targets, the Government is implementing the Powering Australia plan, which will boost the uptake of renewable energy through investment in industry and job creation. The Strategy will align health system emission reduction targets with economy-wide government targets and identify mechanisms to achieve these targets, such as incentivising the use of renewable energy in hospitals, clinics and aged care buildings.

Many private providers within the health system (such as private hospitals, specialists, and pathology and diagnostics providers) have also begun committing to targets themselves – for example Ramsay Health Care, the largest operator of private hospitals in Australia, has committed to achieving net zero emissions across its value chain by 2040.[16]

The remainder of this section discusses proposed areas of focus for the Australian health system to reduce emissions in:



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Each section defines the problem, notes current policies relevant to reducing these emissions, and outlines potential actions the Australian Government could take in response.

QUESTIONS FOR FEEDBACK:

8. What do you think of these proposed focus areas for emissions reduction? Should anything else be included?

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2.1 - Built environment and facilities (including energy and water)

The built environment consists of all the human-made aspects of people's surroundings, including hospitals, facilities, roads and other connecting transit systems. Buildings contribute to climate change through their construction, maintenance and daily operation. This includes the materials they use; their location; and electricity, gas and water usage.[17] International data demonstrates the extent to which the built environment contributes to total health system emissions. In England, the National Health Service (NHS) estate and its supporting facilities generate around 15% of total NHS greenhouse gas emissions.[18] Within Australia, Malik et al estimated capital expenditure for health care buildings, including expenditure on the building of new hospitals and retrofitting or upgrading of established hospitals, represents 8% of total health care emissions.[19] However, this figure only considers emissions from physical construction and upgrades. Further data collection will need to measure emissions from the ongoing operation of buildings across health and aged care.

Health-care facilities also consume large quantities of water and use energy to heat, pump and dispose of it.[20] The Strategy will seek to utilise and build on existing government schemes, including the National Australian Built Environment Rating System (NABERS) Energy and Water Ratings, which are available to both public hospitals and residential aged care facilities, to identify emissions reduction opportunities and track progress.[21]

On the built environment and facilities, it has already been proposed to the Department that the Strategy consider actions in the following areas:

2.1.1. Building Design and Construction: Identify and make use of policy levers to ensure climate resilience and low carbon technologies are incorporated into health and aged care facility design and construction, including maximising energy efficiency, including:

> **2.1.1.1.** Influencing the choice of building materials to reduce climate impacts (for example low embodied carbon, use of recycled material and reuse of existing materials).
>
> **2.1.1.2** Designing facilities to minimise the use of materials and waste over the lifecycle, including designing for increased durability/lifespan of assets and for flexibility (such as modular construction that can be adjusted to accommodate changing needs, or easily deconstructed and reused).

2.1.2. Building Operation: Identify and make use of policy levers to increase to reduce emissions from the operation of the built environment and facilities, including:

> **2.1.2.1.** Transitioning towards renewable energy sources for electricity, and the electrification, and use of energy-efficient, equipment for heating, cooling and hot water.
>
> **2.1.2.2** Encouraging reduced reliance on diesel-powered generators in hospitals.

QUESTIONS FOR FEEDBACK:

9. Which specific action areas should be considered relating to the **built environment and facilities (including energy and water)**, over and above any existing policies or initiatives in this area?

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2.2 - Travel and transport

International data highlights the significant contribution of transport to emissions in health and aged care. For example, it is estimated it comprises as much as 18% of the total emissions footprint of the English NHS.[22] Emissions from vehicles owned or controlled by hospitals and the health system is most readily accounted for in either scope 1 (for fuel use), or in scope 2 (for electricity use when electric vehicles are charged from the healthcare organisation's purchased energy). Emissions associated with vehicles not owned by the health system, such as employee commuting, and supply chain transportation, largely fall into scope 3. Finally, emissions associated with visitor and patient travel to and from health facilities (excluding owned or leased vehicles, such as ambulances) typically fall outside scopes 1, 2 and 3 and can be challenging to account for.[23]

Vehicles that use petrol and diesel — emit harmful air pollution causing health issues, especially for communities living near high-traffic areas. Transitioning to vehicles with advanced emissions control systems and the use of cleaner liquid fuels can reduce harmful noxious emissions, reduce greenhouse gas emissions and improve population health.

On travel and transport, it has already been proposed to the Department that the Strategy consider actions in the following areas:

2.2.1. Identify and make use of policy levers to increase the adoption of electric and zero emissions vehicles within the health system in line with the Australian Government's National Electric Vehicle Strategy, where this is feasible given existing technology and infrastructure

2.2.2. Identify and make use of policy levers to increase the utilisation of low-carbon liquid fuels within the health system, where continued use of liquid fuels is unavoidable.

The Strategy will build on existing efforts by the Government to reduce emissions associated with road transport. This includes Australia's first National Electric Vehicle Strategy, released in 2023. The National Electric Vehicle Strategy recognises greater adoption of electric vehicles will have wide-ranging health benefits by reducing pollutants like nitrogen oxide and particulates. Research has indicated that even at low penetration rates, the uptake of electric vehicles results in better air quality and reduced asthma-related emergency room visits.[24]

The Strategy will also build on existing work on fuel quality improvements and to reduce noxious emissions from vehicles. In July 2022, the Government brought forward the reduction of sulfur levels in petrol, which is estimated to reduce health costs in Australia by more than $800 million between 2024 and 2027. The Government is now considering changes to Australia's fuel quality standards, which would pave the way for stricter noxious emissions standards for light vehicles in Australia. The government is also investigating implementing new fuel standards for renewable diesel and B20 (5.1-20% biodiesel and 80% diesel).

QUESTIONS FOR FEEDBACK:

10. Which specific action areas should be considered relating to **travel and transport**, over and above any existing policies or initiatives in this area?

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2.3 - Supply chain

Around 70% of the health system's global emissions footprint is derived from the supply chain, including but not limited to the production, transport and disposal of health-related goods such as medicines.[25] Health and aged care organisations are well placed to leverage their considerable purchasing power to influence manufacturers to improve and report on the environmental performance and emissions footprint of the products they purchase. There is also potential to cut emissions from the storage, preparation, and transport of food through a systematic approach to procuring and producing sustainable and healthy food.

The English NHS has established the following *roadmap* to reduce its supply chain emissions:

- From April 2022, all NHS procurements were required to give a minimum 10% weighting to net zero and social value.
- From April 2023, all NHS contracts over £5 million require suppliers to publish an emissions reduction plan for scope 1, scope 2 and a subset of scope 3 emissions. From April 2024, this requirement will be extended to cover all procurements irrespective of value.
- From April 2027, all NHS suppliers will be required to publish targets and emissions for all emissions in scope of the NHS net zero commitment – including those produced internationally.

While the federated structure of Australian government means the approach of the English NHS cannot be applied directly, it gives a sense of the kinds of actions that might be considered by key health system purchasing bodies to reduce the emissions intensity of their supply chains.

On supply chains, it has already been proposed to the Department that the Strategy consider actions in the following areas:

2.3.1. Identify and make use of policy levers to reduce the emissions footprint of medical devices, technologies, pharmaceuticals, chemicals, waste, non-clinical goods, packaging and delivery of services through available mechanisms such as procurement, contracting and supply chain management.

2.3.2. Identify and make use of policy levers to establish circular/green procurement policies requiring the emissions footprint of suppliers and products be transparently reported and considered as a criterion when choosing a supplier.



QUESTIONS FOR FEEDBACK:

11. Which specific action areas should be considered relating to **supply chain**, over and above any existing policies or initiatives in this area?

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2.4 - Medicines and gases

Greenhouse gas emissions generated at the point of use from anaesthetic gases and pressurised metered dose inhalers (pMDIs) have a significant direct impact on health system emissions. Anaesthetic gases delivered through inhalation (known as volatile anaesthetics) include hydrofluorocarbons (sevoflurane and desflurane), chlorofluorocarbons (isoflurane) and nitrous oxide.[26] Pressurised metered dose inhalers (pMDIs) are prescribed to patients to treat respiratory illnesses, including asthma and chronic obstructive pulmonary disease, and use hydrofluorocarbon propellants.[27] Both nitrous oxide and fluorinated gases like hydrofluorocarbons and chlorofluorocarbons have a very high global warming potential compared to CO_2.[28]

Fortunately, there are environmentally sustainable alternative inhalers and anaesthetic gases. Dry powder inhalers and soft mist inhalers have a significantly smaller emissions footprint than pMDIs. The Royal Australian College of General Practitioners recommends pMDIs for young children and people with severely limited inspiratory capacity. However, for most people, a switch to dry powder inhalers can assist in reducing emissions without compromising patient care. This would reduce emissions, given several million inhalers are used by Australians suffering from respiratory illness and pMDIs are widely prescribed.[29] Where clinically appropriate, propofol (an intravenous anaesthetic) can be used as a more environmentally sustainable alternative to nitrous oxide and fluorinated gases. Provided it is disposed of correctly, a propofol based total intravenous anaesthesia is estimated to produce greenhouse gas emissions four orders of magnitude smaller than those produced by desflurane.[30]

On medicines and gases, it has already been proposed to the Department that the Strategy consider actions in the following areas:

2.4.1. Identify and make use of policy levers to reduce use of the most environmentally harmful anaesthetic gases such as desflurane.

2.4.2. Identify and make use of policy levers to improve infrastructure to reduce the occurrence of leaks from piped nitrous oxide.

2.4.3. Work with key stakeholders in primary care to reduce prescribing and dispensing of pressurised metered dose inhalers, where clinically appropriate.

QUESTIONS FOR FEEDBACK:

12. Which specific action areas should be considered relating to **medicines and gases**, over and above any existing policies or initiatives in this area?

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2.5 - Waste

Within buildings, healthcare generates multiple waste streams, both non-hazardous (such as food, drink and used hand towels) and hazardous (including clinical waste, defined as waste contaminated with chemicals or pharmaceuticals, such as discarded sharps, IV fluid and unused medicines, and anatomical waste). Their emissions footprint depends on the type of waste and the method of disposal, which can include recycling, compost, landfill and incineration. For example, hazardous waste has a high emissions footprint as it requires extra processing, including high temperature incineration or chemical decontamination.[31]

On waste, it has already been proposed to the Department that the Strategy explore innovative approaches for responsible management and minimisation of waste within the health system in the following areas:

2.5.1. Encourage opportunities to reduce greenhouse gas emissions through greater medical equipment re-use, recycling and reprocessing.

2.5.2. Encourage opportunities to reduce emissions by supporting innovation in the design and use of sustainable single-use items or reusable items.

2.5.3. Reduce emissions from paper waste by promoting electronic processes for patient medical records, data collection and communication.

2.5.4. Reduce the misuse and overuse of high-emissions clinical waste disposal by encouraging the appropriate management of non-medical waste, such as food composting and paper recycling.

QUESTIONS FOR FEEDBACK:

13. Which specific action areas should be considered relating to **waste**, over and above any existing policies or initiatives in this area?

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2.6 - Prevention and optimising models of care

Health care costs, and associated emissions, are increasing because of an ageing population and in particular, changes in the way care is being delivered.[32] One clear pathway for reducing emissions is by keeping people healthy and out of the health system through prevention.

As described in Australia's *National Preventive Health Strategy*,[33] prevention includes taking measures to keep people healthy and avoid the onset of illness, disease or injury. Preventive health may address individual factors or collective factors. Prevention may also target different stages of health, including:

- Primordial prevention – prevent risk factors from occurring, typically by addressing the social determinants of health and creating environments that promote health
- Primary prevention – identifying risk factors and managing them to prevent a disease or disorder
- Secondary prevention – identifying a disease or disorder early to prevent progression or deterioration
- Tertiary prevention – managing a disease or disorder to reduce morbidity and mortality, and improve quality of life
- Quaternary prevention – reducing harms from health interventions.

Many preventive health actions, particularly for primordial prevention, lie outside of the health system, necessitating a Health in all Policies approach. This is discussed in more detail later.

In addition to keeping people healthy, another way of reducing unnecessary emissions is by improving and implementing sustainable models of care. There is growing recognition of opportunities to reduce emissions by providing value-based care, including by avoiding overdiagnosis, overtreatment and unnecessary laboratory tests.[34] Improving healthcare management will help to avoid 'adverse events' such as medication errors and hospital-acquired infections, which increase the duration of hospital stays and associated emissions.[35]

In relation to prevention and optimising models of care, it has already been proposed to the Department that the Strategy consider actions in the following areas:

2.6.1. Encourage greater social prescribing[36] and patient education for preventive lifestyle change.

2.6.2. Review existing health services and models of care, including Telehealth and 'hospital in the home' programs, to understand their potential to contribute to emissions reductions.

2.6.3. Further explore opportunities to shift models of care from acute care to primary care and self-care.

2.6.4. Support public health initiatives targeted at clinicians and patients promoting reduction in unnecessary medical tests, treatments and procedures.



QUESTIONS FOR FEEDBACK:

14. Which specific action areas should be considered relating to **prevention and optimising models of care**, over and above any existing policies or initiatives in this area?

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QUESTIONS FOR FEEDBACK:

15. What can be done to involve private providers within the health system in the Strategy's emissions reduction efforts?
16. Where should the Strategy prioritise its emissions reduction efforts?
    a) How should the Strategy strike a balance between prioritising emissions reduction areas over which the health system has the most direct control and prioritising the areas where emissions are highest, even if it is harder to reduce emissions in these areas?
    b) Which of the six sources of emissions discussed above (on pages 15 to 20) are the highest priorities for action?
17. What 'quick wins' in relation to emissions reduction should be prioritised for delivery in the twelve months following publication of the Strategy?

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Proposed Objective 3:
Adaptation



Why does Australia need to build a climate-resilient health system?

In the last few years, far-reaching and catastrophic climate-related disasters have left many communities experiencing adverse health outcomes.[37] Even with a rapid acceleration of global mitigation efforts, extreme weather events are projected to increase due to the accumulated effects of greenhouse gases already released into the atmosphere, with resulting acute and long-term impacts on the health and wellbeing of Australians. Climate change can impact health directly, such as through injury and death resulting from extreme weather events, and indirectly, such as through increased vector-borne disease spread and mental health issues. According to the World Health Organization (WHO), climate change is expected to cause approximately 250,000 additional deaths per year globally between 2030 and 2050 due to malnutrition, malaria, diarrhoea, and heat stress alone.[38]

Many impacts of climate change on population health and health systems can be prevented through well-designed adaptation measures. It is critical Australia adapts to the changing climate to ensure Australians are protected from climate-related health impacts and can continue to access safe and good quality health and aged care services. There are many elements which will contribute to the ability of the health system to adapt. These include the establishment of an *Australian Centre for Disease Control* which will strengthen Australia's ability to forecast, monitor and respond to changing patterns of disease and ill-health driven by climate change. Additionally, the Australian Government recognises local service providers – including public health, clinical care, and emergency services – play a crucial role in effective and coordinated emergency preparedness and response and that solutions need to be tailored to local needs and devised in consultation with local communities.

Some communities – such as First Nations peoples, people with disability and older people – are significantly more susceptible to negative health effects from climate-related disasters and extreme weather events. In addition, the impacts of climate change on the functioning of the health system will disproportionately affect these communities. Consideration will need to be given to health and emergency responses for people with disability and older people in disaster resilience and recovery situations, including by ensuring First Nations peoples are enabled to recover their connection to culture and Country following climate-related disasters.

The health impacts of climate change are also disproportionately experienced by women. For example, there is significant evidence domestic violence against women and children spikes during and following climate-related disasters and extreme weather events, and there is also an established negative association between smoke inhalation from bushfires and pregnancy.[39]

Negative health outcomes related to climate change include:

1. Injury and mortality from climate-related disasters and extreme weather events
2. Heat related illness (such as heat-related cardiovascular events for those at higher risk) Respiratory illness (such as increased frequency and severity of asthma attacks due to bushfire smoke)
3. Food insecurity causing malnutrition and reduced access to drinking water, particularly in remote communities
4. Food-borne diseases (such as salmonella)
5. Water-borne disease (such as leptospirosis)
6. Zoonoses (such as H5N1 influenza)

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7. Vector-borne diseases (such as malaria, Japanese encephalitis, dengue)
8. Noncommunicable diseases (such as healthcare implications for patients with long-term treatment needs due to disruptions caused by extreme weather events; and higher environmental exposures to air pollution)
9. Mental and psychosocial health (such as climate anxiety, post-traumatic stress disorder related to climate-related disasters and extreme weather events and, for First Nations communities, reduced opportunities to access and connect with country and culture)[40]
10. Health impacts related to reduced housing security (such as losing appropriate and accessible housing for older First Nations peoples and those with disability, in turn increasing their susceptibility to adverse health outcomes from climate-related disasters and extreme weather).

In addition, negative health system outcomes related to climate change as a result of severe weather events and related disasters, include impacts on:

11. Health and aged care facilities (such as destruction of infrastructure, disruption of supply chains)
12. Health and aged care delivery (for example due to overheating of care facilities)
13. Health and aged care workforce (such as mental health impacts).[41]
14. Care in the home (such as the disruption of vital equipment, including home oxygen supplies, due to loss of electricity).[42]



QUESTIONS FOR FEEDBACK:

18. What health impacts, risks and vulnerabilities should be prioritised for adaptation action through the Strategy? What process or methodology should be adopted to prioritise impacts, risks and vulnerabilities for adaptation action?

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What does Australia need to do to adapt the health system?

Australia's national adaptation efforts are underpinned by the foundation that risks are dealt with most effectively by empowering those who are best placed to manage them. This is laid out in the Council of Australian Governments' 2012 Select Council on Climate Change's *Roles and Responsibilities for Climate Change Adaptation in Australia*. This framework guides cross-government cooperation and highlights the specific roles and responsibilities of the Australian Government. These include:

1. Providing national leadership on adaptation reform
2. Providing nationally authoritative climate science and information, including updated climate projections and scenarios of future climate, to inform decision-making across the economy
3. Managing climate risks to Australian Government assets and services, including investments in public infrastructure
4. Maintaining a strong, flexible economy and a well-targeted social safety net to ensure resources are available to respond to climate change and vulnerable groups are not disproportionately affected.

The Australian Government is working to strengthen national adaptation policies and increase the level of effective adaptation action in Australia, including through the National Health and Climate Strategy. Any effective health system adaptation plan must be rooted in a clear understanding of each of the following as well as how they relate to each other:

- **Changes to climate** (both extreme events and gradual changes) – generating impacts on population health and wellbeing and on health and aged care delivery. This requires an acknowledgement that the climate has already changed, meaning historical events and patterns are no longer sufficient to forecast the future.
- **Health and wellbeing impacts** (both direct and indirect) – quantification and prioritisation of impacts, mapping of affected populations and their vulnerabilities and adaptation capacities, and collection and monitoring of relevant health and wellbeing indicators.
- Policy responses to ameliorate these impacts – including but not limited to:
    - Workforce development, training, and leadership.
    - Public education and communication, including community engagement
    - Data and analysis: strengthening capacity and capabilities in:
        - Evidence review and synthesis
        - Research and evaluation
        - Monitoring and surveillance
        - Forecasting and projection
    - **Emergency response:** Robust plans and procedures for preparedness, response and recovery in relation to climate-related disasters and extreme weather events
    - **Built environment:** Creating a climate-resilient built environment through updated urban adaptation plans and building standards, and retrofitting of existing estates

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- **New services:** Identification, funding, design and establishment of new health and aged care services needed in response to a changing climate, such as emerging diseases.

In addition, an effective health system adaptation plan must consider the risk of maladaptation, i.e. responses that are more harmful than helpful,[43] and avoid responses that worsen existing inequalities, especially for First Nations communities.

On adaptation of the health system to the challenges posed by climate change, it has already been proposed to the Department that the Strategy consider actions in the following areas:

3.1. Climate risk assessment and adaptation planning:

3.1.1. National: Undertake a National Health Vulnerability and Adaptation Assessment and develop a National Health Adaptation Plan.[44] The Australian Government has allocated $28 million over 2 years from 2023-24 to support delivery of a National Climate Risk Assessment and a National Adaptation Plan. The Department of Climate Change, Energy, the Environment and Water will be responsible for undertaking the National Climate Risk Assessment which will consider a range of climate-linked health impacts at the national level. The National Adaptation Plan will address the significant climate risks identified by the risk assessment, including those in the health sector. Any health system vulnerability assessment and adaptation plan would align with this work.

3.1.2. Local and jurisdictional: Provide guidance and implementation support tools to support climate risk assessments and adaptation planning at the local and jurisdictional levels, in alignment with initiatives such as the National Climate Risk Assessment.

3.2. Identify urgent actions: Undertaking a National Health Vulnerability and Adaptation Assessment and preparation of a National Health Adaptation Plan should not delay the identification of immediate, priority actions to address climate change impacts already severely affecting Australians.

3.3. Emergency prevention, response and recovery: Before, during and after climate-related disasters and extreme weather events, identify and support mechanisms which mitigate direct and indirect impacts on health and reduce public health risk.

3.3.1. Within the health system: Ensure provision of guidance for public health and health and aged care organisations on developing emergency response plans for climate-related disasters and extreme weather events, including consideration of potential direct impacts on service delivery.

3.3.2. Beyond the health system: Ensure provision of guidance on how wider emergency response plans for climate-related disasters and extreme weather events can adequately consider health and aged care, with a particular focus on vulnerable communities and ensuring post-event access to primary care and mental health and wellbeing support.

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QUESTIONS FOR FEEDBACK:

19. Should the Australian government develop a National Health Vulnerability and Adaptation Assessment and National Health Adaptation Plan? If yes:
    a) What are the key considerations in developing a methodology?
    b) How should their development draw on work already undertaken, for example at the state and territory level, or internationally?
    c) What are the key areas where a national approach will support local/jurisdictional vulnerability assessment and adaptation planning?
20. Would there be value in the Australian government promoting a nationally consistent approach to vulnerability assessment and adaptation planning for the health system specifically, for instance by issuing guidance and associated implementation support tools for states, territories and local health systems? If yes, what topics should be covered to promote a nationally consistent approach? What examples of existing guidance (either from states/territories or internationally) should be drawn from?
21. What immediate high-priority health system adaptation actions are required in the next 12 to 24 months?

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Proposed Objective 4:
Health in All Policies



How does climate change interact with the wider determinants of health?

Climate change impacts population health outcomes and widens existing health inequities through its impacts on the conditions in which we grow, play, work, live and age. These conditions are known as the wider determinants of health. They encompass the environmental, social, cultural, commercial, economic, digital and biomedical factors influencing health outcomes.

Most decisions affecting the wider determinants of health – such as policies on food and agriculture, housing, employment, infrastructure, land use and transport – are made outside the traditional confines of 'health policy'. For example, poor urban planning can worsen the health impacts of floods and extreme heat.[45] Urban areas with little vegetation and a high concentration of dark surfaces like asphalt trap heat, contributing to the 'heat island' effect in which temperatures in urban areas are significantly hotter than surrounding rural areas.

Climate change affects everybody, but not everybody will be affected equally – some groups are at greater risk of experiencing adverse health impacts from climate change than others. The Strategy will adopt a health equity approach to its mitigation and adaptation plans, taking account of existing health disparities.

Groups at greater risk of experiencing adverse health outcomes from climate change include pregnant women, small children and the elderly; people with pre-existing health conditions such as respiratory and cardiovascular diseases; people with poor mental health; and people with disabilities. Elderly people are particularly vulnerable to climate change due to higher rates of medical comorbidities and physical limitations, and many also live alone or have limited social support networks. This means sudden declines in health, for example from heat stress, may go undetected and lead to increased illness and death.[46]

Existing inequities mean some groups – such as people experiencing socio-economic disadvantage and social marginalisation, First Nations people, culturally and linguistically diverse (CALD) communities and people living in rural and remote areas – are at a disproportionately increased risk of adverse health impacts from climate change.[47] Some members of CALD communities are more vulnerable to the effects of extreme heat, due to linguistic barriers, increased likelihood of residing in poor quality housing and other cultural factors.[48] People on low incomes have limited means to improve the quality of their homes or afford increasing heating and cooling costs, and so are also at higher risk of being adversely affected by heat.[49]

Many Australians live and work in environments and circumstances that make it difficult to adapt to the health impacts of climate change and exacerbate its impacts.[50] In a wide range of workplaces such as construction and outdoor maintenance, excess heat is becoming a more common occupational health and safety risk.[51]

The above examples – which are all focused on the impacts of heat as just one of the effects of climate change – demonstrate how decisions beyond the health sector have profound implications for health and climate change and emphasise the need to address them through joined up policy – a Health in All Policies approach.

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Why should the Strategy adopt a Health in All Policies framework?

The Strategy is considering adopting a Health in All Policies approach – to maximise the synergies between good climate policy and public health policy, by 'facilitating sectors outside of Health to routinely consider and account for the health impact of their policies, plans and implementation.'[52] The World Health Organization defines Health in All Policies as "*an approach to public policies across sectors that systematically takes into account the health implications of decisions, seeks synergies, and avoids harmful health impacts in order to improve population health and health equity.*"[53]

A Health in all Policies approach would incorporate the broader determinants of health into policymaking across government and can be applied to challenges such as health inequities, the wider determinants of health, and climate change.[54] It aligns with the United Nations *Sustainable Development Goals*, to which Australia is a signatory, which promote consideration of linkages between the wider determinants of health.

Climate and health policies that might be informed by such an approach include:

- Transport policy – vehicle electrification will reduce air pollution and respiratory disease, while urban planning encouraging active travel will improve air quality, reduce greenhouse gas emissions, and lower the risk of cardiovascular disease, diabetes and depression.
- Food, Agriculture and Trade policy – improving access to affordable and healthy food from sustainable sources and reducing food waste can contribute to reductions in emissions and diet-related disease.
- Housing policy – economic, construction and land use planning levers can be used to encourage housing with thermal comfort throughout the seasons, lowering energy costs, improved indoor air quality and increased community connectedness.

The Australian Government acknowledges the need for cross-sectoral engagement on climate and health policy. The *Annual Climate Change Statement 2022*[55] recognises climate change poses challenges to the physical and mental health of people and communities, and, in line with the Sendai Framework for Disaster Risk Reduction (2015-2030), acknowledges the importance of harmonised systemic interventions across all sectors. The National Preventive Health Strategy 2021-2030 discusses the environmental determinants of health, including climate change, and advocates for the involvement of other sectors and industries in preventing ill-health caused by factors outside the health system.[56]

The Health in All Policies framework overlaps with the principle of One Health, which recognises human health is interconnected with the health of animals and our shared environment. The One Health approach mobilises multiple sectors, disciplines, and communities at all levels of society to work together. From a public health perspective, One Health acknowledges we cannot optimise human health at the global population level if food systems are broken, the environment is polluted, or we are not adequately resourced to control zoonotic diseases. The complexity surrounding transmission of diseases at the animal–human–ecosystem interface highlights the need for multidisciplinary approaches – known as One Health approaches.

One Health is a guiding principle underpinning work currently underway to establish an Australian Centre of Disease Control (ACDC). The commitment to establish an ACDC arose in the context of Australia's response to the COVID-19 pandemic. Reviews of the global response to COVID-19 have highlighted the need for One Health collaboration as well as increased surveillance to identify emerging pathogens, including those influenced by climate change. The ACDC will play a leading

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role in coordinating Australia's One Health collaboration by developing and strengthening capacities in disease detection, verification, containment and response across the health system. The Strategy aims to complement this work by adopting a Health in all Policies framework.

What is needed to implement a Health in All Policies approach?

The Strategy aims to establish governance, leadership and accountability mechanisms that support the government agencies to recognise and understand the health and health equity impacts of their policies, and find ways to collaborate to design and implement joint public policy for improved health and wellbeing outcomes (for example using *health impact or health lens assessment*). The society-wide National Climate Risk Assessment would facilitate necessary linkages across policy areas by considering systemic risks and grouping them thematically.

QUESTIONS FOR FEEDBACK:

22. What are the key areas in which a Health in All Policies approach might assist in addressing the health and wellbeing impacts of climate change and reducing emissions?
23. What are the most effective ways to facilitate collaboration and partnerships between stakeholders to maximise the synergies between climate policy and public health policy? What are some successful examples of collaboration in this area?

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Enablers



Enablers provide the foundation for action in the health system to tackle climate change. The World Health Organization has recently found that progress in delivering national health and climate change plans or strategies has been impeded by a number of challenges including insufficient financing, human resource constraints, and limited research, evidence, technologies and tools.[57] Feedback already received indicates the below enablers will be critical to effective implementation of the Strategy.

Enabler 1: Workforce, leadership and training

This enabler is focused on supporting and engaging the health and aged care workforce to further develop the skills and capacity to: raise public awareness and understanding of the health impacts of climate change; take action to address these impacts, strengthening the resilience of health services and providing care to affected populations; and lead innovation in reducing health system emissions. This enabler is also focused on ensuring the health system and workforce is supported to sustainably retain and attract staff into the future, acknowledging the existing and expected future pressures faced by the health workforce – including stresses related to the COVID-19 pandemic, recent climate-related emergencies such as bushfires and floods, and ongoing workforce shortages, including in areas particularly impacted by climate change.

On workforce, leadership and training, it has already been proposed to the Department that the Strategy consider actions in the following areas:

E1.1. Encourage medical colleges and other education and training institutions to ensure the impacts of climate change on health form part of the training curriculum for all health care professionals.

Enabler 2: Research

Investing in and supporting coordinated climate and health research will improve the evidence base for responses to: better understand current and emerging climate risks and systemic vulnerabilities; strengthen the resilience and sustainability of the health system; improve health and wellbeing by ameliorating the negative health effects of climate change; and reduce health system greenhouse gas emissions. Evidence should inform priority selection and ensure funds are allocated strategically to maximise outcomes.

On research, it has already been proposed to the Department that the Strategy consider actions in the following areas:

E2.1. A scan of current research activities pertaining to climate change and health.

Enabler 3: Communication and engagement

Effectively communicating and engaging with a wide range of stakeholders and the general public will ensure actions to address the health and health system impacts of climate change are widely understood. There is a particular need for engagement with communities that will be hit hardest by climate change, such as First Nations and young generations.

On communication and engagement, it has already been proposed to the Department that the Strategy consider actions in the following areas:

E3.1. Increase public awareness of the health impacts of climate change to empower individuals and communities to take actions to reduce emissions and build climate resilience.

Enabler 4: Collaboration

Establishing governance structures – both cross-jurisdictional and beyond government – to facilitate regular collaboration with all stakeholders (and in particular First Nations) will build ownership and facilitate working partnerships where required to plan and deliver shared commitments to reduce emissions and strengthen climate resilience.

Enabler 5: Monitoring and evaluation

The health system response to climate change should be measured and tracked through regular reporting on progress against key deliverables, to inform future decisions, drive action and hold all stakeholders accountable.

On monitoring and evaluation, it has already been proposed to the Department that the Strategy consider actions in the following areas:

E5.1. Establish agreed indicators to monitor the key deliverables for the Strategy.

E5.2. Provide annual reports on progress against the objectives of the Strategy.



QUESTIONS FOR FEEDBACK:

24. How could these enablers be improved to better inform the objectives of the Strategy? Should any enablers be added or removed?
25. For each of these enablers:
    a) What is currently working well?
    b) What actions should the Strategy consider to support delivery?

Where to from here?

This Consultation Paper forms the basis of a broader consultation process which will include face to face and online workshops with academics, interest groups and health professional networks and; online public consultation via the Department of Health and Aged Care Consultation Hub. Feedback and submissions received as part of this Consultation Paper will be collated and analysed and used to inform the development of the Strategy.

Updates to public consultation will be published on the National Health and Climate Strategy webpage, which can be found on the Department of Health and Aged Care's website: (*https://consultations.health.gov.au/ohp-2013-environmental-health-and-health-protection-policy-branch/national-health-and-climate-strategy-consultation*). If you have any questions or comments about the Strategy or the consultation process, please contact *Health.Climate.Consultation@health.gov.au*.



Consolidated consultation paper questions

1. How could these objectives be improved to better support the vision of the Strategy?
2. How could these principles be improved to better inform the objectives of the Strategy?
3. Which of the various types of greenhouse gas emissions discussed above should be in scope of the Strategy's emission reduction efforts?
4. What existing First Nations policies, initiatives, expertise, knowledge and practices should the Strategy align with or draw upon to address climate change and protect First Nations country, culture and wellbeing?
5. What types of governance forums should be utilised to facilitate co-design of the Strategy with First Nations people to ensure First Nations voices, decision-making and leadership are embedded in the Strategy?
6. Beyond the schemes already noted above, is your organisation involved in any existing or planned initiatives to measure and report on health system emissions and/or energy use in Australia?
7. What additional data and information is required to support targeted emissions reduction efforts within health and aged care?
8. What do you think of these proposed focus areas for emissions reduction? Should anything else be included?
9. Which specific action areas should be considered relating to the **built environment and facilities (including energy and water)**, over and above any existing policies or initiatives in this area?
10. Which specific action areas should be considered relating to **travel and transport**, over and above any existing policies or initiatives in this area?
11. Which specific action areas should be considered relating to **supply chain**, over and above any existing policies or initiatives in this area?
12. Which specific action areas should be considered relating to **medicines and gases**, over and above any existing policies or initiatives in this area?
13. Which specific action areas should be considered relating to **waste**, over and above any existing policies or initiatives in this area?
14. Which specific action areas should be considered relating to **prevention and optimising models of care**, over and above any existing policies or initiatives in this area?
15. What can be done to involve private providers within the health system in the Strategy's emissions reduction efforts?
16. Where should the Strategy prioritise its emissions reduction efforts?
    a) How should the Strategy strike a balance between prioritising emissions reduction areas over which the health system has the most direct control and prioritising the areas where emissions are highest, even if it is harder to reduce emissions in these areas?
    b) Which of the six sources of emissions discussed above (on pages 13 to 18) are the highest priorities for action?

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17. What ‘quick wins’ in relation to emissions reduction should be prioritised for delivery in the twelve months following publication of the Strategy?
18. What health impacts, risks and vulnerabilities should be prioritised for adaptation action through the Strategy? What process or methodology should be adopted to prioritise impacts, risks and vulnerabilities for adaptation action?
19. Should the Australian government develop a National Health Vulnerability and Adaptation Assessment and National Health Adaptation Plan? If yes:
    a) What are the key considerations in developing a methodology?
    b) How should their development draw on work already undertaken, for example at the state and territory level, or internationally?
    c) What are the key areas where a national approach will support local/jurisdictional vulnerability assessment and adaptation planning?
20. Would there be value in the Australian government promoting a nationally consistent approach to vulnerability assessment and adaptation planning for the health system specifically, for instance by issuing guidance and associated implementation support tools for states, territories and local health systems? If yes, what topics should be covered to promote a nationally consistent approach? What examples of existing guidance (either from states/territories or internationally) should be drawn from?
21. What immediate high-priority health system adaptation actions are required in the next 12 to 24 months?
22. What are the key areas in which a Health in All Policies approach might assist in addressing the health and wellbeing impacts of climate change and reducing emissions?
23. What are the most effective ways to facilitate collaboration and partnerships between stakeholders to maximise the synergies between climate policy and public health policy? What are some successful examples of collaboration in this area?
24. How could these enablers be improved to better inform the objectives of the Strategy? Should any enablers be added or removed?
25. For each of these enablers:
    a) What is currently working well?
    b) What actions should the Strategy consider to support delivery?

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Department of Health and Aged Care

NATIONAL HEALTH AND CLIMATE STRATEGY

Detailed submission form

This form allows you to provide responses to the full set of questions in the Consultation Paper available here.

Alternatively, you may wish to complete the briefer online survey available here.

Please submit this form in Word format to Health.Climate.Consultation@health.gov.au.

Respondent details

What is your name?
[redacted]
What is your email address?
[redacted]
What is your organisation?
Western Health, Melbourne.
Have you read and agreed to the Privacy Statement? Yes. (NB we will not be able to use your submission unless you tick this box)
☒ I have read and agreed to the Privacy Statement
Do you identify as Aboriginal and/or Torres Strait Islander? (Yes/No/Prefer not to say)
[redacted]
Please select which applies to you: ☐ Individual citizen ☒ Health Service Provider ☐ Industry and Life Sciences Organisation or Representative ☐ Academic or Researcher ☒ Primary and/or Allied Health Peak or Advocacy Organisation or Representative ☐ Aged Care Service Provider ☐ First Nations Health Service Provider ☐ First Nations Community Group ☐ First Nations Peak or Advocacy ☐ Medical College or Peak professional body

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Questions for feedback from the Consultation Paper

Introduction

1. How could these objectives be improved to better support the vision of the Strategy?
Include within the Objectives: • Key commitments to achieving overarching Government Objectives (including those in the Introduction of the Paper). • Outcomes that address the fundamental causes of climate change and its drivers. Consideration of the following: **Measurement:** Catalogue the greenhouse gases of the health services, including those unique and common to the health service, including healthcare anaesthetic gases (ie nitrous oxide). Broaden the scope of catalogued climate impacting issues such as water use, waste outputs, air pollutants, etc. **Mitigation:** Acknowledgment that Climate & Sustainability targets are required to mitigate and track improvements. Such targets must be science-based and aligned to government targets. Imbed the requirement for Healthcare institutions to advise governments of the importance of aiming for GHG targets that mandate standards of clinical services and patient care. **Health in all policies:** Explicitly state that the roles of First Nations peoples is welcomed. An Objective of the Strategy would be to inform the Federal Health Department, the whole Federal Government, and the whole nation about what Climate Strategy aims, targets and opportunities are necessary to 1) minimise impact health services has on the Climate 2) How health services need to prepare for an evolving climate change environment.
2. How could these principles be improved to better inform the objectives of the Strategy?
Melbourne is part of the Resilient Cities global program established by the Rockefeller Institute. It is important to consider, outreach to and integrate these existing value programs to the strategy and activities program. Indicating in the Principles the requirement for a strong **governance** framework. Including consideration of the following: What are the roles and responsibilities of the National Climate Change, Sustainability and Health Unit, alongside the various state-based similar sustainable healthcare units (NSW and WA currently)? How can these bodies collaborate to move Australian healthcare towards a low-carbon, high-value system? What role will each team have in encouraging other health focussed groups (e.g., private healthcare providers, hospitals in general, medical research organisations) to achieve net zero? The importance of data sharing must be balanced. Tracking healthcare environmental sustainability data is feasible nationally but requires careful collaboration and governance. The paper should consider Terms of Reference to the governance and charter and mechanisms of operation.

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3. Which of the various types of greenhouse gas emissions discussed above should be in scope of the Strategy's emission reduction efforts?
All greenhouse gas (GHG) emissions lie within the purview of climate change since all cause climate change. Similarly, the Strategy must include all forms of GHG emissions. Scope 3 (indirect) GHGs are particularly important for healthcare since repeated environmentally-extended input-output (EEIO) whole of healthcare studies have shown that GHG emissions from health procurement form most GHGs. Further, there may be a complex interplay between different types of GHG emissions Scopes in healthcare. For example, it has been found repeatedly that reusable in lieu of single-use medical equipment lowers the associated GHGs, particularly when the hospital's electricity source transitions to renewables. However, if we were only to measure hospital Scope 1 GHG emissions, this will increase as electric steam sterilisers would be more frequently in action. The reduction in Scope 3 GHG emissions due to lower single-use equipment purchasing would not be captured in only Scope 1 and 2 GHG measurements. Measuring Scope 3 emissions carefully via process-based life cycle assessment (LCA), as indicated in answers to questions 7 and 8, will be vital.
4. What existing First Nations policies, initiatives, expertise, knowledge and practices should the Strategy align with or draw upon to address climate change and protect First Nations country, culture and wellbeing?
First Nations' knowledge and practices should be considered alongside experts in this field, given their deep understanding and involvement will be vital. Some examples are the following: • Land-based Healing and Connection: Many First Nations communities emphasise the importance of land-based healing and connection to address health and well-being. The Strategy should recognise and support these approaches, promoting the revitalisation of cultural practices, land stewardship, and healing relationships with the environment. • Indigenous Rights and Self-Governance: The Strategy should align with the principles of self-governance and self-determination of First Nations communities. This involves respecting the rights of Indigenous peoples to make decisions about their health, lands, and resources and supporting Indigenous-led governance structures.
5. What types of governance forums should be utilised to facilitate co-design of the Strategy with First Nations people to ensure First Nations voices, decision-making and leadership are embedded in the Strategy?
Suggestions include: • Youth and Women's Advisory Committees: It is crucial to include the perspectives and voices of First Nations youth and women, who often have unique insights and experiences. • First Nations Working Groups: These groups can be formed to address specific topics or areas of the Strategy, such as health promotion, climate adaptation, or policy development. • Joint Decision-Making Processes: Joint decision-making processes can be established to ensure First Nations have direct decision-making authority. This involves shared decision-making power between First Nations representatives, government officials, and other relevant stakeholders. Such methods enable

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consensus-building and ensure that decisions align with the needs and aspirations of First Nations communities.

Proposed Objective 1: Measurement

6. Beyond the schemes already noted above, is your organisation involved in any existing or planned initiatives to measure and report on health system emissions and energy use in Australia?

WH has a Sustainability Team and numerous cross- functional teams who focus on delivering WH Board commitments to ESG, legislative & compliance obligations to local and national acts, NABERs, and Green House reporting.

7. What additional data and information is required to support targeted emissions reduction efforts within health and aged care?

The following additional data is suggested.

- Energy Consumption Data: Detailed data capture on energy consumption within healthcare facilities and aged care centres. This includes electricity, heating, cooling, and water usage. Energy data can help identify areas of high consumption and inform energy efficiency measures and renewable energy integration.
- Operational and Process Data: Understanding the operational and process-related emissions within the sector. This can involve data on medical equipment usage, sterilisation procedures, waste management practices, and pharmaceutical supply chains.
- Supply Chain Analysis: Assessing the emissions associated with the procurement and supply chain of health and aged care facilities. This includes data on the production, transportation, and disposal of medical equipment, pharmaceuticals, and other supplies.
- Emissions Inventory: A comprehensive emissions inventory specific to the health and aged care sector. This inventory should capture GHG emissions from various sources, including energy consumption, waste management, transportation, and supply chains.
- Measurement estimates and models of the beneficial effects of different types of improvements to healthcare emissions, e.g., reducing obesity rates by 10%, and how this would affect GHG emissions.
- Patient and Staff Transport Data: Gathering data on patient and staff transport, both for daily commuting and medical transport. This includes information on vehicle types, distances travelled, and fuel consumption.
- Waste Generation and Management Data: Comprehensive data on waste generation, including medical waste, hazardous waste, and general waste. This includes waste composition, volume, disposal methods, and associated emissions. It helps identify waste reduction strategies, recycling opportunities, and environmentally friendly disposal methods.

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Proposed Objective 2: Mitigation

8. What do you think of these proposed focus areas for emissions reduction? Should anything else be included?

The following should be considered for inclusion:

Energy Efficiency Measures:

- Retrofit healthcare facilities with energy-efficient lighting systems, including LED bulbs, motion sensors, and automatic controls.
- Upgrade HVAC systems with energy-efficient equipment, such as high-efficiency chillers and improved insulation.
- Implement energy management systems to monitor and optimize energy usage in real time.
- Promote behaviour change among staff to encourage energy conservation practices, such as turning off lights and equipment when not in use.

Renewable Energy Integration:

- Install solar panels or utilize other renewable energy technologies on healthcare facility rooftops or nearby land to generate clean energy.
- Establish power purchase agreements with renewable energy providers to procure renewable electricity for healthcare facilities.
- Explore the feasibility of onsite energy storage systems to optimise renewable energy utilisation and provide backup power during outages

Sustainable Procurement:

- Prioritise the procurement of energy-efficient medical equipment and devices.
- Promote using environmentally friendly and low-carbon materials in constructing and renovating healthcare facilities.
- Encourage suppliers to adopt sustainable practices, such as reducing packaging waste and improving transportation efficiency

Waste Reduction and Management:

- Implement recycling programs for healthcare facilities for paper, plastics, glass, and other recyclable materials.
- Optimise waste management practices to minimise landfill waste and promote composting and recycling of organic waste.
- Explore options for the safe disposal or recycling of medical and hazardous waste to minimise environmental impacts

Sustainable Transportation:

- Promote using low-emission or electric vehicles for patient transport, medical deliveries, and staff commuting.
- Encourage using public transportation, carpooling, or cycling for commuting purposes.
- Develop telemedicine programs to reduce the need for unnecessary patient travel and improve access to healthcare services

Water Conservation:

- Implement water-efficient fixtures within healthcare facilities, such as low-flow faucets, toilets, and showerheads.

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- Educate staff and patients about water conservation practices, such as reducing water waste during handwashing and cleaning procedures.
- Monitor water usage and identify areas for improvement and leakage prevention.

Data Monitoring and Reporting:

- Establish comprehensive data monitoring systems to track energy consumption, greenhouse gas emissions, and other relevant metrics.
- Regularly report emissions performance and progress toward reduction targets to drive accountability and transparency.
- Use data analytics to identify opportunities for further emissions reduction and prioritize action areas.

Stakeholder Engagement and Education:

- Raise awareness among healthcare professionals, staff, and patients about the importance of sustainability and the role of the health system in reducing
- GHG emissions.
- Provide training and educational programs on sustainable practices, energy conservation, waste management, and other relevant topics.
- Engage with community partners, local organisations, and public health agencies to promote sustainability and collaborate on emissions reduction initiatives.

9. Which specific action areas should be considered relating to the **built environment and facilities (including energy and water)**, over and above any existing policies or initiatives in this area?

Building and asset life cycle disposal is a key contributor to climate impact and mitigation opportunity. This includes how health services approach the appropriate disposal of assets, including re-use, re-sale, recycling and waste disposal of redundant assets / buildings / landscape management. This phase of the building life cycle should be added as an independent section.

Existing policies, such as the move towards 100% renewable electricity in Tasmania, the A.C.T., S.A., and even public hospitals in Victoria, are the benchmark we should be aiming for across the board. Of great importance also is the need to reduce energy use through energy efficiency measures such as hospital zoning, operating theatre setbacks out-of-hours etc.

Also vital is the necessity to remove reliance on gas, as has been shown by new builds underway and planned in the A.C.T. (Canberra Hospital), S.A. (Women's and Children's), and Victoria (Melton), which will be fully electrified builds with no gas for heating nor hot water.

And once again, avoiding the need to keep building hospitals is essential (the drive to build hospitals stems from a growing and aging population with the dominant medical paradigm always to be doing more).

10. Which specific action areas should be considered relating to **travel and transport**, over and above any existing policies or initiatives in this area?

The following action areas might also be considered:

- Invest in and promote public transportation systems, including buses, trains, and light rail, to reduce reliance on private vehicles.
- Encourage the adoption of electric vehicles and develop charging infrastructure.
- Improve pedestrian and cycling infrastructure to promote active transportation.

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- Implement policies and incentives to reduce carbon emissions from transportation, such as congestion pricing and low-emission zones.
- Flexible work arrangements, working from home, to minimise GHG emissions related to commuting.
- Optimisation of IT infrastructure to facilitate remote working
- Optimisation of the telehealth system
- Emphasise the health benefits of active transport

11. Which specific action areas should be considered relating to the **supply chain**, over and above any existing policies or initiatives in this area?

The following actions areas should be considered:

- Prioritise the procurement of energy-efficient medical equipment and devices.
- Promote using environmentally friendly and low-carbon materials in the construction and renovation of healthcare facilities.
- Encourage suppliers to adopt sustainable practices, such as reducing packaging waste and improving transportation efficiency.
- Incorporate purchasing preferences for robust, reusable medical devices wherever possible

(iii) Similarly, coordinate with the Pharmaceutical Benefits Scheme (PBS) to ensure that all newly listed drugs have life cycle assessments (environmental foot printing studies) undertaken as part of business as usual. Thus, knowledge of a pharmaceutical's environmental footprint will complement relevant economic evaluations.

12. Which specific action areas should be considered relating to **medicines and gases**, over and above any existing policies or initiatives in this area?

Encourage all new hospitals to avoid the installation of piped nitrous oxide.

Encourage midwives, obstetricians, anaesthetists and patients to consider reducing nitrous oxide use in birthing.

13. Which specific action areas should be considered relating to **waste**, over and above any existing policies or initiatives in this area?

Invest in research and innovation of new technologies of truly sustainable medical equipment.

Mandatory circularity in the procurement process for all goods and equipment.

14. Which specific action areas should be considered relating to **prevention and optimising models of care**, over and above any existing policies or initiatives in this area?

Integration of the use of natural remedies and treatments with other overt chemically founded medicines and 'forever' medicines, such that all options are available to the patient, including those with lower climate impact (whether in manufacture, development, cultivation, usage and post-usage)

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15. What can be done to involve private providers within the health system in the Strategy's emissions reduction efforts?

The following is suggested:

- Encourage and incentivise private providers to actively participate in developing and implementing emission reduction strategies.
- Sharing Best Practices: Share successful case studies and best practices from within the health sector, highlighting examples of emissions reduction efforts
- Technical Assistance and Guidance: Offer technical assistance, guidance, and resources to support private providers in reducing emissions. This can include sharing toolkits, conducting energy audits, providing expertise on sustainable infrastructure upgrades, and offering training on energy-efficient practices.
- Financial Incentives: Explore opportunities for incentives to encourage private providers to invest in emissions reduction initiatives. This can involve grants, tax credits, or other financial mechanisms that reward and recognise their efforts to reduce greenhouse gas emissions.
- Establish mandatory emissions targets.

16. Where should the Strategy prioritise its emissions reduction efforts?

a. How should the Strategy strike a balance between prioritising emissions reduction areas over which the health system has the most direct control and prioritising the areas where emissions are highest, even if it is harder to reduce emissions in these areas?

b. Which of the six sources of emissions discussed above (on pages 13 to 18 of the Consultation Paper) are the highest priorities for action?

16. a.
Suggestions include:

(i) Efforts to reduce healthcare's GHG emissions should be undertaken by everyone associated with healthcare, everywhere and across everything related to healthcare. There is great urgency tied to getting to net zero GHG emissions.

(ii) Nevertheless, some quick wins will begin healthcare's journey to low carbon, though will only be the start. For example, cessation of desflurane everywhere and nitrous oxide where practicable, along with dramatic reductions in propellant based metered dose inhalers, are relatively quick wins.

(iii) Electrifying everything, and associated with this: *getting off gas* is necessary; i.e., no new gas builds and gradual removal of gas-fired boiler heaters in hospitals is very helpful.

(iv) The statement that it may be 'harder to reduce emissions from these areas' (with high emissions) is probably correct given that reducing, for example, Australia's obesity and diabetes rates will be challenging. Such efforts must be redoubled to succeed in our drive to low-carbon healthcare.

16. b.
The three sources of emissions of greatest importance are:

(i) Models of care (and avoiding new hospital builds) (known from prior EEIO studies, e.g., Malik, 2018).
(ii) Building energy and water use

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(iii) Procurement of medical devices and instruments.
17. What 'quick wins' about emissions reduction should be prioritised for delivery in the twelve months following the publication of the Strategy?
We suggest a focus on the following : • Retrofit healthcare facilities with energy-efficient lighting systems • Upgrade HVAC systems with energy-efficient equipment, such as high-efficiency chillers and improved insulation. • Implement energy management systems to monitor and optimise energy usage in real-time.

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Proposed Objective 3: Adaptation

18. What health impacts, risks and vulnerabilities should be prioritised for adaptation action through the Strategy? What process or methodology should be adopted to prioritise impacts, risks and vulnerabilities for adaptation action?
• Mental Health and Psychosocial Impacts: Climate change can increase mental health issues, including anxiety, depression, post-traumatic stress disorder and eco-anxiety. Prioritise adaptation actions that strengthen mental health services, community support systems, and psychosocial resilience in the face of climate-related stressors and disasters. • Indigenous Health and Cultural Resilience: Indigenous communities often face unique health impacts and vulnerabilities due to their close relationship with the land, cultural practices, and traditional knowledge systems. Prioritise adaptation actions that respect Indigenous rights incorporate Indigenous knowledge and practices, and support community-led resilience strategies. • Extreme Heat and Heatwaves: Heatwaves and extreme heat events are expected to become more frequent and intense due to climate change. These conditions pose significant risks to vulnerable populations, including the elderly, children, outdoor workers, and individuals with pre-existing health conditions. Prioritise adaptation measures that address heat-related illnesses, heat stress management, public awareness campaigns, and heat-resilient infrastructure.
19. Should the Australian government develop a National Health Vulnerability and Adaptation Assessment and National Health Adaptation Plan? If yes: a. What are the key considerations in developing a methodology? b. How should their development draw on work already undertaken, for example, at the state and territory level or internationally? c. What key areas in which a national approach will support local/jurisdictional vulnerability assessment and adaptation planning?
The Australian government should develop a Vulnerability and Adaptation Assessment and an Adaptation Plan. Please note the role of NCCARF: https://nccarf.edu.au/, was disbanded in 2019. The Plan might consider: a. Climate exposure, extreme events, rainfall, heatwaves, temperature, bushfires, flooding, etc. b. Work at all levels of jurisdiction cohesively between local, regional, state, country and international levels, without leaving outside the mitigation actions. c. Climate related ailments that are likely to increase as a result of climate change needed to be increased in preparedness, such as Heat exposure, Thunderstorm asthma, water born bacteria and virus that thrive in hotter climates.

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20. Would there be value in the Australian government promoting a nationally consistent approach to vulnerability assessment and adaptation planning for the health system specifically, for instance by issuing guidance and associated implementation support tools for states, territories and local health systems? If yes, what topics should be covered to promote a nationally consistent approach? What examples of existing guidance (either from states/territories or internationally) should be drawn from?
Yes, which has in part been adopted by the Rockefeller Institute initiatives with several state governments. The predominant GHG and other climate impacts are ubiquitous across all built environments and the majority of climate impacts could be solved by national government approach to building management. Uniquely health related GHG's can be targeted by health industry, while broader building experts could collaborate with building functions of health to solve the general impact causes.
21. What immediate high-priority health system adaptation actions are required in the next 12 to 24 months?
Avoid building all new healthcare establishments upon land deemed likely to be damaged by the effects of climate change. Design and build with resiliency for the horizon of the building in mind.

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Proposed Objective 4: Health in All Policies

22. What are the key areas in which a Health in All Policies approach might assist in addressing the health and wellbeing impacts of climate change and reducing emissions?
Our suggestions for key areas include: • A health in all policies (HIAPs) approach will emphasize the importance of upstream influences of healthcare's GHG emissions. • A HIAP framework also grounds health within humanity's reality. Our reality isn't dictated by how much money we have, but the fact that we are damaging our earth, our environment, to the point whereby our fragile human civilisation could fail. We must do what is necessary to avoid the demise of our carefully constructed healthcare system and markedly improved health and longevity over the past century.
23. What are the most effective ways to facilitate collaboration and partnerships between stakeholders to maximise the synergies between climate policy and public health policy? What are some successful examples of collaboration in this area?
Publicly signed support from other Federal agencies (e.g., Environment, Climate Change, Defence, Treasury) for the National Climate, Sustainability and Health Unit will be advantageous and encourage the concept of Health in All Policies.

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Enablers

24. How could these enablers be improved to better inform the objectives of the Strategy? Should any enablers be added or removed?
We would suggest the following improvements: • Begin to measure and track healthcare's own GHG emissions (discuss with teams from the Uni. Melbourne- [redacted] and Uni. Sydney- [redacted]). • Engaging with clinicians is integral. This could be modelled on the roles of the clinical leads of the NSW Health Climate and Risk Unit (discuss with [redacted]). • Work with the DEA (Doctors for the Environment) and Climate and Health Alliance (CAHA) to discover how to engage with frontline clinicians already working in the field (discuss with [redacted]). • Expansion with time along the lines of the UK NHS Greening Healthcare team (discuss with [redacted]).
25. For each of these enablers: a. What is currently working well? b. What actions should the Strategy consider to support delivery?
Clinician engagement through the DEA, medical and other colleges (e.g., RACP, ANZCA, RACGP, CICM, RACS, ANMF, AMA et al) has been in place for years and is working well.. The Strategy could also systematise the aforementioned to make it a nationwide objective to make low carbon Australian healthcare a reality.

Thank you for taking the time to complete this survey – your feedback is greatly appreciated!

Please submit this form in Word format to Health.Climate.Consultation@health.gov.au.

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CoHousing AUSTRALIA

National Health and Climate Strategy Consultation 2023

Submission to The Department of Health and Aged Care

24 July 2023

A cohousing community in every suburb

1.0 Introduction

As the world enters the era of the Anthropocene, characterized by an increase in human activities, our communities and ecosystems are facing constant threats from hostile weather conditions, biodiversity loss, and environmental degradation as a result of global warming. In Australia, increasingly frequent extreme weather events such as severe droughts, fires, and flooding have resulted in water shortages, food crises, native species extinction, spread of waterborne diseases and destruction of human settlements (WWF Australia 2022). The resultant - and highly detrimental - socio-economic and environmental impacts have thus increased the urgency of the need to stop global warming, bringing the need to protect ecosystems and the natural environment to the forefront of both local and international concern.

Housing in Australia comprises a significant portion of the nation's carbon footprint. Development alone carries increasingly high operational energy loads as well as having long-term land-use implications. Outlay around housing development, design, transportation implications and the resulting lifestyles of residents all carry significant energy and material consumption implications..

Land-use planning and housing development must be retro-fitted to encompass a health-star rating to ensure development density and amenity are attuned for human and environmental health, creating regenerative ecosystems. An interdisciplinary approach between the built-environment, urban planning and health/public health field holds the responsibility for minimizing the impacts from climate change, in new areas of development and in the retrofit of existing urban areas, to better adapt to the modern challenges, and plan for the current and future needs of the people. Unfortunately, the modern day environmental problems are often interconnected with social issues that are 'wicked' in nature (Fuller & Myers 1941), which are therefore hard to accommodate within a siloed approach. The housing sector, in particular, is an epitome of this complexity.

According to Abraham Harold Maslow's hierarchy of needs, humans have 4 physiological needs that are essential for survival – food, water, warmth and rest. While housing in the form of shelter permits humans to achieve warmth, rest and safety, however, individual consumption practices and choices such as the use of electricity and gas, the heating and cooling of homes and car usage associated with the housing sector are directly contributing to the environmental impacts from the global production–consumption systems (Daly 2017). Regionally in Australia, despite the housing sector being the nation's biggest single investment sector that is responsible for approximately 11 per cent of the

nation's greenhouse gas (GHG) emissions, the sector is failing in achieving the economy-wide net zero goal by 2050. The competing interests and reluctance to change from the building and construction industry over planning policy changes (e.g. the proposed upgrade of the energy efficiency requirements in new housing as part of the new National Construction Code 2022) are few of the main obstacles facing the sector down the route towards a zero-carbon future (Harley 2021).

There is an important role for the health sector to take a shared leadership role in articulating the health impacts of high-emission planning and construction methods and drive the agenda for healthy and regenerative communities by design.

It is not surprising that the constraints in the current housing delivery system in Australia have also negatively impacted the communities' ability to recover from the devastating natural disasters, since the ongoing uncertainty in the housing market (e.g. rental stress) and the inadequate resourcing and efforts from the government after the disasters could worsen the situation. This is evident in the example of the major flood that has stricken the Lismore community residing in the Northern Rivers region of New South Wales in 2022. While it has been proven that the key to successfully rebuilding an impacted community is to first respond to pre-existing housing issues faced by marginalized and vulnerable groups (Fernandez & Ahmed 2019), the surging house prices and shortages in social and affordable housing in the region have remained unresolved to date. Coupled with the generalized housing support services (e.g. temporary housing for people at risk of homelessness) after the flood event that did not cater to the community's specific circumstances and needs, these constraints have all disrupted the recovery process for the community (van den Nouwelant & Cibin 2022). A survey has revealed that 52% of flood victims had to return to their homes that had flooded, 26% were living in temporary housing such as caravans or with friends or family and 18% were still living in insecure accommodation such as tents or temporary rentals by the end of 2022 (Chenery 2023). The failure in the conventional housing model therefore highlights the need for a housing system that could both facilitate the recovery process and also build resilience in communities to cope with future climate disasters. Given the pivotal role of planning in the delivery of housing, the planning system should be improved to better support climate adaptive housing and community responses to disasters.

Housing is a pre-determinant for health. Shelter is foundational, housing security and appropriateness is also crucial for ensuring healthy internal environments, mitigated against overcrowding, limiting financial stress, preventing displacement from community connections. All these factors play a crucial role in the mental and physical health of a population, they are also the basis for social health and society.

Thus, it is vital for Australia's health, housing, and planning policies to improve and to act as the guiding light for Australian people to live within with their ecological limits and restore and regenerate the living world upon which they depend, by providing strategic support for alternative housing models that could better assist in protecting and enhancing ecological and environmental outcomes and climate adaptation.

CoHousing Australia's submission therefore suggests that cohousing, as a housing approach that structures in a sense of belonging to place through built form and promotes community-oriented and sustainable living, has a greater potential in achieving environmental sustainability at a community level in comparison to conventional housing development models. The submission indicates why cohousing should be incorporated into an Australian health agenda, by demonstrating the environmental and community benefits of cohousing and the important roles it could play in protecting and enhancing ecosystems and the natural environment. As current planning laws and housing regulation either hinder or fail to support achieving these benefits, this submission also points to where health advocacy is vital.

2.0 Environmental benefits of CoHousing

Despite the absence of a clear definition within the Australian planning schemes, the concept of cohousing usually refers to a lifestyle choice of residents to have shared indoor and outdoor space in order to cut down the costs of living and maintaining a dwelling, through practices such as common meals, shared living, laundry and garden areas that help to reduce the size and fit-out needed for an apartment within the development (Cox 2017). The positive outcomes from these practices could be demonstrated through the following groups of environmental benefits.

RECOMMENDATION: Australia's health strategy should include a reference to, and definition of, cohousing and related eco-friendly citizen-led co-living typologies.

2.1 Positive influence on residents' pro-environmental behaviours

Effective communication is a key feature in community-oriented living. The increased communication and social interactions among residents promoted by cohousing provides an opportunity for people to live in a more sustainable way. Various studies have proven a positive relationship between social interaction and residents' pro-environmental behaviours, for instance, a greater amount of time spent with neighbors could significantly increase people's willingness to take on a pro-environmental lifestyle (Macias and Williams 2014). Kurz et al. (2007) have also

concluded that a strong sense of community could influence the recycling behaviour of people as much as the individual recycling attitudes towards recycling do. In other words, a cohesive community fostered by collaborative living could generate positive environmental outcomes by influencing and shifting residents' environmental behaviour. This holds true in the cohousing model, as the approach attracts like-minded people who have common interests in living a more environmental and economically sustainable lifestyle, and are willing to exchange knowledge and cooperate to make their community more sustainable (Cox 2017). Notably, this trust between residents is largely missing in the traditional norms of living, which are being strengthened by the existing planning laws that prioritize conventional housing development (i.e. individual families living in single-detached dwellings).

RECOMMENDATION: The Australian health strategy needs to recognise the social capital inherent to cohousing communities, and the potential of cohousing communities to promote behaviour change needed to reduce emissions globally and protect the natural environment.

2.2 Household energy efficiencies and indoor comfort level

Household energy use associated with conventional housing development has been a significant contributor to Australia's national greenhouse gas emissions. Research shows that the residential sector is responsible for approximately 24% of overall electricity use and 12% of total carbon emissions in Australia (Department of Climate Change, Energy, the Environment and Water 2023). On average, an Australian household emits 15 to 20 tonnes of CO2 annually (Moodie 2021). Much of these emissions were generated through the use of power, water, transportation, domestic waste and the consumption of foods and drinks, identified as the six main categories of carbon footprint in the national Carbon Footprint Calculator. Other socio-economic factors such as urban sprawl and income inequality associated with conventional housing development have also aggravated the situation by increasing people's need to travel for basic necessities and thus a higher rate of forced car ownership (Currie & Senbergs 2007).

Sustainable and community-based practices implemented in the cohousing model also allow residents to significantly reduce their carbon footprint, achieve sustainability, and improve individual and social health outcomes. For instance, permaculture has been incorporated into the design of many cohousing communities. By definition, permaculture is an ecological design system that works with nature to promote sustainable and regenerative practices, such as building nutrient-rich soils and using and managing water responsibly (Butler Permaculture Design 2023). In a cohousing

setting, the values of permaculture have been expressed through shared gardens. These gardens are sustained by using water collected from the rooftops, and serve as means to provide fresh food for the community, wildlife habitat, and biodiversity (Lawton 2019). This in turn provides a basis for the common meal system practiced in cohousing communities, which gathers the residents on a regular basis to cook and share locally produced food, and also clean up the dishes together. This effort helps with water efficiencies and to reduce food waste (Transition Australia 2023). Eating locally can also aid in the reduction of greenhouse gas emissions generated during food transportation processes (Cross 2022). Furthermore, the sharing of amenities and services such as cars, laundry and cooking wares will lead to significant carbon emissions savings, by cutting emissions that have occurred along the supply chains as residents buy and consume goods and services (Clark 2020). In this case, both the inner and wider communities can benefit from these gains.

On an individual level, cooking and eating together as a community in the shared common spaces can help to achieve thermal comfort in individual households. Thermal comfort can be defined as the desirable condition of a person's state of mind in relation to a person's comfort level or satisfaction with the temperature of the surrounding environment (Chow 2022). Since the extreme summer heatwaves in Australia are becoming more intense and frequent as a consequence of climate change, keeping the indoor environment pleasantly cool and comfortable is increasingly critical for maintaining a high standard of living and creating liveable and sustainable futures. By recognising that the interactions between social practices and built form could contribute to cooler environments, outdoor cooking has been identified by researchers as one of the ideal ways to maintain cool temperature inside buildings especially during hot seasons, by shifting the heat and moisture generated during cooking processes outside (Cooling the Commons 2023; Healy & Lopes 2022; Power et al. 2020; Lopes 2017). While cohousing supports the coexistence of both private living spaces and shared communal areas and amenities (Chiodelli & Baglione 2013), the outdoor cooking facilities provided in the common spaces within a cohousing community therefore allow the residents to reduce the heat from cooking individually, thus ensuring comfort, promoting environmental sustainability and forming close neighborhood relations. These social practices also support healthy eating and healthy choices through pro-social norms and by increasing access to both locally grown food, participation in collaborative purchasing within a food co-op, and the opportunity to cook together and share food. These processes ensure there is less reliance on individual household capacity reducing the reach of the predatory fast food industry.

2.3 Passive design strategies and physical sustainability

Thermal comfort and positive environmental outcomes can also be achieved from the passive design strategies incorporated into the cohousing buildings. Generally, passive design refers to an architectural approach that works with the local climate to effectively minimise or eliminate the need for mechanical heating or cooling, while maximizing the advantages of natural heat, light and air to maintain a comfortable interior environment in the house (Your Home 2023a). In the cohousing model, this includes pro-environmental designs such as smaller houses, north facing building orientation, passive solar design enabling natural climate control and better insulated exterior walls (Your Home 2023b). The large shared outdoor spaces and reduced private spaces emphasized in the cohousing design that aim to encourage people to be out with others also allow for residents to have smaller individual dwellings that are more cost-effective to heat and cool, thus requiring lesser energy (Harman 2020). Together, these design strategies make cohousing communities energy-efficient and create low environmental impact, as less energy will be required to keep the houses at a comfortable temperature. These design outcomes are beneficial for mental and physical health. The risk of heat and cold are significant across many geographical areas and for many vulnerable cohorts. It is vitally important that design and development practices improve, especially for aging populations without strong social connections.

2.4 Reduced reliance on car parking

In today's car-dominant urban environment in Australia, car parking has been an important consideration of urban planning and has specific requirements stated in the planning schemes around the number and design of car parking spaces, in relation to housing and other developments. However, there has been debates about the inefficient use of urban spaces and the oversupply of car parks in the cities (Krizek & Hersey 2023). Research suggests that an average of 20% of urban spaces are allocated to off-street parking in any motorized city, in addition to the 30% of spaces allocated to road networks (Rodrigue 2017). This inefficiency in parking provision and the historical trajectory of a car-dependent planning approach have only been strengthening people's reliance on cars in urban areas, which contributes to the increased air pollution and congestion that are detrimental to the natural environment (Walsh 2017). In order to create a sustainable future and make good use of the limited land resources, it is vital to promote greener modes of transport amongst the residents and cut back on their car usage. Cohousing communities have taken the lead in this by reducing the number of car parking spaces provided for residents, complemented by encouraging the use of alternative transport modes such as walking, cycling, public transport and car sharing

(Transition Australia 2023). The land spaces freed up from car parking can transit into larger green open spaces and the costs saved can be used for the implementation of other sustainable designs. As a result, the residents' carbon footprints can be significantly reduced, while also facilitating the move towards non-car transport for the wider community.

However, cohousing communities in Australia have been facing huge challenges in waiving the minimum parking requirements during the planning permit application processes, due to a lack of strategic support in the planning system. This leads to the following policy changes that our submission wishes to propose in the next section.

RECOMMENDATION: A health strategy should advocate for planning scheme(s) and planning policy waivers for minimum parking requirements for collaborative / cohousing communities.

RECOMMENDATION: A health strategy should advocate for ResCode standards in the planning scheme(s) around the setbacks, landscaping and private open space should be reconsidered for cohousing developments, given that the shared open space within a cohousing community enhances, protects and can be productive for the whole community and has more opportunities to achieve environmental outcomes.

3.0 Recommendations for planning policy changes

Cohousing demonstrates a forward-thinking approach to address pressing housing and ecological challenges. This submission has highlighted a number of environmental benefits of cohousing, including the positive influence on residents' pro-environmental behaviors that has achieved through the increased communication and social interactions among residents, increased household energy efficiencies and higher indoor comfort level achieved through passive designs, reduced reliance on car parking and sustainable practices such as permaculture, outdoor cooking and the common food system. Given these benefits, the planning system and laws in Australia should support the cohousing model by:

1. Define the concept of cohousing in the planning system. Due to the current lack of definition of cohousing in both the local planning schemes and state-level strategic documents, urban planners are given little guidance for assessing community-led housing developments, thus often neglect the social and environmental benefits of cohousing. By clearly defining cohousing, planners will be able to make more informed decisions on matters such as the reduction of the standard car parking requirements.

2. Planning scheme(s) and related policies should waive minimum parking requirements (e.g. numbers and locations) for collaborative / cohousing communities.
3. The ResCode standards in the planning scheme(s) around the setbacks, landscaping and private open space should be reconsidered for cohousing developments, given that the shared open space within a cohousing community enhances, protects and can be productive for the whole community.
4. Infrastructure related policies in the planning schemes (e.g. under the Planning Policy Framework (PPF)) should encourage embedded energy networks shared across households within a cohousing community, and also have potable water, storm water and sewerage solutions shared across sites to minimize environmental impacts.
5. The Australian planning system needs to recognise the social capital inherent to cohousing communities, and the potential of cohousing communities to promote behavior change needed to reduce emissions globally and protect the natural environment.
6. In midst of the increasing scale and frequency of the environmental catastrophes, planning policies should be improved to better respond to crises. The cohousing model should be integrated into natural hazard risk management and assist in building resilience within communities, by acting as an approach to rebuild the homes of impacted or displaced communities in a new way that will not repeat the past mistakes.

By embracing cohousing as a viable and innovative housing solution in the planning system and laws, inclusive, resilient and sustainable communities can be created while combating climate change, and leave a lasting positive impact on the ecological environment for future generations in Australia.

Introduction to cohousing

CoHousing Australia is the peak body for collaborative, community-led, citizen-led approaches to housing. There are numerous interpretations of co-housing, ranging from inner city co-living to remote intentional communities. CoHousing Australia supports a diversity in housing type and tenure as an opportunity to broaden the housing landscape providing choice and agency.

The key tenets of cohousing are:

- Resident-led:
    - An inclusive and participatory approach to designing, developing, and governing a community-focused residential project,
    - Resident-groups use collaborative agreement-making and dynamic governance tools to create and meet collective policies and mutual expectations.
- Built environment is designed to facilitate community interaction and neighbourliness:
    - Promote various forms of interaction from spontaneous and incidental, to more formal and regular opportunities to interact as a community,
    - Commonhouse – a focal point of the community for shared meals, socialising, and organising,
    - Antisocial spaces (like roads and car parking) are reduced in size and kept at the periphery.
- Private dwellings and shared resources
    - Each dwelling is fully self-contained with all desired amenities of home,
    - Shared spaces can include: guestrooms (avoiding excess of 'spare rooms' in private houses), common laundry, workshop/shed, co-working space, music/art room etc,
    - Private dwellings can be 'space-economical' without compromising access to amenities and activities. I.e. a promotes a housing model of individual sufficiency with shared abundance.



Cohousing explainers:
- Cohousing Explained: "What i...
- Cohousing Explained
- Co-housing, a Future Way of ...
- Cohousing: The Future of Co...

Local example (cohousing + co-op affordable rental):
Murundaka Cohousing Community (Victoria)
https://www.murundakacohousing.org.au/



Cohousing Co-op (Tasmania)
http://www.cohousing.coop/

Benefits:

- Wellbeing and health:
  - Shared spaces help build social capital. Cohousing offers the sense of community life which gives a sense of belonging and stability;
  - One quarter of Australian households are now single-person households (Census 2021) with over one third reporting loneliness prior to COVID, more than 50 percent in 2022. Cohousing is a typology which allows for individual privacy within a supportive and connected community.
- Environmental design and living
  - Because the future resident is involved in the housing design process, they can prioritise and advocate for long term sustainability and energy efficiency measures. The resident (whether as as an individual homeowner or cohousing renter) will benefit from the lifecycle savings from e.g.

reduced energy costs, or lower maintenance, this has a wider societal benefit of improving overall housing stock in Tasmania
    - Cohousing allows community-led housing groups to design for community level sustainability infrastructure (energy/water/composting) which are not possible or less effective at an individual scale (e.g. rooftop solar on multi-unit dwellings, community-scale heating, on-site distributed water capture and treatment options)
    - Groups can collaborate to engage in sustainable lifestyle behaviours, for example:
        - Recycling, composting, gardening, maintenance,
        - Shared e-bikes, e-cargo bikes, and e-vehicles – reduces cost and enables access.
        - Sharing of infrequently used material items (tools, household items etc).
- Economic benefits:
    - Housing costs:
        - Provide opportunities for rentals within the cohousing development
        - Can provide opportunities for subsidised public/social and affordable housing within the cohousing development.
    - Living costs:
        - Reduced expense of individualising many household and lifestyle tools / appliances through access to common resources and facilities,
        - Mutual care – a community to share child-minding, lifts to the airport, senior care, IT whizz, bike repair etc.,
        - Ready supply of hand-me-downs: IT, clothing, recreational equipment, white goods etc.

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