

- 4. Identify and recommend a program of work to manage the implications of climate change for health in WA, which will reduce the contribution of WA health services to climate change and other detrimental impacts.
- 5. Identify and recommend a program of work to manage the implications of climate change for health in WA, which will enable WA Health services to implement change, including energy efficiency, to a more sustainable model.
- 6. Evaluate the likely benefits (health and wellbeing, social and economic) arising from climate change mitigation strategies, with a focus on WA health services.
- 7. Define the role of the Department of Health in leading public policy on climate change and health.
- 8. Recommend the Terms of Reference, scope and preferred methods for undertaking a climate change vulnerability assessment for the health sector.
- 9. Recommend the Terms of Reference, scope and preferred methods for developing a Climate Change Adaptation Plan for the health sector.

Submissions response field

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Introduction

The East Metropolitan Health Service (EMHS) comprises an extensive hospital and health service network, providing healthcare to more than 725,000 people in Western Australia (WA).

The hospital network works together to provide a combination of tertiary, general and specialist health care services including emergency and critical care, state trauma, elective and emergency surgery, general medical, mental health, inpatient and outpatient services, aged care, palliative care, rehabilitation and women's, children's and neonatal services.

EMHS also serves as the tertiary referral hub for patients from the Kimberley, Pilbara and Eastern and Western Wheatbelt regions of WA and contains state-wide services such as the State Major Trauma Centre, based at Royal Perth Hospital (RPH), the longest-serving hospital in WA.

Health Service Challenges

EMHS is aware of the projected climate change impacts for WA with warmer, dryer weather predicted, and an increased risk of more frequent, and severe weather events. The population EMHS serves, the state trauma service it operates, and the current condition of health infrastructure represent challenges to the health services ability to prepare for future impacts of climate change on the community.

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Service demand from vulnerable population groups

Currently providing critical services to some of Australia's most vulnerable population groups, EMHS provides care to the homeless, the elderly, those suffering with mental health conditions, and Indigenous Australians (RPH has the highest proportion of Aboriginal Australian admissions compared with other metropolitan Perth hospitals). With the demand for public hospital healthcare services increasing, the relatively unpredictable impact of climate change on vulnerable population groups and therefore, the health service, is of concern. Long-term planning and investment, to not only address overall bed capacity but also hospital capacity to meet future vulnerable population demands, will assist the health service in taking a more sustainable approach to healthcare.

State Major Trauma Centre referrals

A greater frequency of extreme weather events occurring across WA will impact the number of patients referred to the State Major Trauma Centre (SMTTC) based at RPH. As the designated provider of major trauma services for adults in WA, RPH plays an integral role in the State's Clinical Services Framework (2014-2024) and the SMTTC is a key provider in WA Emergency Response planning. Delivering the State's world-class emergency trauma and critical care service, EMHS supports WA's response capability in the event of major trauma, emergencies, and disasters. Currently receiving 80 per cent of WA's major trauma admissions and receiving up to 300 helicopter landings per year from across rural WA, future planning and long-term investment of the SMTTC at RPH will be critical to support future climate-related emergency response scenarios in the State.

Health infrastructure

The ability to significantly reduce EMHS's contribution to climate change will largely be dependent upon future investment in health infrastructure. Outdated buildings and inefficient campus layouts, paired with ageing critical plant equipment, represents a significant barrier for the health service in being able to deliver services in an environmentally sustainable way.

The existing health infrastructure is also a key determinant in the ability of the health service to protect the community against the spread of infectious diseases and air-borne contaminants. Old buildings require significant investment to meet modern infection control standards and without funding, could compromise the ability of the health service to withstand the health impacts of major natural disasters. Structural damage from bushfires or flooding could impact healthcare provision during extreme weather events and the capability of the health services' infrastructure to withstand such weather events will be paramount in determining how efficiently and effectively EMHS is able to respond.

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Health Service Opportunities

Following the establishment of EMHS as a separate statutory authority, the EMHS Board has a legal responsibility to deliver safe, efficient and high-quality healthcare to its local community. Through implementing a program of work that focuses on environmental sustainability, EMHS believes it can improve community health outcomes, build a resilient health service and reduce the hospital and health networks contribution to climate change.

EMHS recently surveyed its staff to gauge a better understanding on how we, as an organisation, can better protect the community from harmful health impacts that result from climate change, as well as reduce our contribution to climate change. 87 survey responses were received, which outlined a number of key themes:

- **Recycling** facilities being available across the health service sites.
- A **communication** and **education** campaign for both staff and consumers.
- The need to **reduce waste** and in particular, single use clinical and non-clinical items.
- To be more **energy efficient**, particularly with water and power usage.

The survey also highlighted how engaged the EMHS workforce is in wanting to contribute to opportunities to address the health impacts of climate change in health services.

EMHS has recently committed to joining the Global Green and Healthy Hospitals (GGHH) Network in order to promote greater sustainability and environment health within the health sector. EMHS will focus on two of the GGHH Sustainability Goals of Purchasing and Pharmaceuticals with a longer term aim to focus on Energy and Leadership.

Protect the public through sustainable procurement

The healthcare sector in WA represents a significant buyer of goods and services for the State. The procurement policies the health sector follows to inform purchasing decisions can support health services to protect the community, achieve broader environmental objectives and influence the market by driving future production of environmentally sustainable goods and services. Choosing products and services that comply with environmental standards and can be manufactured, used and disposed of in a sustainable way, can influence future healthcare markets towards producing more ecofriendly goods and services. This

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type of purchasing approach, one that places a greater emphasis on environmental considerations, is known as sustainable procurement.

Value for money should also be a key consideration when purchasing goods or services however, procurement decisions that only represent short-term value for money can miss the chance for the health service to protect the public from the future impacts of climate change. By placing a greater importance on environmental sustainability when making procurement decisions, health services can be empowered to consider the whole-of-life costs and operational performance of the good or service being procured, even if this does not result in the lowest cost item being purchased at the time.

Energy-efficient goods that typically represent a higher upfront cost for the health service would be more favourably considered under sustainable procurement policies given their strong environmental performance in comparison to their counterparts. Placing due consideration on environmental sustainability during procurement processes could positively affect the WA healthcare market of the future and assist the health service to protect the public from the harmful health impacts of climate change.

Pharmaceuticals

To reduce over-prescription practices and minimise pharmaceutical waste disposal, which would not only improve hospital practices but also benefit the environment.

Strengthen preparedness through infrastructure investment

In line with WA Emergency Management and Response Plans, EMHS is committed to protecting the community from climate-related health impacts by contributing to system-wide disaster management response initiatives. The ability of the health service to respond to disasters, such as extreme weather events, is largely dependent upon the capability of the health infrastructure to physically withstand major natural disasters and the resultant patient demand.

Established in 1855, RPH is WA's longest-serving hospital with one of the busiest emergency departments in Australia and the third biggest trauma workload in the country. The quality of care provided by the SMTC has been recognised nationally with a formal Level 1 Trauma Verification accreditation from the Royal Australasian College of Surgeons (RACS). This makes RPH uniquely placed to deliver the SMTC because of the co-ordinated and specialist approach taken by the highly trained and accredited team along with the hospital's capability in providing the full spectrum of care for the most critically injured patients, from initial resuscitation through to rehabilitation and discharge. To continue to deliver the SMTC, funding for a new helipad at RPH was received in the 2016/17 WA State Budget. A new helipad will ensure future rescue helicopters can continue to land at RPH, a key enabler for the continued operation of the State trauma service at the hospital.

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Another enabler will be significant investments made to redevelop the RPH hospital campus and ensure the entire hospital is prepared to respond in the event of a major natural disaster. With many of RPH's buildings built in the early 1900s, the current condition of the hospitals' infrastructure, including the hospital's emergency-rescue helipad, presents a significant barrier to RPH's ability to prepare and respond to extreme weather events. Whilst codes and standards applicable to the design and construction of hospital infrastructure have continued to evolve, RPH remains outdated by contemporary safety and design standards. A redevelopment of RPH would provide an opportunity for RPH to become the flagship hospital for disaster preparedness within WA with the presence of the SMTC, the development of a future-proofed helipad and the central Perth location which places the hospital in close proximity to key emergency response stakeholders such as the Department of Health Disaster Preparedness and Management Unit and WA Police headquarters.

Build resilience and upgrade critical service equipment

The ability of critical service equipment to continue to operate in emergency situations is another key indicator of whether a health service is prepared to support a major natural disaster. In the event of a storm and subsequent power outage, a constant supply of power is critical for maintaining hospital operations and the safety of patients. When the power is out, hospital sites rely on backup generators to provide a constant supply of power and depending on the size of the generator, power can be supplied from these generators for up to 24 hours. It is for this reason that critical service equipment, including back up services, are regularly maintained and upgraded to ensure critical service equipment is ready to be utilised in emergency situations.

A number of urgent capital works has been identified to address critical service equipment approaching its end of life at Bentley Health Service (BHS), part of the EMHS hospital network. A failure in the equipment could result in lighting and power outages, the inability to regulate water temperature, intolerable heat conditions, and interruptions to patient services. Funding was obtained in the 2019/20 WA State budget to upgrade the critical service equipment at BHS, ensuring hospital operations at the site will be uninterrupted during emergency scenarios and maintaining a safe environment for patients, visitors and staff. Ongoing investment to regularly maintain, upgrade and replace critical service equipment, across all EMHS sites, will assist the health service to physically prepare for, and withstand, extreme weather conditions that impact the Eastern corridor.

Reduce contributions through waste management

To avoid the spread of infectious diseases and ensure patient safety, health services have largely moved away from reusable products to single-use medical

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equipment. This combined with the volume of other hospital waste such as: surgical drapes, latex gloves, blood, drugs, paper and food amount to a significant contribution by the health sector to climate change in WA. The material of many waste products does not biodegrade, and therefore is disposed of in landfill or through incineration practices. There is an opportunity for the health service to review current inventory practices, reduce the amount of waste produced and identify alternative solutions to waste disposal that has limited, or controlled, environmental impacts.

Although infection control practices may inform the life of a product and therefore render the health service limited in the amount of medical waste products that are produced, EMHS recognises that good inventory practices can ensure the right items are available for use, without unnecessary wastage. Ways in which this can be achieved include implementing a consumable stock management policy, identifying cost-effective and sustainable substitutes, and standardising the ordering of imprest items across medical and surgical wards.

Opportunities also exist in the way in which waste is collected. Access to recycling disposal bins throughout patient and public areas and maximising the recovery of plastics through careful waste segregation will assist the health service to reduce climate change contributions.

A review of waste treatment processes could also identify new, sustainable methods for disposing of medical waste. Currently medical waste is taken for incineration, a practice that has been found to emit toxic air pollutants and ash residues. Conducting a review of non-incineration treatment practices for implementation across hospital sites is another opportunity for the health service to reduce environmental impacts.

Enable change through energy audits

The requirement for hospitals to operate 24 hours a day, 7 days a week means the energy consumed by hospitals is significant. Increasing hospital activity can impact energy demands by driving the expansion of clinical areas and the total time that hospital departments are occupied. This can result in a greater demand for lighting, heating, cooling and ventilation, all services which require a constant supply of energy. With the demand on health services predicted to increase, a key opportunity for EMHS to reduce climate change contributions is the provision of efficient and sustainable energy supplies. By creating a more energy efficient health service, EMHS can reduce greenhouse gas emissions and improve the air quality of the community whilst reducing the health services vulnerability to energy price increases.

To achieve an energy efficient and sustainable health service, an understanding of the health services current energy position is crucial. EMHS has commenced a tender process to undertake an energy audit across its health service sites. An energy audit is the first step to understanding current consumption and identifying

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potential opportunities to reduce energy expenditure. The objectives of an energy audit are to identify and develop modifications that can be applied to the existing infrastructure to reduce energy usage. Modifications identified through an energy audit paired with the EMHS Strategic Asset Management Plan (SAP), will identify a program of work to address opportunities to improve the energy efficiency of the health service. Improvement opportunities such as prioritisation of end-of-life equipment replacements and adopting new and emerging technologies, such as solar, to manage and monitor energy consumption, could vastly reduce the health services contribution to climate change.

Deliver sustainable models of care through innovation

To prepare for changing climates and the associated health impacts, it is increasingly important for health services to consider environmental sustainability when developing innovative healthcare models of the future. In an environment where access to healthcare facilities may be compromised due to weather events, establishing scalable remote healthcare services will become increasingly important for WA.

A recent Productivity Commission review of Australia's health care system identified sustainability as a significant issue that the health system needed to address. This review resulted in a greater focus on delivering care in the right location according to a person's needs, rather than using hospital facilities as a default treatment setting. To address sustainability challenges and harness recent innovations in health technology, new models of care need to be adopted and developed to support the necessary changes within the health system.

A significant program of work is currently underway to develop a remote patient monitoring service for EMHS. The innovative service will make care provision agnostic to the location of the healthcare consumer and has the ability to respond to the challenges of climate change in two key ways. Firstly, it can provide critical care to patients in rural and remote communities that may be isolated by extreme weather events or natural disasters. Secondly, providing increased care within a home environment will reduce the environmental impact of an operating hospital through reduced energy output, space requirements and potential waste.

Conclusion

The implications of climate change on health in WA is still relatively unknown. Recent predications indicate health services need to be prepared for hotter temperatures as well as more frequent, and intense, weather events. The vulnerable population EMHS serves, the state trauma services it operates, and the condition of existing health infrastructure represent the most significant challenges to the future health services' ability to prepare for the health impacts of climate change on the community.

EMHS is committed to providing efficient, high-quality and safe healthcare and recommends a program of work that focuses on environmental sustainability to

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address, and manage, the future health implications of climate change. EMHS recommends adopting sustainable procurement practices, investing in key infrastructure, reviewing waste management practices and energy consumption as well as developing a sustainable remote patient monitoring service. Not only will this assist the health service to move towards a more resilient and sustainable model but it will also provide key information that can be used to inform further opportunities for the health service to reduce its current contribution to climate change.

Please complete this sheet and submit with any attachments to: Climate Health WA Inquiry