

National Health and Climate Strategy

Response to the Australian Government
consultation paper

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Doctors for the Environment Australia (DEA) is an independent, self-funded, non-government organisation of medical doctors and students in all Australian states and territories.

DEA's work is based on the premise that humans need a future with clean air and water, healthy soils capable of producing nutritious food, a stable climate, and a complex, diverse and interconnected humanity whose needs are met in a sustainable way. We are therefore interested in environmental protection and restoration to promote human health and social stability.

DEA's members work across all medical specialties, including academia and public health.

Background

Doctors for the Environment Australia (DEA) welcomes the development of an Australian National Health and Climate Strategy. For over a decade, DEA has been at the forefront in advocating for the establishment of a national Sustainable Healthcare Unit, decarbonisation of the healthcare sector and the formation of a National Climate and Health Strategy.

In collaboration with the [Australian Medical Association \(AMA\)](#) and [others](#), DEA calls for the Australian healthcare sector to reach **net zero carbon emission by 2040, with an interim emission reduction target of 80% by 2030**. Net zero emissions for the sector by 2040 and important enablers are also supported by the majority of Australia's medical colleges, as called for in our joint 2022 [Communique](#). Evidence-based targets are required from the healthcare sector to play its part in meeting the Paris Agreement commitment to limit global temperature increases to 1.5-2°C- further background can be found in DEA's 2020 report [Net zero carbon emissions: responsibilities, pathways and opportunities for Australia's healthcare sector](#). The healthcare sector has both a duty and [opportunity to lead and influence](#) the broader multi-sector transformational change that is urgently needed to protect the health and wellbeing of present and future Australians.

DEA has proposed an Australian Sustainable Healthcare Unit for over a decade because of the clear need for a national approach to reducing carbon emissions from the healthcare sector. Cross-jurisdictional coordination is needed to realise the full extent of the financial, human health, healthcare-quality and environmental co-benefits of such emissions reductions – further detail can be found in DEA's 2021 [Proposal for a National Sustainable Healthcare Unit](#). National leadership, policies and coordination is necessary to support state-based Sustainable Healthcare Units, private and not-for-profit healthcare organisations and the wider healthcare industry to work together towards net zero healthcare emissions.

With the Australian healthcare sector estimated to contribute to [over 7%](#) of Australia's total greenhouse gas emissions, there can be no further delay in developing a National Health and Climate Strategy. Collaborating with global partners to develop sustainable, climate resilient healthcare systems and communities will be important. DEA strongly recommends that Australia embrace the global leadership and co-ordination already occurring by joining the World Health Organization-led [ATACH \(Alliance for Transformative Action on Climate Change\)](#).

There are national and international calls from the healthcare community for unprecedented action and funding to protect health from climate change. As a sector, the healthcare system should lead in complete decarbonisation by 2040, with a strong interim reduction target of 80% by 2030, with

the onus on wealthy nations to do much more, much faster. The editorial - [Call for emergency action to limit global temperature increases, restore biodiversity, and protect health](#) - was published in over 200 international journals in 2021.

Response to consultation paper questions

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

To provide focus and clarity of purpose, the Strategy Vision should be clearly articulated and brief.

DEA's suggested vision statement is:

A high-quality sustainable healthcare system, leading rapid multi-sector decarbonisation and a healthy, equitable, climate resilient community enabled by a health in all policies governance framework.

A net zero healthcare sector must be achieved by 2040, with an interim reduction target of 80% by 2030. .

Each Objective should have clear targets and timelines, most critically the mitigation Objective, but relevant to all, to assist benchmarking and the forthcoming necessary operational plans.

DEA supports the four over-arching Objectives listed in the Consultation Paper and recommends the addition of a fifth:

Additional Objective – Widespread awareness and understanding of the urgent need for the Strategy.

An important Strategy Objective should be to raise awareness and understanding of the necessary **decarbonisation targets, pathways** and opportunities that are **required** to avoid the dire health consequences of a 2°C increase in global temperatures – let alone the predicted business as usual current trajectory of >3°C global warming by 2100. This awareness and understanding is needed across all levels of government, policy influencers, industry, professional bodies and the community.

Measurement

DEA supports the Measurement Objective with the addition that whilst decarbonisation of the healthcare system is urgent and must be prioritised, there is also a need to address (and therefore measure) the [wider environmental impact of the healthcare sector](#), such as non-greenhouse gas pollutants like particulates and sulphur, resource consumption including water and waste management.

Nationally standardised measurement methods are important to enable mitigation pathways to be developed and guided by benchmarking across the healthcare sector and jurisdictions. Without

such standardised measurement of carbon footprints and other environmental impacts, it will be difficult to coordinate and compare mitigation efforts.

Greenhouse gas emission measurement must include Scope 1, 2 and 3 emissions, including but not limited to direct healthcare energy emissions (from electricity and fossil gas), transport and anaesthetic gases (including nitrous oxide) and respiratory inhalers (which are potent greenhouse gases). Scope 3 emission inclusion is fundamental. **The Scope 3 emissions of all medical equipment and pharmaceuticals must be measured – this will require mandatory reporting from industry.**

Other recommended measurements are:

- carbon footprint analysis of different models of care.
- health co-benefits of population/public health initiatives that reduce carbon emissions and morbidity, such as active transport and plant rich diets.
- the cost of climate change inaction on Australia's health and healthcare system, such as costs of excess deaths, disability and health care (including mental health related) due to increasing extreme weather events fuelled by accelerated climate change.
- coding for cause of death to include climate change and its health effects.

Mitigation

DEA supports the Mitigation Objective, however it is paramount that this Objective is specific in what it aims to deliver. **Science-based carbon emission targets are required** to mitigate and track improvements. The healthcare sector and its institutions should lead in acting on and advising governments of the importance of setting carbon emission targets aligned with keeping Australians safe and healthy below a temperature rise of 2°C and ideally less than 1.5°C.

These targets must explicitly include all Scope 1, 2 and 3 emissions (onshore and offshore) with annual interim targets to allow progress to be monitored. DEA and the AMA, along with many medical Colleges, Societies and healthcare organisations have [endorsed a net zero target for the Australian healthcare system of 2040 with an 80% reduction in emissions by 2030](#).

Adaptation

DEA supports the Adaptation Objective. Adaptation is necessary to protect health outcomes for people and communities as well as the resilience of our health system, from climate change harms which can no longer be prevented. However, **adaptation will never be sufficient to protect human health without science-based climate mitigation to keep global warming as close to 1.5°C as possible**, noting that this represents over 1.5°C warming for Australia.

Adaptation will include education, training and workforce planning and resourcing to respond to current and predictable increases and changes in healthcare needs due to the impacts of greenhouse gas emissions which have already occurred.

On Health in All Policies (HiAP)

DEA strongly supports the HiAP Objective. Most of the determinants of health lie outside the direct influence of the healthcare system. Health in All Policies must integrate health considerations into policies across all sectors (trade, agriculture, transport, buildings and infrastructure, energy, education, defence, and so on) and not just within the health sector. Feasibility analyses for all fossil fuel projects must include the financial and human costs of health impacts (externalities), including such projects' global warming potential, air and water pollution, the need for increased health services and displacement of local communities.

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

DEA supports the Principles outlined in the Consultation Paper and, in particular, that First Nations leadership is prioritised.

Recommended additions to the Principles:

Principle 2 should include reference to inter-generational equity, justice and inclusion – our action or inaction now will have profound impacts on the generations to come and this must be forefront in developing the strategy.

Principle 7 – A strong governance framework. This should incorporate a commitment to overcome traditional state and commonwealth boundaries to deliver transformative change. This includes co-ordination of the intersecting roles of the National Health, Sustainability and Climate Unit, existing and emerging state-based sustainable health units, the Net Zero Authority, the Department of Climate Change, Energy, the Environment and Water, public and private healthcare organisations (including industry), and non-governmental bodies. In addition, conflicts of interest must be transparently declared and managed appropriately.

Principle 8 – Provision of high-quality, sustainable healthcare. The future of high-quality care is reliant on a healthcare system that is both financially and environmentally sustainable in which quality care is prioritised, as the provision of [high-quality care is low carbon care](#).

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

Scope 1, 2 and 3 greenhouse gas emissions must be included in all targets and mitigation efforts. Offshore generated Scope 3 emissions are very relevant to healthcare as described below.

Apart from direct emissions from anaesthetic gases and respiratory inhalers, measurement of Scope 1 and 2 emissions already exists and is reported in most Australian jurisdictions, as noted on page 11 of the Strategy document. The expansion of improved measurement of Scope 3 emissions via process-based life cycle assessment (LCA), as indicated in answers to questions 7 and 8, will be important to support evidence-based low carbon models of care and product selection.

Inclusion of all Scope 3 (indirect) greenhouse gas emissions is particularly important for healthcare since greenhouse gas emissions from health procurement form the majority (60-70%) of health

care's carbon footprint. This has been shown through repeated environmentally-extended input-output (EEIO) whole of healthcare carbon footprint studies and is often related to products being manufactured overseas.

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 these emissions can be taken into account for evidence-based procurement decisions. Health care's purchasing power can then be used to move procurement toward lower carbon products and in turn impact pharmaceutical and manufacturing decisions made overseas.

In addition, in healthcare there may be complex interplay between different Scopes of greenhouse gas emissions. For example, it has been found repeatedly that adopting reusable in lieu of single use medical equipment lowers the associated greenhouse gases, particularly if a hospital's electricity source is renewable. Yet, if only measuring a hospital's Scope 1 greenhouse gas emissions, this will increase as electric steam sterilisers would be more frequently in use. The reduction in Scope 3 greenhouse gas emissions due to lower single use equipment purchasing would not be captured if only Scope 1 and 2 greenhouse gases are measured.

Emissions from all healthcare associated travel must also be included, despite patient and visitor travel not traditionally being included in the definition of Scope 1, 2 and 3 emissions. Notably, emissions associated with patient and visitor travel and transport to and from healthcare facilities is a major source of healthcare emissions. Such travel comprises 8% of the UK NHS's carbon footprint and is being shown to be of similar proportions in [Australia through emerging carbon footprinting studies](#). Measuring these emissions will influence decisions not only related to provision of transport modes, but also models of care such as telehealth and provision of care 'in place' (Hospital in the Home). These emissions have been measured in multiple studies and undoubtedly fall within the remit of this strategy.

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?

Doctors for the Environment Australia supports the centring of First Nations voices and policies in this Strategy and co-design of the necessary governance structures. We do not seek to represent the views of First Nations peoples and encourage meaningful engagement with their communities.

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?

Doctors for the Environment Australia supports the centring of First Nations voices and policies in this Strategy and co-design of the necessary governance structures. We do not seek to represent the views of First Nations people and encourage meaningful engagement with their communities.

Objective 1 Measuring health system greenhouse gas emissions Q 6-7

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 current national greenhouse gas emission reporting schemes outlined in the Consultation Paper are noted, including the National Greenhouse and Energy Reporting scheme (on page 11 of the Strategy) and the Climate Active program, although it is unclear if any healthcare facilities currently participate in this voluntary program.

The Scope 1 and 2 emission calculations presented on page 11 are challenging to interpret and potentially misleading due to the lack of refined data, although the estimates for healthcare related Scope 1 emissions are broadly in line with prior studies. However, the Scope 2 emission data is an aggregated estimate for ANZSIC (Australian and New Zealand Standard Industrial Classification) Commercial Services and therefore bears little relevance to what emissions can be attributed to Australia's healthcare system. The 6% estimate of national emissions from the health system on a consumption basis is broadly in line with the 7% calculated by [Malik et al](#) for 2014/15.

DEA has been involved in advocacy at many levels including organisational, state and national levels for improved measurement and reporting on healthcare emissions and energy use. Several DEA members are involved in directly measuring and reporting on emissions, including [Dr Hayden Burch et al](#) and Associate Professor Forbes McGain at Western Health in Melbourne. In association with the Universities of Melbourne and Sydney, members have undertaken several process-based life cycle assessments (LCAs) of common tests and procedures, including [pathology tests](#) and [CT and MRI scans](#). These studies are important in providing the evidence base for a more nuanced healthcare greenhouse gas emissions profile and the foundation for an informed research and policy agenda to realise low carbon healthcare.

Victoria has recently introduced an updated [Financial Reporting Directive 24 - Reporting environmental data by government entities](#). This includes mandatory reporting on Scope 1 and 2 as well as some Scope 3 emissions. This structure could be used as an initial template for national standardisation. This could then be built on in the coming years, noting that it still does not adequately measure and report on Scope 3 emissions.

The Global Green and Healthy Hospitals [Climate Impact Checklist Tool](#) is another resource to help hospitals report on Scope 1 and 2 with selected Scope 3 emissions.

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

Careful consideration is required when choosing appropriate carbon footprint methodologies, such as Environmentally Extended (Economic) Input Output (EEIO) analysis, process-based life-cycle assessment or a hybrid model. It is important not to over-rely upon EEIO studies in guiding local decision-making. EEIO studies are useful for setting the scene and providing a broad overview of the healthcare sector's greenhouse gas emissions. However, data derived from EEIO studies are

rarely refined enough to guide evidence-based product choice (including pharmaceuticals), or consideration of greenhouse gas emissions from clinical care processes and procedures.

EEIO studies link a financial value with greenhouse gas emissions (kg CO₂e per dollar). They are useful for large, healthcare sector wide estimates of greenhouse gas emissions. Process based LCAs require careful analyses of the components, their masses, place of manufacture, and energy sources used to deliver the final product. It is possible to spend less time and money completing an EEIO study of the entire Australian healthcare system than that required to study the greenhouse gases associated with [the treatment of 10 patients with septic shock in one intensive care unit](#). However, process based LCAs are a more reliable method when making comparisons between different clinical pathways. Access to such granular carbon footprint information will be increasingly important in clinical decision-making as the healthcare sector moves towards net zero emissions.

An important role of the National Health, Sustainability and Climate Unit will be to assist researchers to develop a robust life cycle inventory of common medical equipment, pharmaceuticals and so on. An international LCA inventory has recently been developed [Healthcare LCA](#) and will provide useful information. However, process based LCA outcomes can be jurisdiction and methodology dependent and therefore are not always transferable.

Policy and legislation to mandate reporting of the carbon footprint of pharmaceuticals (as part of PBS approval) and medical devices (as part of TGA approval), using an appropriate methodology, will be a cornerstone of measuring the emissions associated with procurement and supply chains. This is already being considered in the NHS through the NICE guidelines.

Measurement of health system environmental impacts should not be confined to greenhouse gas emissions, but include other relevant impacts such as water use, waste outputs and air pollutants.

Measuring the economic value of the **health co-benefits of climate change mitigation policies** (such as from transitioning the energy and transport sectors) and **adaptation** is important:

- to inform future policy and resource allocation.
- to count the economic cost to health care from climate enhanced weather events.
- for financial analysis of sustainable healthcare practices (costs and benefits).
- for cost-benefit analyses of increasing resourcing of preventative and primary healthcare.

It is important to understand that the EEIO approach assumes there is a linear relationship between financial and environmental costs. This is discussed in [McGain et al](#) on the treatment of patients with septic shock:

So, a product that costs ten times as much has ten-fold the environmental footprint. Whilst this may be true for many publicly available products, in health care, environmental reporting is opaque. Although pharmaceuticals form a considerable part of health care's carbon footprint, there are few publicly available studies of individual drugs. Further, it is unlikely that an expensive,

patented drug that costs ten times more than a non-patented drug has ten times the greenhouse gas emissions, or that greenhouse gas emissions would really fall ten-fold when no longer patented.

Objective 2 Mitigation Q 8-17

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

DEA supports the proposed focus areas. However, we **strongly recommend that both ‘Prevention and optimising models of care’ are prioritised** – placed first and potentially separated.

Fundamental to successfully decreasing sector emissions are policies and enablers that reduce healthcare demand and prevent the need for resource intensive acute care, followed by evidence-based sustainable models of care.

Ultimately, the most sustainable healthcare system is one that minimizes unnecessary or ineffective use of resources (financial and natural) by delivering the right care, in the right place, at the right time – and by preventing care needs from arising at all where possible. ([Naylor and Appleby, 2013](#))

Consequently, the greatest long-term results will come from investment in preventive and primary care, eliminating low value care and developing low carbon models of care. Noting that [Barratt et al \(MJA, 2022\)](#) estimated clinical care in Australia to account for 80% (28Mt CO₂e) of Australian healthcare emissions, of which greater than 11.5 Mt CO₂e emissions are likely to stem from harmful and low value care.

Disappointingly, however, there is **no sense of urgency related to this Objective that accurately captures the science-based need to decarbonise rapidly**. Central to any strategy for mitigation are emission reduction targets. The healthcare sector has both a responsibility and an opportunity to lead with science-based emission reduction targets. DEA, the AMA and a number of health organisations, colleges and societies have called for the sector to be [**net zero by 2040, with an interim reduction target of 80% by 2030.**](#)

To align with science-based targets, the Australian health sector needs a net zero roadmap and supportive legislation. Greener NHS England has legislated healthcare sector specific targets and developed a Net Zero Roadmap to reach Carbon Zero across Scopes 1, 2 and 3 by 2040/45, including clear annual targets towards that goal. This will require leadership, clear strategy, adequate funding and resourcing to support a national effort, the creation of an authorizing environment for all health workers to co-develop solutions, and the fostering of collaborations with research and industry sectors to drive innovation and efficient implementation.

Each mitigation section 2.1- 2.6 should be strengthened by clarifying the relevant emission reduction targets.

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?

Whilst DEA supports the proposed actions listed in the Strategy in relation to the built environment and facilities, the Strategy also needs to set out (in this section or elsewhere) how it will support:

- **action to reduce demand for large, resource-intensive healthcare facilities** and ensure only absolutely necessary buildings are constructed, such as by scaling up health promotion, telehealth and care closer to home, without compromising patient outcomes.
- healthcare organisations and suppliers **transition** to net zero buildings and facilities.

DEA has strongly advocated for, and influenced, increased healthcare facility renewable energy and electrification as recommended in our [Net Zero Carbon Emissions Report](#) for Australia's healthcare sector and the [DEA: All Electric Hospital Guide](#). A list of all-electric hospitals that are planned in Australia can be found [here](#).

The current Strategy currently lacks clear time frames for the proposed actions, which should be included. DEA recommends:

- 100% renewable electricity supply to all Australian public and private healthcare facilities by 2025.
- no planned healthcare facility builds to include gas infrastructure, effective immediately.
- transitioning of existing healthcare facilities to be gas-free by 2030.
- the establishment of nationally consistent guidelines for healthcare facilities to be designed and constructed for net zero emissions by 2024. Note that the value of reducing ongoing energy consumption through better design and insulation needs to include current and projected increased extreme weather events, such as heatwaves and hot weather, and not be based on historical data.
- no piped nitrous oxide infrastructure in future hospital designs as of 2023, apart from when considered necessary for obstetric and paediatric services. Nitrous oxide piped infrastructure is not a required standard of the updated Australian Health Facility Guidelines.

Internal facility design is important to improve energy efficiency. For example:

- Modular design of hospitals to allow heating, ventilation and air conditioning (HVAC) units to be turned off in offices and outpatient clinics when not in use (such as overnight and weekends) and in operating theatres when appropriate.
- [Environmentally Sustainable Design for Kidney Care Facilities](#) from the Australian and New Zealand Society of Nephrology calls for all new planned dialysis facilities to enable significant environmental benefits. These include:

- Incorporating submetering capacity into the design of dialysis units to enable measurement of water and power consumption by reverse osmosis (RO) plants, as these consume large amounts of power and water. Currently, the lack of measurements is limiting the ability to compare usage between plants and/or improvement initiatives and consequently, the setting of environmental key performance indicators for dialysis units.
- Installing reverse osmosis plants on the same floor as the dialysis unit to minimise energy usage due to pumping water long distances and loss of heat as water circulates for disinfection.
- Consider opportunities for RO to reject water capture and reuse it instead. In hospitals, used water can be directed to toilets, central sterile services departments (CSSD) and so on. It is relatively cost efficient and straightforward to incorporate into infrastructure planning, but costly to do after construction.
- Europe and UK are moving towards centralised delivery of acid concentrate, which saves concentrate wastage, transport, packaging, staff handling and money. While not currently done in Australia, there should be proactive consideration of the different space implications of this for new units, as storage tanks are needed for the concentrate rather than rooms for concentrate bags or canisters.

The Strategy should specifically outline the importance of adequate waste management facilities – that is, all planned capital projects and upgrades should include space for multiple waste streams and an appropriately sized CSSD. Without these it can be extremely difficult for healthcare facilities to instigate adequate waste management streams and return to the use of reusable medical devices (which need washing and sterilizing facilities) compared with single use items.

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

Patient and visitor travel to and from healthcare facilities needs to be included in the Strategy.

Robust accounting of all emissions is necessary. Modes and habits of patient and visitor travel in particular can influence the emissions from different models of care, such as telehealth. NHS England (8% of NHS emissions) and some Australian healthcare organisations have measured these emissions, so we do not accept that these emissions should not be measured, reported and reduced through policies included in this strategy.

Policies that **promote active transport** and corresponding infrastructure for access to healthcare, including affordable public transport options, must be prioritised and outlined in the Strategy. This would include facilitating collaboration between state and territory governments, local government and health services to improve active and public transport access, infrastructure and incentives for patients, staff and visitors at existing and new facilities.

Specific targets are needed for the adoption of zero emissions, including electric transport. DEA recommends all vehicles owned or operated by the health system to be zero emission vehicles

before 2025. In circumstances where electric vehicle use is not practical, such as in very remote settings, a high fuel efficiency standard must be the minimum.

Universal electric vehicle charging must be available at all healthcare facilities for staff, patients and visitors.

Models of care and health business practices (virtual meetings) can influence travel modes and emissions. Therefore, the Strategy should incorporate incentivising the uptake of videoconferencing, telehealth, telephone consultations and other virtual technologies when clinically appropriate. Changes to models of care can also include Hospital in the Home and decentralising health care away from tertiary centres by upskilling and adequately resourcing local health facilities to deliver appropriate care closer to home. For example, in Melbourne, the Royal Children's Hospital has established memorandums of understanding with Northern and Sunshine Hospitals to transfer appropriate patients to their inpatient paediatric units so that their inpatient care can be completed closer to home.

Staff travel emissions should be addressed through restructuring continuous medical education (CME) funding to de-incentivise international travel for conferences, prioritise virtual attendance and allow CME allowances to be reimbursed to the clinician, used for other educational activities or environmental, social and governance projects that benefit the health system.

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

DEA strongly supports the actions outlined in the Strategy. They are important and should be explored fully to ensure robust policy levers are used for implementation, including those relevant to non-clinical goods such as food and beverages.

As outlined in the Strategy, the England NHS has developed a clear roadmap to reduce its supply chain emissions. Despite Australia's federated system, a **national coordinated approach to procurement policy is a critical aspect of our Strategy**. Importantly, the private health system must be subject to the same procurement standards as the public system. Standardisation is already in place in the Modern Slavery Act which requires all procurement processes to ensure that the risk of modern slavery is minimised in all contracts and is the responsibility of suppliers and purchasers. So, while appreciating the potential complexities, DEA refutes the current Strategy assertion that policies similar to the England NHS supply chain roadmap cannot be implemented in Australia.

Furthermore, Australia has national bodies that can regulate certain standard requirements, such as the Therapeutic Goods Administration (TGA), Pharmaceutical Benefits Scheme (PBS) and the Australian Commission on Safety and Quality in Health Care (ACSQHC).

All pharmaceutical and medical device or supply companies must be required to publicly report the carbon footprint of each of their products, either through the PBS for pharmaceuticals or the TGA and/or the [Medical Services Advisory Committee](#) (MSAC) for medical devices or services. These carbon footprint analyses should require methodology standards for LCAs and be compiled in an LCA database to aid procurement decisions.

All medical devices must have declared end of life disposal plans, with a focus on a circular economy approach. Financial, including taxation, incentives could be provided to companies that provide these circular solutions in Australia. The onus needs to be on all medical device suppliers to explain why specific devices are not reusable, and what efforts they have taken and will take in the future to make their devices reusable. Careful regulation will be needed to support such changes in practice, including policies to develop a medical equipment re-processing industry, as presently companies have financial incentives to declare items single use only.

Australia must join the World Health Organization-led Alliance for Transformative Action on Climate and Health (ATACH). Sixty-four countries are members, and it is very disappointing that Australia is not. It is through this alliance that national Departments of Health are developing international procurement standards, led by the UK NHS, United States Department of Health and Human Services and several major European nations.

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

Clarify that Section 2.4 includes **medicines, medical gases and respiratory inhalers**. Many recommendations for pharmaceuticals are incorporated in the actions listed in 2.3 as part of the supply chain.

DEA supports strengthening the listed Strategy actions in this section, including but not limited to:

- banning the use of desflurane, as both the England and Scotland NHS have done
- mandating reporting of emissions associated with anaesthetic gases (including nitrous oxide), as in the new [Victorian Financial Reporting Directives \(FRD 24\)](#) requirements
- mandating a nitrous oxide infrastructure management plan for all hospitals with piped nitrous oxide, to ensure adequate monitoring, detection and mitigation of leaks and the reduction of overall procurement
- minimising waste of medical oxygen. Flow meters should be turned off when not in use, as the production of medical oxygen has a carbon footprint
- preferencing the use of dry powder inhalers (DPIs) over metered dose inhalers (MDIs) by changing the current PBS restrictions to MDI prescribing when there is an indication. For beta agonist inhalers, at present the [PBS restricts prescription of terbutaline DPI](#) to those who cannot coordinate an inhaler and the prescriber should assess this every time they prescribe it. However, a salbutamol MDI is much more carbon intensive, causing 27kg CO₂e in emissions, whereas terbutaline causes only <1kg CO₂e. Research into which patients clearly benefit from MDIs rather than DPIs should be incentivised and translated into specific indications for MDIs. In addition, research into alternative propellants or delivery systems such be prioritised.
- investment in emerging technology platforms designed to improve pharmaceutical stock management and reduce waste

- working with the TGA to review packaging and information requirements for medicines to reduce waste and carbon emissions
- funding for the [Choosing Wisely](#) and NPS [Medicinewise](#) programs should be restored and increased. Funding for the Choosing Wisely and NPS MedicineWise programs should be restored and increased. These programs reduce low value prescribing and other aspects of low value care.
- including a requirement in the upcoming [National Safety and Quality Health Service \(NSQHS\) Standards](#) Sustainable Healthcare module for hospitals to be actively engaged in reducing their emissions associated with anaesthetic gases, MDI inhalers, low value prescribing and medication waste management.

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

While waste management is a key component of a Strategy to reduce environmental impact, the **focus must be on an emphasis on reducing waste in the first instance**, as the waste itself does not have as significant carbon footprint as the production of the product.

Appropriate **segregation of waste** that is generated is also important. This requires multi-factorial initiatives including staff education, facility infrastructure, waste contracts as well as the capacity to re-use, reprocess and recycle products. Much waste related to healthcare, including medical procedures, is not 'clinical waste' and should not be treated as such.

Approaches to medical device supply and disposal as outlined in the Supply Chain section will be required.

Healthcare facilities should have mandatory recycling streams and targets for compliance with these. These should form part of the [NSQHS Accreditation](#) standards. Education on appropriate waste streams should be mandatory for all employees.

Review of infection control policies is necessary to ensure infection risk versus sustainability considerations are evidence-based and only appropriate and necessary use of many goods, such as sterile gowns and drapes, isolation gowns, gloves, dressing packs, [Blueys](#), and face masks. Distinctions between the requirements for a sterile field versus a clean, non-sterile field must be clearer.

The phrase 'sustainable single-use item' should be clearly explained as single-use items are generally not sustainable.

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?

For health prevention, the importance of Health in All Policies cannot be overstated, and DEA commends the Strategy for recognising this.

As discussed in Q8, fundamental to successfully decreasing sector emissions are policies and enablers that reduce healthcare demand and prevent the need for resource intensive acute care, followed by evidence-based sustainable models of care, hence DEA **strongly recommends that both ‘Prevention and optimising models of care’ are prioritised in the proposed mitigation focus areas**, such as by being placed first and potentially separated.

Education, work force 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 are all important. These will require further consultation and engagement with both consumers and peak professional bodies – DEA has collaborated with the AMA to develop the [GreenCollege Guidelines](#) to assist. Recent Australian Medical Council updates to the pre-vocational curriculum include principles of sustainable healthcare, and all clinicians (and healthcare administrators) should be similarly required to undergo education in this area.

The UK based Centre for Sustainable Healthcare’s [Sustainable Healthcare Principles](#) provides a good outline of the priorities and framework needed, highlighting the importance in models of care of prevention as well as patient-centred decision-making and self-care.

As outlined in the Strategy, the review of existing health services and models of care, including telehealth and Hospital in the Home programs, will be important to understand their potential contributions to emission reductions. Policies and funding (including Medicare Benefits Schedule item numbers) should encourage the uptake of telehealth/videoconferencing and telephone consultations, where clinically appropriate.

Actions previously mentioned to enhance sustainable models of care include decentralising health care away from tertiary centres, by upskilling and adequately resourcing local health facilities to deliver appropriate care closer to home. This would also include enhancing (not replacing) local, ongoing, community-based mental health care which is integrated with primary health care.

Other enablers to optimise sustainable models of care and practices include:

- defunding, via Medicare, of procedures identified as low value care.
- working with private insurers to defund low value procedures.
- identifying and eliminating financial incentives for over-servicing.

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

Responsibility for the delivery of Australia’s health care is shared by federal and state governments as well as private entities. Coordination, collaboration and alignment of goals across all these entities are therefore needed to achieve reductions in the sector’s environmental impact, including its carbon footprint. There are several incentives and policy levers that can facilitate the involvement of private providers.

A primary incentive should be financial, because there are numerous synergies between the provision of environmentally sustainable healthcare and financial benefits. This is demonstrated by the UK based Sustainable Healthcare Unit and outlined in DEA's [Proposal for a National Sustainable Healthcare Unit](#).

Accreditation standards apply to both public and private healthcare facilities and a significant lever for both should be the mandatory inclusion of [NSQHS Sustainable Healthcare Module](#) standards.

Private providers of healthcare sit under the control of the federal Department of Health and Aged Care, with approximately 75% of funding for GPs and private practitioners arising from Medicare. Providing financial incentives to avoid low value (and by definition, high carbon) health care and encourage high value care via Medicare billing is feasible. Primary Health Networks, the RACGP and ACRRM should be resourced to support the transition of the primary care sector to lower carbon models of care.

In relation to private providers and the built environment, facilities and energy, there is scope to facilitate 100% renewable electricity bulk power-purchasing agreements along with financial incentives to general practices to change to renewable energy sources, including the installation of solar panels and batteries.

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?

The Strategy should focus on numerous quick wins in the first 12 months to generate momentum, demonstrate positive progress and inspire broad action across the health sector. This intersects with DEA's recommended additional Objective that should also be emphasised in the first 12 months:

Additional Objective – Widespread awareness and understanding of the urgent need for the Strategy.

Please see our recommended quick wins in the section below for priority actions.

In addition, work to align national, state and private procurement policy with the NHS supply chain Roadmap is critical to deliver inside the life of this strategy.

In parallel with the efforts to bring about quick wins a focus must be on **developing and funding sustainable carbon models of care**. This involves shifting funding priorities to primary and preventive healthcare. It will also require an expansion of the **Choosing Wisely** program and engagement of all peak professional bodies to **develop evidence-based examples of sustainable models of care** and work together through Medicare and private insurers to defund models of care that have been found to be of low-value, or even harmful.

The health infrastructure community, including state governments and private providers, must be given clear direction that **all new hospitals are to be all-electric (fossil fuel-free)**. All existing hospitals are to develop plans for removing fossil fuels as an energy source and **commit to rapidly decarbonising the electricity supply for healthcare facilities**.

- b. Which of the six sources of emissions discussed above (on pages 15 to 20 of the Consultation Paper) are the highest priorities for action?

DEA supports the proposed six focus areas however it is fundamental for successful mitigation that each **mitigation section 2.1-2.6 be strengthened by clarifying the relevant emission reduction targets**.

DEA strongly recommends that both **‘Prevention and optimising models of care’ are prioritised**, including being placed first and potentially separated. We also appreciate that these are unlikely to be quick wins.

Other priority actions are:

- **medical gases and inhalers** – there are viable low carbon alternatives in most clinical cases and other countries have already demonstrated potential in this area.
- **supply chain** – this forms the bulk of carbon emissions and federal policy levers, and regulatory agencies will be important in effecting change.
- **travel and transport** – federal policies can enable the transition to electric fleets, decarbonisation of the electricity grid, high fuel efficiency standards and changes in transport modes, including the need to travel at all, such as when telehealth is used.
- **built environment and facilities** – federal policy levers, including funding, must work towards the rapid decarbonisation of private healthcare facilities.

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

Suggested ‘quick wins’ include:

- banning the use of desflurane.
- mandating the reporting of emissions associated with anaesthetic gases (including nitrous oxide), as in the new [Victorian Financial Reporting Directions \(FRD 24\)](#) requirements.
- mandating a nitrous oxide infrastructure management plan for all hospitals with piped nitrous oxide to ensure adequate monitoring, detection and mitigation of leaks and reduction of overall procurement.
- changing the PBS criteria for inhalers from the current preferencing of MDI prescription to prescription of MDIs when there is an indication.

- investing in emerging technology platforms designed to improve pharmaceutical stock management and reduce waste.
- working with the TGA to review packaging and information requirements (including extension of use by dates) for medicines to reduce both waste and carbon emissions.
- developing policies to support the **electrification** of transport fleets and healthcare facilities and the supply of 100% renewable energy.
- developing policies, including financial remuneration, to support telehealth and decentralised/localised care.
- developing policies to dramatically improve the energy efficiency of healthcare facilities including HVAC efficiencies.
- working with the TGA to assess criteria for single-use products as well as the environmental impacts of products.
- requiring **healthcare sector education** on the principles of sustainable healthcare and the health impacts of climate change.
- providing research funding to undertake further carbon footprint analyses, including a comprehensive process-based life cycle inventory (stocktake) of commonly used equipment, pharmaceuticals, and the development of decarbonisation roadmaps.
- further development and adequate funding of the [Choosing Wisely](#) program.
- expanding telehealth item numbers to better remunerate practitioners and incentivise their use.

Objective 3 Adaptation Q 18-21

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?

Whilst adaptation to climate change fuelled adverse health and healthcare impacts is necessary and urgent, **DEA strongly advocates that mitigation must be prioritised over adaptation.** Every mitigation initiative is in effect an adaptation initiative, by reducing the future impact of climate change on vulnerable groups and the population as a whole. **The imperative of ‘avoiding the unmanageable’ cannot be overstated.**

Furthermore, adaptation will only be effective if the wider community understands the risks to health from climate change and are empowered to take actions that protect health. This is in line with DEA’s recommended additional Strategy Objective, *‘Widespread awareness and understanding of the urgent need for the Strategy’*. As such, the Strategy should include a public education

campaign that highlights the risks to health of climate change and the health benefits of adaptation. This is critical to the success of any adaptation action.

‘Policy responses to ameliorate impacts’ (page 27) should include responses across sectors and government departments including housing and education.

Priority health impacts

The Strategy should recognise the overall increase in burden of disease because of climate change and include goals and targets as part of resilience planning.

The Strategy must focus on planning for building resilient communities, noting that the emerging evidence shows that community preparedness for disasters improves mental health as well as other outcomes, and that emergency responses alone are insufficient for increasingly frequent disasters.

Mental health

The Strategy should explicitly address the wide-ranging mental health impacts of climate change including direct and indirect effects, and solastalgia, which refers to the emotional distress caused by climate change.

Direct impacts include mental health emergencies during heat waves and extreme weather events, including increases in major depression, anxiety disorders, substance use disorders and trauma-related disorders such as [post-traumatic stress disorder](#). Indirect mental health impacts include displacement, unemployment, food and water insecurity, as well as the mental health impacts associated with physical climate health effects (e.g. thunderstorm asthma).

[Climate distress in young people has been correlated with a perceived lack of governmental action](#) and could be ameliorated through demonstrated robust government action on climate mitigation, consistent with the Paris agreement.

Heat-related illness

The Strategy should recognise and plan for the health effects of increasing severity and frequency of extreme heat, including very hot days and nights as well as heatwaves. Heat causes [more deaths in Australia than floods, storms and bushfires combined](#), although harm reduction strategies are available. Local, community-based solutions should be emphasised.

Health infrastructure and workforce

Health and aged care facilities can be damaged during extreme weather events as well as incremental changes due to climate change. We need to develop goals and targets to reduce these impacts including when planning new capital projects.

Similarly, the Strategy should address the challenge of adequately staffing healthcare facilities during extreme weather events. Health and aged care workforce may have difficulty in actually

accessing healthcare facilities and, along with their own homes and families, they may also be directly impacted by extreme weather.

Supply chain disruption

As mentioned in the Strategy, planning for supply chain disruption from climate related events will be important.

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 Adaptation Assessment and National Health Adaptation Plan should be conducted as part of the National Climate and Risk Assessment processes and not as a duplication of effort. This should be executed as a whole-of-government assessment, and not siloed within and as the sole responsibility of the Department, noting the role of [National Climate Change Adaptation Research Facility \(NCCARF\)](#) which was disbanded in 2019.

The Strategy should account for the lived experience of consumers, with a focus on priority populations, as part of vulnerability and adaptation planning.

The methodology used needs to identify policy gaps and opportunities for improving population resilience across sectors, including those under other 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?

DEA considers there would be value in the Australian government promoting an overarching nationally consistent approach to vulnerability assessment and adaptation planning for the health system. However, it is important to note that both **vulnerability and adaptation are often community and location specific**, and as such local and state governments also have a major role to play. The national assessment can use an overarching framework to benchmark and facilitate federal policy and funding decisions and should take into account:

- the extensive range of vulnerabilities across different communities and regions.
- the wide variety of ecosystems and natural habitats and climates across Australia.
- the wide variety of health and wellbeing considerations, and how these are impacted by climate change.

Guidance for the assessments should consider policies and tools that have already been developed, at the international (e.g. by the World Health Organization), state and territory level, and action that has already occurred (including the local government and health service level) to avoid duplication of effort.

Guidance for a broad range of health services is needed, including primary care and mental health, as well as aged care. Guidance needs to be adaptable to different communities, service settings and climate change threats.

Implementation support is essential, in the form of tools, knowledge and capacity building as well as finance. This work takes considerable time and resources, requires input from multiple internal and external stakeholders, and is new territory for many people in the healthcare workforce.

The National Health Sustainability and Climate Unit (NHSCU) must be resourced to provide ongoing implementation support for health services to assess and plan for climate risks.

The Strategy should seek to adopt existing tools where possible. Guidance and support should be provided for health services to assess and plan for climate risks to infrastructure, service provision (including surges in service demand and changing burdens of disease), the health workforce and supply chains. Relevant tools include:

- Queensland Climate Risk Strategy and Adaptation guides.
- Human Health and Wellbeing Climate Change Adaptation Plan for Queensland.
- NSW Climate Risk Ready program.
- Victorian Health and Human Services Climate Adaptation plan.
- Resources from the **World Health Organization**, such as the [Protecting health from climate change: vulnerability and adaptation assessment](#) .
- Sydney North Health Network Climate and Health Strategy.

Importantly, the international [Alliance for Transformative Action on Climate and Health](#) (ATACH) has a Climate Resilient Health System thematic working group that collaborates on vulnerability and adaptation assessments and of which DEA and over 64 nations are members – but **not Australia**.

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

The full societal costs of climate inaction over both the short- and long-term and the implications of health-relevant policies in all sectors, need to be fully and systematically considered to prevent the hidden transfer of costs (externalities) to the health sector and the undermining of environmental sustainability.

Careful planning of the implementation phase of the Strategy must include broad engagement with all stakeholders (including widespread public promotion) to increase acceptance and engagement with the Strategy. This underlines the importance of the additional Objective proposed by DEA – *Widespread awareness and understanding of the urgent need for the Strategy.*

In particular:

- collaborating with the new [Australian Centre for Disease Control](#) (ACDC).
- education and capacity building among policymakers, community members, the health workforce, and within emergency and disaster preparedness services and agencies.
- avoiding building any new healthcare facilities on land likely to be at risk of climate change related damage, such as flooding and fires.
- preparedness plans for healthcare service delivery climate related disasters.
- adequate preparation and resourcing of emergency services.
- rural and remote health service support and resources to improve resilience.
- preparedness for disruption to health system supply chains (from both international and national climate threats).

Objective 4 Health in All Policies Q 22-23

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?

DEA commends the Strategy for acknowledging the importance of influencing factors outside of Health and the imperative for a HiAPs approach, and **strongly recommends incorporating a HiAPs approach in the final Strategy.**

Specifically, DEA applauds recognition of the need for a HiAPs approach through several Strategy statements including:

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’.

DEA fully supports the expressed intent 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.”

The World Health Organization definition of [Health in All Policies](#) also outlines the imperative of its inclusion for Strategy success:

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.

Key Areas where a Health in All Policies approach and synergies would assist the Strategy reduce the health and wellbeing impacts of climate change along with emissions are:

- energy – particularly fossil fuel exploration, mining, extraction, combustion and exportation (further details below).
- transport – transitioning the sector’s reliance on fossil fuels including policies to develop active transport and public transport.
- 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.
- 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 healthcare.

A significant barrier to effective inclusion of health concerns in decision-making appears to be the operation of silos within government so that departments overseeing planning, infrastructure, energy, agriculture, water and so on 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, and particularly any proposed fossil fuel project.**

Concerningly, the **Strategy makes no reference to Australian fossil fuel operations.** Ignoring the health impacts of fossil fuel projects in this country and ‘exporting’ the human and planetary cost of these is no longer an acceptable approach. A HiAP approach should incorporate this.

A ‘Mortality cost of carbon’ (MCC) could be undertaken for all proposed fossil fuel projects, based on expected carbon emissions. For example, if approved, the North West Shelf (NWS) proposal would permit the Karratha Gas Plant (KGP) to produce 3.2 GtCO₂e of Scope 3 greenhouse gas emissions in addition to those that are already approved to 2030. This is almost equivalent to Australia’s carbon emission ‘budget’ to achieve net zero by 2050, which is around 3.5 GtCO₂e total domestic emissions to be produced after 2030. So, from 2030 onwards, the Scope 1 and 3 emissions from the KGP would be [comparable to Australia’s entire scope 1 emissions](#).

Furthermore, the decarbonisation of the Australian economy by 2050 and 2040 has been modelled to avert an [estimated 988,000 and 1,101,000 global deaths respectively](#). Decarbonisation of the Australian healthcare sector by 2050 and 2040 is predicted to avoid an estimated 69,000 and 77,000 global temperature-related deaths, respectively.

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?

Legislation remains the most effective approach to ensuring all stakeholders engage authentically with a Health in All Policies approach. A necessary step will be legislation requiring the incorporation of health metrics into the assessment phase of any future policy and any significant national, state or private sector proposal.

Enablers Q24-25

- 1 *Workforce, leaders and training*
- 2 *Research*
- 3 *Communication and engagement*
- 4 *Collaboration*
- 5 *Monitoring and evaluation*

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

DEA supports all the enablers that have been proposed with several additions.

Leadership and Governance

Leadership and governance should be a standalone enabler and prioritised, rather than being rolled into workforce and training. There needs to be development of:

- a legislative framework to institute regulatory targets
- healthcare sector/system specific emission reduction targets – net zero by 2040
- a governance structure that includes the relationship between the National Health, Sustainability and Climate Unit, developing state health sustainability units and so on
- governance and outcome accountability structures
- demonstration of leadership through facilitating DEA's recommended Objective of *Widespread awareness and understanding of the urgent need for the Strategy*, as outlined in our response to Question 1. This is important to the Strategy's success and should not only

be the responsibility of the health and aged care work force as listed under the current Enabler 1.

Finance structure and funding

Adequate funding is a key enabler and will be pivotal for a Strategy of this importance and scope and includes outlining:

- how initiatives will be funded.
- how related training and research will be funded.
- how cost savings will be re-invested into initiatives aligned with the Strategy.

Workforce and training

Staffing

The NHSC Unit must be adequately staffed to be effective. England's Greener NHS program now has over 100 central staff.

Training and education

The whole health workforce must be educated on the health impacts of climate change and, where appropriate, their clinical management. Knowledge of sustainable healthcare principles and skills in implementing them are also vital – that is, how to deliver local change projects to effectively mitigate the environmental impact of healthcare delivery. Given the pace of change required, it will require a whole of sector approach with large numbers of healthcare workers engaged in mitigation efforts.

Medical colleges and other education and training institutions must be **required** rather than 'encouraged' to integrate both the impacts of climate change on health **and sustainable healthcare principles** into their training curriculums. This is already being led by the Australian Medical Council, but needs to be strengthened and broadened across healthcare disciplines.

Recruitment and retention of health staff across the sector needs to be addressed through incentives and targeted recruitment and training program, in line with the Strengthening Medicare Taskforce Report recommendations. This is especially important in rural and remote areas where the impacts of climate change are likely to be greater.

Research

Health and climate change research is important.

Equally important is research in sustainable health care to better understand the environmental footprint of our healthcare system, develop decarbonisation roadmaps and evidence-based implementation pathways. Further research to identify and eliminate or reduce low value care is

also important. Measuring and tracking the health impacts and health costs of climate change would inform and support climate mitigation and adaptation policies. Quantifying the health and financial costs of **inaction** on climate change mitigation and sustainability more broadly would also encourage action.

Communication and engagement

DEA strongly supports the proposed action of *Increased public awareness of the health impacts of climate change to empower individuals and communities to take action to reduce emissions and build climate resilience*. However, to show leadership, this enabler needs to be emphasised through incorporating DEA's recommended additional Objective for the Strategy: ***Widespread awareness and understanding of the urgent need for the Strategy***.

To ensure the strategy is translated into meaningful results and outcomes, it is critical to engage with healthcare professionals. This includes their involvement as clinical leads, such as in the NSW Health Climate Risk and Net Zero Unit. Organisations such as DEA and the [Climate and Health Alliance \(CAHA\)](#) can provide input from frontline clinicians already engaged in this work.

Collaboration

In addition to governance structures, regular input from health and climate experts, peak professional bodies and advocacy groups is essential.

Monitoring and reporting

As has been discussed earlier in DEA's response, monitoring and reporting require targets to track progress. Hence DEA reiterates the importance of science-based targets for health sector decarbonisation – a net zero target of 2040 with an 80% reduction by 2030.

Each of the six mitigation focus areas also require specific targets.

25. For each of these enablers:

a. What is currently working well?

Workforce and training

DEA has engaged extensively with the healthcare sector and produced [health professional education resources](#) that are being used by multiple hospitals, healthcare services and education and training organisations.

While there is progress in making training in climate and health and healthcare sustainability principles mandatory in health professional education, this must progress faster. In addition to healthcare professionals currently in-training, there must also be a requirement for education for those who are already practising. Knowledge relating to sustainable healthcare principles should be

part of accreditation requirements, much like existing requirements for infection prevention and patient blood management.

Healthcare professionals, including clinicians, should have dedicated, funded time to work on mitigation efforts in their immediate clinical environments.

Important enablers to implement these changes include:

- **education standards** (such as being developed by the Australian Medical Council)
- **enterprise agreements** (Victorian updated Enterprise Agreement has a 'Climate change and sustainability' clause)
- **accreditation standards.**

Collaboration

Clinician engagement through DEA, the AMA, medical Colleges, other professional bodies and universities has been in place for years. The Strategy should build and support this engagement and collaboration and include other bodies, such as CAHA.

b. What actions should the Strategy consider to support delivery?

To support delivery, the strategy should consider DEA's additional actions listed in answer to Q24 and all of the proposed actions listed in the Strategy Enabler section.