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**Submission to the Royal Commission into
National Natural Disaster Arrangements -
Issues Paper - Health Arrangements in
Natural Disasters**

July 2020

About the Royal Australasian College of Physicians (RACP)

The RACP trains, educates and advocates on behalf of over 18,000 physicians and 8,500 trainee physicians, across Australia and Aotearoa New Zealand. The RACP represents a broad range of medical specialties including general medicine, paediatrics and child health, cardiology, respiratory medicine, neurology, oncology, public health medicine, infectious diseases, occupational and environmental medicine, palliative medicine, sexual health medicine, rehabilitation medicine, geriatric medicine, and addiction medicine.

Beyond the drive for medical excellence, the RACP is committed to developing health and social policies which bring vital improvements to the wellbeing of patients. One of our priority policy areas is climate change and health. We have position statements on [Climate Change and Health](#),¹ [Environmentally Sustainable Healthcare](#)² and the [Health Benefits Mitigating Climate Change](#).³

Introduction

The RACP provided a [submission to the Federal Government's Royal Commission into National Natural Disaster Arrangements](#)⁴ urging the Government to address health impacts in its review.

We commend the development of the *Issues paper: Health arrangements in natural disasters* following submissions from numerous health organisations including the Royal Australian College of General Practitioners and the Royal Australasian College of Surgeons.

We recognise the impact that the increase in extreme weather events is having on the health and wellbeing of those affected, including communities and first responders, and that this is connected to climate change. These impacts include the physical and mental health effects of extreme weather events, smoke exposure, heat hazards and vector borne disease. We are part of a growing network of health organisations calling for climate change mitigation to reduce future health impacts.

Climate action addresses the cause of the increasing frequency and intensity of extreme weather events and so must be incorporated into national natural disaster arrangements. This will need to be done alongside building Australia's capacity for improving resilience and adapting to changing climatic conditions as a result of anthropogenic global warming, both of which are policy and advocacy priorities for the RACP.

Overview of health arrangements

Question 1: Are the current national health coordination arrangements appropriate to respond to natural disasters in Australia? If not, how should they be improved?

The RACP recognises the extensive health and emergency disaster arrangements in place and commends the coordination efforts that took place over the summer of 2019-20 combating the Australian bushfire season.

Expansion of natural disaster responses to include health issues and the agility of the system to support and respond to these increasing climate related extreme weather events will be critical to ensure preparedness, resilience and recovery. As health impacts are an integral part of any framework for disaster management, a

¹ Royal Australasian College of Physicians (RACP). Climate Change and Health Position Statement [internet]. Sydney: RACP; 2016. Available from: https://www.racp.edu.au/docs/default-source/advocacy-library/climate-change-and-health-position-statement.pdf?sfvrsn=5235361a_5

² Royal Australasian College of Physicians (RACP). Environmentally Sustainable Healthcare Position Statement [internet]. Sydney: RACP; 2016. Available from: https://www.racp.edu.au/docs/default-source/advocacy-library/environmentally-sustainable-healthcare-position-statement.pdf?sfvrsn=2834361a_4

³ Royal Australasian College of Physicians (RACP). Health Benefits of Mitigating Climate Change Position Statement [internet]. Sydney: RACP; 2016. Available from: https://www.racp.edu.au/docs/default-source/advocacy-library/health-benefits-of-mitigating-climate-change-position-statement.pdf?sfvrsn=3d34361a_5

⁴ Royal Australasian College of Physicians (RACP). Royal Commission into National Natural Disaster Arrangements submission [internet]. Sydney: RACP; 2019. Available from: https://www.racp.edu.au/docs/default-source/advocacy-library/racp-submission-to-the-royal-commission-into-national-natural-disaster-arrangements.pdf?sfvrsn=784deb1a_4

national climate change and health strategy to manage and mitigate these short and longer-term climate risks is urgently needed. This will ensure the capacity of health systems to cope with increasing extreme weather events, changing disease patterns and the strain on future health budgets.

This strategy should include scope for national consideration, research and standards in relation to occupational (professional and volunteer) and community exposures to products of combustion, heat and cold, hours of work, mental health, isolation, with a focus on vulnerable individuals in relation to natural disaster response and recovery. The strategy should address challenges of safety management and heroism in relation to volunteer and professional workforces, such as firefighters and emergency services personnel. This should include a review of appropriate protective measures, including personal protective equipment, and consideration of cumulative exposures across their careers.

Actively addressing social and health inequity should be embedded in natural disaster mitigation strategies. The health impacts of extreme weather events, as well as the financial and social impacts disproportionately affect people who experience social disadvantage. This carries with it a disproportionate burden of risk for severe impacts, such as mental health issues, alcohol misuse, domestic violence, chronic disease and short-term unemployment. People who experience social disadvantage are also less able to access protective factors such as access to mental health services, community cohesiveness, job security and a financial safety net.⁵

Therefore, this strategy should include a focus on vulnerable populations so that they do not suffer disproportionately the adverse health impacts and social impacts of extreme weather events. This includes people with pre-existing medical conditions, older people, young children, people with disabilities, and those who are socioeconomically disadvantaged.

Preparedness for extreme weather events and health coordination arrangements must be guided by Indigenous knowledge and customs and recognition of the strong connection of Aboriginal and Torres Strait Islander people to land and sea. Supporting [the Uluru Statement From The Heart](#)⁶ must be central to this.

Lessons can be drawn from the effective approach taken by the Aboriginal Community Controlled Health sector and Aboriginal and Torres Strait Islander public health practitioners and researchers to combat the impact of COVID-19. This has been pivotal in identifying the issues, setting priorities, and providing solutions for culturally informed strategies relating to the COVID-19 response in remote communities⁷. The importance of self-determination and ensuring an equity lens in these strategies has been fundamental to the outcomes. It is recommended that this model is adapted more broadly for a natural disaster response. The inclusion of Aboriginal Community Controlled Health Services (ACCHS) as a specific primary care provider should also be integrated into Emergency Response structures.

As well as ACCHS, the role of primary healthcare providers must be embedded in national coordination arrangements.

Consideration should also be given to the potential health risks relating to evacuation when extreme weather events occur, these include but are not limited to air quality, food and water supply and quality, and communicable diseases from many people being collected together in small places for prolonged periods.⁸ Impacts on evacuation are particularly severe for the elderly. Research undertaken from the Hazelwood Health Study found that insufficient attention had been paid to the needs of relatively well older people living in the community.⁹

⁵ Deloitte Access Economics. The economic cost of the social impact of natural disasters [internet]. Sydney: Deloitte Access Economics; 2016. Available from: <http://australianbusinessroundtable.com.au/assets/documents/Report%20-%20Social%20costs/Report%20-%20The%20economic%20cost%20of%20the%20social%20impact%20of%20natural%20disasters.pdf>

⁶ The Uluru Statement from the Heart [internet] Australia; 2017. Available from <https://ulurustatement.org/the-statement>

⁷ Crooks K, Casey D, Ward JS. First Nations people leading the way in COVID-19 pandemic planning, response and management. Med J Aust. April 2020. Available from: <https://www.mja.com.au/journal/2020/first-nations-people-leading-way-covid-19-pandemic-planning-response-and-management>

⁸ Royal Australasian College of Physicians (RACP). Physicians say bushfires are creating an unprecedented public health crisis media release [internet]. Sydney: RACP; 2019. Available from <https://www.racp.edu.au/news-and-events/media-releases/physicians-say-bushfires-are-creating-an-unprecedented-public-health-crisis>

⁹ Walker J, Carroll M, Chisholm M. Policy Review of the impact of the Hazelwood mine fire on older people: Final Report, Hazelwood Health Study. 2017. Available from https://hazelwoodhealthstudy.org.au/data/assets/pdf_file/0004/1636384/policy-review-older-people-v1.0-website.pdf

The psychological impacts of major disasters can be long lasting and widespread. Long term studies after the Ash Wednesday bushfires in South Australia showed that the mental health impact could still be detected in the children of affected families twenty years after the fires¹⁰. Ensuring that appropriate planning for phased mental health services and support are integrated into disaster response strategies is essential.

Role of primary care providers in disaster planning, response and recovery

Question 2: Should primary care providers and primary health networks be better integrated in natural disaster preparedness, response and recovery? If so, how should this be done

Question 3: What approaches could be adopted to better support primary care providers to provide health services in the response and recovery phases of a natural disaster?

The RACP strongly supports the role of primary care providers and the importance of Primary Health Networks being integrated in disaster preparedness, response and recovery. We extend this to acknowledge the key and specific role of ACCHS as primary care providers for local Aboriginal communities.¹¹ ACCHS are best placed to know and respond to the needs and priorities of their communities. The ACCHS sector and their peak bodies should likewise be included and integrated into all phases of extreme weather event response.

Primary care providers are the first responders in many areas, and they need to be involved in planning for disaster response as well as provided with up to date communication and resources for them to respond appropriately. They are also integral in the recovery phase.

We recommend that access to specialist services for conditions arising from extreme weather events and for chronic physical and mental health conditions are integrated as part of this response. We recommend this to support general practice and primary care staff by ensuring vulnerable population groups with chronic conditions have continuity of care.

In any emergency, it is appropriate that, as much as possible, health care practitioners are empowered to provide more of what they normally do, not be re-tasked to unfamiliar activities, or worse marginalised and excluded from the response. Rather than just seeing the 'health arrangements in natural disasters' being about having dedicated agencies to be activated in the event of a disaster, it would be appropriate to see the health system response as an enhanced and magnified contribution from existing effective and robust health services and service providers - an 'up-scaling' of existing health services.

A more solid baseline healthcare system with a more agile, integrated, patient-centred focus provides a greater capacity for comprehensive health system responses to acute emergencies. Improved consultant physician integration, in particular, is required.

This is also an opportunity to reinforce the effectiveness of a consumer-centred health system which can more effectively meet the needs of patients during 'business as usual' as well as in the presence of the increased challenges of the emergency situation. As part of this integrated approach, the healthcare needs of community members need to be supplemented by a more integrated approach to occupational health services for professional and volunteer firefighters and other emergency personnel during and after extreme weather events. Occupational health services have a strong focus on preparedness, advising on appropriate protective measures, addressing health outcomes early, facilitating return to work and contributing to health surveillance

¹⁰ Black Dog Institute. Mental Health Interventions Following Disasters [internet]. 2020. Available from <https://www.blackdoginstitute.org.au/wp-content/uploads/2020/04/mental-health-interventions-following-disasters-black-dog-institute-february-2020.pdf?sfvrsn=0>

¹¹ Panaretto KS, Wenitong M, Button S. Aboriginal Community Controlled Health Services, Leading the way in primary care. Med J Aust 2014 June 200(11). Available from: <https://www.mja.com.au/journal/2014/200/11/aboriginal-community-controlled-health-services-leading-way-primary-care>

systems.¹² This is critical to preparing and maintaining the capacity of the emergency workforce during and following extreme weather events.

During the 2019-20 bushfire crisis there was an increase in patients presenting with respiratory and cardiovascular issues.¹³ This has also been well documented for landscape fires by the Hazelwood Health Study.¹⁴

Significant attention must be given to the issue of increased risk to the safety and effectiveness of the Aged Care sector during these emergencies. The elderly living in Residential Aged Care Facilities, (RACF) are at high risk of the health effects of emergencies^{15,16} with no additional capacity through Public Health Networks and the private sector to rapidly increase care during a natural disaster context. This then means that there is a reliance on the acute public sector to take on the increased presentations, and at the same time to often look after evacuees from RACFs in the path of danger.

The need for better integrated disaster planning with public and private hospitals, primary care and specialists should be considered. These models should allow specialist participation, coordination and leadership for the specialised parts of the emergency response.

There must also be consideration of the impact and planning for response from RACFs as part of disaster coordination. My Health Record also has an important role as an accessible record of health history and medications in this context so that reliable and safe access to medications can be maintained during emergencies.

Healthcare system 'resilience' is important. This includes the ability to be agile and adaptable in adversity. We need to build a system that can respond to challenges related to interference in the ability to deliver healthcare or alternately scaling up capacity in a timely way. A good example of a measure that increased the resilience of the system during an emergency was scaling up of telehealth services during COVID-19¹⁷. This enabled continuity of care while adhering to the constraints of COVID-19 (i.e. physical distancing/isolation), particularly for patients with chronic and/or complex conditions. In NSW, Communities of Practice¹⁸ were established and the clinical leads sat on a NSW COVID Council. This enabled rapid intra-disciplinary and inter-disciplinary consultation to establish guidelines and other urgently needed advice during the pandemic. The NSW Ministry of Health is now undertaking a consultation process to learn from this experience and hopefully apply the learnings to the NSW system. This model should be reviewed and expanded on.

Related health impacts – air quality

We note that the Commission received a substantial number of submissions from community and health organisations regarding concerns about air quality, including the Centre for Air Pollution, Health and Energy Research. We share these concerns and recommend urgent changes to protect the health of Australians.

¹² Royal Australasian College of Physicians (RACP). Australasian Faculty of Occupational and Environmental Medicine [internet]. Sydney: RACP; 2020. Available from: <https://www.racp.edu.au/about/college-structure/australasian-faculty-of-occupational-and-environmental-medicine>

¹³ Arriagada NB, Palmer AJ, Bowman DMJS, Morgan GG, Jalaludin BB & Johnston FH. Unprecedented smoke-related health burden associated with the 2019–20 bushfires in eastern Australia. *Med J Aust* 2020. Available from: <https://www.mja.com.au/journal/2020/213/6/unprecedented-smoke-related-health-burden-associated-2019-20-bushfires-eastern>

¹⁴ Johnson AL, Gao CX, Dennekamp M, Williamson GJ, Carroll, MT, Dimitriadis, C, Dipnall, JF, Ikin, JF, Johnston FH, Mcfarlene. Coal mine-fire related fine particulate matter and medical service utilisation in Australia: a time series analysis from the Hazelwood Health Study. *Int J Epidemiol* 2019 49(1): 80–93. Available from: <https://doi.org/10.1093/ije/dyz219>

¹⁵ Schnitker L, Fielding E, MacAndrew M. A national survey of aged care facility managers' views of preparedness for natural disasters relevant to residents with dementia. (2019), *Australasian Journal on Ageing*. Available from <https://doi.org/10.1111/ajag.12619>

¹⁶ Walker J, Carroll M, Chisholm M. Policy Review of the impact of the Hazelwood mine fire on older people: Final Report, Hazelwood Health Study. 2017. Available from https://hazelwoodhealthstudy.org.au/_data/assets/pdf_file/0004/1636384/policy-review-older-people-v1.0-website.pdf

¹⁷ Royal Australasian College of Physicians (RACP). Results of RACP Members' Survey of new MBS Telehealth attendance items introduced for COVID-19 [internet]. Sydney: RACP; 2020. Available from: https://www.racp.edu.au/docs/default-source/default-document-library/policy-and-advocacy/racp-members-survey-new-mbs-telehealth-attendance-items-introduced-for-covid-19.pdf?sfvrsn=31d1ef1a_7

¹⁸ NSW Ministry of Health. Communities of Practice [internet]. 2020. Available from: <https://www.health.nsw.gov.au/Infectious/covid-19/communities-of-practice/Pages/default.aspx>

In the coming summers, we can expect not only a bushfire season, but also a smoke haze season. Smoke can travel long distances and bushfire smoke contains fine particles < 2.5µm diameter (PM_{2.5}), with health impacts including respiratory issues.¹⁹ During the “Black Summer” bushfires of 2019-20, the entire populations of major cities such as Canberra, Sydney and Melbourne were exposed to high concentrations of PM_{2.5} for weeks during the mega fires.²⁰

Our recent work has highlighted the health impacts of environmental catastrophes like extreme heat events, drought and the “Black Summer” bushfires and their connection to climate change. The bushfires caused loss of life, physical and psychological injuries, and respiratory issues from smoke exposure.

During the “Black Summer” bushfires 2019-20, we released two media statements^{21,22} as well as one [jointly with other health organisations](#),²³ calling on the NSW and Federal governments to implement short and long-term strategies to deal with the public health emergency unfolding due to climate change in relation to bushfires. Bushfire smoke was estimated to be responsible for 417 excess deaths in eastern Australia compared to the previous year as well as 1,124 hospitalisations for cardiovascular issues, 2,027 for respiratory problems, and 1,305 emergency department presentations with asthma.²⁴

While the bushfire season results in increased days of poor air quality, it is important that the health impacts of poor air quality resulting from other sources including emissions from industry and vehicles are also addressed as outlined below.

Last year the RACP joined a number of health and environmental organisations to make five recommendations in relation to the proposed variation to the National Environment Protection (Ambient Air Quality) Measure standards for ozone (O₃), nitrogen dioxide (NO₂) and sulfur dioxide (SO₂) in our [joint expert position statement](#).

These recommendations were:

1. Lower thresholds of nitrogen dioxide, sulfur dioxide, and ozone
2. Network of NEPM compliance monitors should be expanded to reflect risks from widespread source emissions and hotspots, such as traffic on major roadways.
3. Air quality monitoring data should be made publicly available through a coordinated national website, allowing access to real-time and historical data.
4. Air quality standards should include compliance obligations and enforcement mechanisms.
5. Strong health-based standards should be set now to protect health, with an exposure reduction framework in place for continual improvement of the standards.

The expert position statement outlines that “ambient air pollution contributes to over 3,000 premature deaths each year in Australia.²⁵ Even at low concentrations, nitrogen dioxide, sulfur dioxide and ozone are impacting the health of Australians. Coal-fired power stations and motor vehicles are the main sources of sulfur dioxide

¹⁹ Johnston FH. Understanding and managing the health impacts of poor air quality from landscape fires. Med J Aust 2017; 207: 229–230. Available from: <https://www.mja.com.au/journal/2017/207/6/understanding-and-managing-health-impacts-poor-air-quality-landscape-fires>

²⁰ Vardoulakis S, Jalaludin B, Morgan G, Hanigan I, Johnston F. Bushfire smoke: urgent need for a national health protection strategy. Med J Aust 2020; 212 (8): 349-353. Available from: <https://www.mja.com.au/journal/2020/212/8/bushfire-smoke-urgent-need-national-health-protection-strategy#4>

²¹ Royal Australasian College of Physicians (RACP). Physicians call on the NSW and Federal Governments to take action on climate public health emergency media release [internet]. Sydney: RACP; 2019. Available from: <https://www.racp.edu.au/news-and-events/media-releases/physicians-call-on-the-nsw-and-federal-governments-take-action-on-climate-public-health-emergency/>

²² Royal Australasian College of Physicians (RACP). Physicians say bushfires are creating an unprecedented public health crisis media release [internet]. Sydney: RACP; 2020. Available from: <https://www.racp.edu.au/news-and-events/media-releases/physicians-say-bushfires-are-creating-an-unprecedented-public-health-crisis>

²³ Climate and Health Alliance (CAHA) The air pollution in NSW is a public health emergency [internet]. Melbourne: CAHA; 2019. Available from: <https://www.caha.org.au/air-pollution>

²⁴ Arriagada NB, Palmer AJ, Bowman DMJS, Morgan GG, Jalaludin BB & Johnston FH. Unprecedented smoke-related health burden associated with the 2019–20 bushfires in eastern Australia. Med J Aust 2020. Available from: <https://www.mja.com.au/journal/2020/213/6/unprecedented-smoke-related-health-burden-associated-2019-20-bushfires-eastern>

²⁵ Expert Position Statement Health-based standards for Australian regulated thresholds of nitrogen dioxide, sulfur dioxide and ozone. [internet]. Australia: RACP; 2019. Available from: https://www.racp.edu.au/docs/default-source/advocacy-library/c-noxso2o3_expert-position-statement_final.pdf?sfvrsn=76981c1a_10

and nitrogen dioxide respectively, in Australia”.²⁶ The network of compliance monitors recommended above need to be expanded in rural areas. [Tasmania’s BLANKET model](#) should be considered.²⁷

These monitors should track particulate matter as well as ozone, nitrogen dioxide and sulfur dioxide, to cover air pollutants from both bushfires and other sources.

Question 4: Should a standard approach to reporting and categorising air quality across Australia be implemented, and if so how?

As outlined above, we have joined health organisations including the Lung Health Research Centre, and the Thoracic Society of Australia and New Zealand in recommending that real-time and historical air quality data is made available through a coordinated national website or app. “This should include records from daily monitoring of key pollutants, health alerts for the public and at-risk population sub-groups, and regular modelling of dispersal from all major point sources, such as coal-fired power stations and major roadways. This is critical to provide individuals and communities with information about what they are breathing.”²⁸

We recommend installation of further monitors and increased funding to those institutions working on providing air quality information.

Question 5: How should public health information about bushfire smoke be improved?

As outlined above, we recommend that air quality information is available in real-time for access by the public. There is also a need for more monitors to increase the availability of actual readings rather than readings based on modelling.

We support a public education campaign that outlines the impact of smoke haze and provides clear, consistent advice of when and how to avoid it. This should include greater public health information on the implications of air quality readings for human health. Air quality information needs to be uniformly reported so that comparisons between sites can be made and so that the public can readily interpret the information. A recent article²⁹ on the urgent need for a national health protection strategy in relation to bushfire smoke was brought to the attention of the Royal Commission and notes the importance of consistent reporting across Australia and of real-time data.

This information is necessary both during and outside bushfire season. While there are increased levels of pollution during the bushfire season, it is important that the public can access real-time air quality information all year, including in communities near the bushfires, coal-fired power stations and major roadways, and when backburning is occurring.

A recent study suggests different magnitude and temporality of impacts of bushfires compared to ambient pollution outside bushfire season. This is an important consideration in developing educational materials and when preparing health services for future bushfire events.³⁰

We note that current public health information³¹ often focusses on shelter in place at times of poor air quality. This does not adequately address the issue of poor housing quality, a disproportionate burden of which affects people living with social disadvantage. Inadequately sealed housing does not offer sufficient protection,

²⁶ Australian Government Department of the Environment and Energy, Nitrogen Dioxide Air Quality fact sheet [internet]. 2005. Available from <https://www.environment.gov.au/protection/publications/factsheet-nitrogen-dioxide-no2>

²⁷ Environmental Protection Authority (EPA). Tasmania Base Line Air Network of EPA Tasmania (BLANKET) [internet]. Tasmania: EPA; 2013. Available from: <https://epa.tas.gov.au/epa/air/monitoring-air-pollution/real-time-air-quality-data-for-tasmania/about-blanket>

²⁸ Australian Government Department of the Environment and Energy. Sulfur Dioxide fact sheet [internet]. 2005. Available from: <https://www.environment.gov.au/protection/publications/factsheet-sulfur-dioxide-so2>

²⁹ Vardoulakis S, Jalaludin B, Morgan G, Hanigan I, Johnston F. Bushfire smoke: urgent need for a national health protection strategy. *Med J Aust* 2020; 212 (8): 349-353. Available from: <https://www.mja.com.au/journal/2020/212/8/bushfire-smoke-urgent-need-national-health-protection-strategy#4>

³⁰ Walter C, Schneider-Futschik, Knibbs, L, Louis, L, Irving, B (2020) “Health impacts of bushfire smoke exposure in Australia” Available from: <https://onlinelibrary.wiley.com/doi/pdfdirect/10.1111/resp.13798>

³¹ NSW Health. Protect Yourself from Bushfire Smoke [internet]. 2019. Available from: <https://www.health.nsw.gov.au/environment/air/Pages/bushfire-protection.aspx>

particularly for people living with other risk factors that make them more vulnerable to the effects of poor air quality.³²

Consideration should be given to the provision of community clean air shelters i.e. large public buildings such as libraries, shopping malls, community centres, or schools which can be established as community clean air shelters with well-maintained heating, air conditioning and ventilation systems (HVAC systems)³³. This should occur alongside urgent improvements to poor quality housing particularly social housing, which currently do not adequately provide protection for residents. Older people, those with limited mobility, rural and remote communities and populations who are unable to access air shelters or temporarily relocate need to be prioritised for modifications to their homes.³⁴

Research priorities

Question 6: What should be the priority areas of research concerning the physical and mental health impacts of natural disasters?

The RACP recognises and supports the research being undertaken³⁵ on the health effects of exposure to bushfire smoke. This research has focused on community members, exposed workers and first responders with impacts such as premature mortality, exacerbation of cardio-respiratory conditions, including asthma, role of face masks and the physiological and mental health impacts of natural disasters. We support this research and urge urgent policy action based on the health impacts highlighted.

The effectiveness of public health interventions for heatwaves needs to be expanded and outlined. We know also that primary care providers can reduce the load on the tertiary sector when it is stressed during heatwaves and part of that role is in prevention.³⁶ General practitioners can identify at risk patients and carers and can educate about the impacts of heat illness and importance of prevention, however we need to investigate whether this is occurring and effective and how to encourage and create systems that prioritise this type of preventive work.

Evidence shows the impacts of climate change on the increasing intensity and frequency of other extreme weather conditions such as drought and extreme heat events. Further research is required on how to adapt to and mitigate these risks to human health. This should include the physiological and potentially transgenerational effects on pregnant women and young children. There is also an urgent need to improve national surveillance of the physical and mental health impacts on affected communities and first responders and other exposed workers to monitor the impact of preventive measures and the effectiveness of health service delivery. It is imperative that the findings of this research are translated into effective action.

The [2019 Lancet Countdown Australian Policy Brief](#) identified that comprehensive adaptation planning is yet to be developed and implemented across all jurisdictions in Australia, except for Queensland. Few jurisdictions recognise the importance of building resilience through improving underlying population health, the impacts that climate change (including extreme events) are likely to have on the health of the population,

³² NSW Health. Protect Yourself from Bushfire Smoke [internet]. 2019. Available from:

<https://www.health.nsw.gov.au/environment/air/Pages/bushfire-protection.aspx>

³³ Barn P. Home and community clean air shelters to protect public health during wildfire smoke events. Vancouver: British Columbia Centre for Disease Control; 2014.

³⁴ Vardoulakis S, Jalaludin B, Morgan G, Hanigan I, Johnston F. Bushfire smoke: urgent need for a national health protection strategy. *Med J Aust* 2020; 212 (8): 349-353. Available from: <https://www.mja.com.au/journal/2020/212/8/bushfire-smoke-urgent-need-national-health-protection-strategy#4>

³⁵ Australian Government Department of Health. \$5 million for research into health impacts of bushfires on Australian communities. [internet]. Canberra: Australian Government; 2020. Available from: <https://www.health.gov.au/news/5-million-for-research-into-health-impacts-of-bushfires-on-australian-communities>

³⁶ Victoria State Government, Health Victoria. Extreme Heat – Information for Clinicians. [internet]. Melbourne: Victoria State Government; 2019. Available from <https://www2.health.vic.gov.au/public-health/environmental-health/climate-weather-and-public-health/heatwaves-and-extreme-heat/heatwaves-advice-for-clinicians>

and the need for the health system itself to be resilient and responsive to the challenges brought by climate change.³⁷

The RACP is planning to work with other medical colleges on research that will address some of these challenges. We are commissioning an expert research report into climate risks to Australian healthcare systems and on how the sector can better adapt to and mitigate these risks to continue to provide high quality healthcare.

The research report will review and analyse direct harm to infrastructure and personnel as well as the additional burden on Australian health care systems from more frequent extreme weather events, deterioration/shortage of natural resources and other impacts, including increased emergency presentations, changes in infectious disease risks and heat exposure.

Further recommendations

We note that the Issues Paper did not aim to be exhaustive in its coverage of health issues that the Royal Commission may consider. We recommend that the following health concerns are addressed by the Royal Commission in addition to those covered in the Issues Paper.

Heat hazard reduction

In Australia, extreme heat events have killed more people than other natural hazards combined.³⁸ As the Lancet Countdown Australian Policy Brief³⁹ outlines “a ‘silent killer’ heat subjects the body to significant and potentially lethal stress,” and accordingly heat hazard reduction needs to be a priority for the Government. We also recommend the advancement of comprehensive and multi-sectoral heat hazard reduction strategies to minimise heat exposure and sensitivity across Australia with a focus on the needs of vulnerable populations.

Managing the serious risks to human health

Anthropogenic climate change is real and urgent effort is needed if global warming is not to significantly exceed 1.5°C, as outlined in the [2018 Intergovernmental Panel on Climate Change Special Report on Global Warming of 1.5°C](#) (The 1.5°C Report).

The 1.5 °C Special Report, highlights the contribution of human activity to global warming and outlines the implications of 1.5 °C and 2 °C of warming. This includes risk of increasing intensity and frequency of other extreme weather events such as drought and extreme heat events.⁴⁰ Heatwaves, bushfires, drought and smoke events are all interrelated and usually don't occur in isolation.⁴¹ This has implications for healthcare system preparation and resourcing.

While we cannot address the warming that has been locked in, we can prevent further exacerbation of climate change to mitigate against these effects. This is important from a health perspective because as extreme weather events intensify there will be more pressure on healthcare systems both in terms of acute need and flow-on demand from increased chronic physical and mental health conditions.⁴²

³⁷ The Lancet Countdown on Health and Climate Change: Policy Brief for Australia [internet]. Sydney: MJA-Lancet Countdown Australia. Available from: <https://storage.googleapis.com/lancet-countdown/2020/02/Australia-Lancet-Countdown-Policy-Brief-2019.pdf>

³⁸ Coates L, Haynes K, O'Brien J, McAneney J, de Oliveira FD. Exploring 167 years of vulnerability: an examination of extreme heat events in Australia 1844–2010. *Environmental Science & Policy* 2014;42:33-44.

³⁹ The Lancet Countdown on Health and Climate Change (2019). “Policy Brief for Australia”, November 2019, MJA-Lancet, 2019 <https://storage.googleapis.com/lancet-countdown/2020/02/Australia-Lancet-Countdown-Policy-Brief-2019.pdf>

⁴⁰ Intergovernmental Panel on Climate Change (IPCC), Special Report on Global Warming of 1.5°C [internet]. 2018. Available from: <https://www.ipcc.ch/sr15/>

⁴¹ Climate Council of Australia Limited. Dangerous Summer: Escalating Bushfire, Heat and Drought Risk [internet]. 2019. Available from: https://www.climatecouncil.org.au/wp-content/uploads/2019/12/report-dangerous-summer_V5.pdf

⁴² Royal Australasian College of Physicians (RACP). Future-proofing the healthcare system climate change and health fact sheet, [internet]. Sydney: RACP; 2019. Available from: https://www.racp.edu.au/docs/default-source/resources/rac1801_climate_change_fact_sheet_politicians_06.pdf?sfvrsn=b3ce191a_4

The RACP has declared climate change as a national public health emergency⁴³ and urges the Australian Government to take action now to implement a national climate change strategy.

Building Australia's capacity for improving resilience and adapting to changing climatic conditions to protect health is a policy and advocacy priority for the RACP. At the same time, we recognise that addressing the root cause of climate change is essential to preventing health impacts from worsening natural disasters. We encourage Australia's approach to natural disaster management to encompass planning that will enable Australia to meet international emissions reductions targets.

We therefore urge strong national policy and regulatory action to expedite a transition from fossil fuels to zero emission renewable energy across all economic sectors, with support to affected communities. All Australian states and territories have already committed to a target of zero net emissions by 2050.

A comprehensive national assessment of risks to human health from climate change, such as those of the United Kingdom⁴⁴ and the United States⁴⁵ would assist with preparedness for extreme weather events. Along with boosted research spending to identify risks and plan mitigation, this could form the evidence base for a national strategy to address multiple climate-change related events.

Beyond our borders, the government must continue to enable Pacific Island countries and territories to develop their medical workforce and support development of prevention/mitigation and response measures to climate change. The impact of severe weather events in the Pacific Islands, including health impacts due to rising sea levels and biosecurity concerns, will be of growing importance to Australia in the years to come.

We must work to amplify the links between measures to promote sustainability, prevention and equity in health care to realise environmental benefits and deliver better health outcomes. A national obesity strategy will encourage healthier physical activity environments and boost sustainable food production and consumption practices that mitigate the effects of climate change, while the reduction in resource use in the health sector will translate to more funds invested in equity and prevention.⁴⁶

The carbon footprint of the Australian health sector has been estimated at seven per cent⁴⁷ of Australia's total, demonstrating the need for effective measures to lower the impact of health-care services on the environment, including reducing its own carbon emissions. Lowering emissions can happen alongside increased healthcare activity, adding to the triple bottom line of saving money, adding social value and improving health. An environmentally sustainable healthcare system is one that has no cumulative harmful impacts on the natural environment or society while providing high-quality healthcare⁴⁸

The RACP recognises the Federal Government's leadership and the partnership approach being undertaken between health experts and the Government in respect to the COVID-19 pandemic. It is widely acknowledged that those governments around the world that have accepted and implemented the advice of health experts have responded more effectively than those which have not within this current pandemic disaster context. The imperative for urgent action by Governments to address the expert scientific and health advice on climate change and health is just as important.

⁴³ Royal Australasian College of Physicians (RACP). Leading medical group declares public health emergency and calls national strategy to tackle climate change media release [internet]. Sydney: RACP; 2019. Available from: <https://www.racp.edu.au/news-and-events/media-releases/leading-medical-group-declares-public-health-emergency-and-calls-for-national-strategy-to-tackle-climate-change>

⁴⁴ Committee on Climate Change. Climate Change Risk Assessment 2022 [internet]. London: Committee on Climate Change; 2020. Available from: <https://www.theccc.org.uk/publications/third-uk-climate-change-risk-assessment/>

⁴⁵ U.S. Global Change Research Program. The Impacts of Climate Change on Human Health in the United States: A Scientific Assessment [internet]. 2016. Available from: <https://health2016.globalchange.gov/>

⁴⁶ Royal Australasian College of Physicians (RACP). RACP submission: Consultation on a National Obesity Strategy 2020-2030 [internet]. Sydney: RACP; 2019. Available from: <https://www.racp.edu.au/docs/default-source/advocacy-library/racp-submission-consultation-on-a-national-obesity-strategy-2020-2030.pdf>

⁴⁷ Malik A, Lenzen M, McAlister S. The carbon footprint of Australian health care. *Lancet Planet Health* 2018 2(1) E27-E35. Available from: [https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196\(17\)30180-8/fulltext](https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(17)30180-8/fulltext)

⁴⁸ Malik A, Lenzen M, McAlister S. The carbon footprint of Australian health care. *Lancet Planet Health* 2018 2(1) E27-E35. Available from: [https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196\(17\)30180-8/fulltext](https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(17)30180-8/fulltext)

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