



Australian College of Nursing

HEALTH ARRANGEMENTS IN NATURAL DISASTERS

**THE AUSTRALIAN COLLEGE OF NURSING (ACN)
SUBMISSION TO THE ROYAL COMMISSION INTO
NATIONAL NATURAL DISASTER ARRANGEMENTS
(JUNE 2020)**

ACN Response to Consultation Questions

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

The Australian College of Nursing (ACN) considers that the current national health coordination arrangements for natural disasters need to be improved. Nurses have an important role to play in those improvements in terms of disaster preparedness, response and recovery. The roles are in both the reactive phase (immediate and short term), and in the curative phase (medium and longer term). Currently, there are around 385,000 nurses registered to practice in Australia. Nurses are the largest component of the health care workforce and can be found in every sector of health care delivery, especially in outer urban, rural and remote areas: these are areas commonly impacted by natural disasters.¹ Consequently, there needs to be active and ongoing involvement of nurses in planning for all stages of disasters including related policy development, in direct care delivery (in both the reactive and curative phases) and in conducting collaborative nurse led research which will provide the evidence base for immediate and longer-term improvements. In recognition of the need to facilitate these improvements in all phases of natural disasters, ACN has established the Disaster Health Community of Interest which is chaired by Dr Jamie Ranse, a Fellow of ACN and a recognised world leader in unplanned high consequence events such as natural disasters.² Natural disasters such as bushfires and floods, profoundly disrupt the normal functioning of communities. When a disaster occurs, Australian nurses may respond as part of formally organised and funded government or non-government disaster assistance teams or in a volunteer capacity as members of the communities which are affected by disaster. ACN recommends that any improvements take into account the specific care needs of first responders (like nurses) in both their professional roles and simply as members of communities adversely affected by the disaster.

It is appropriate that Australia's response to natural disasters in the reactive phase should be the jurisdictional responsibility of states and territories as Australia is a federated government. Local governments also have a role to play in co-ordination and delivery in the reactive and curative phases. Any response, however, needs to be quickly adjusted when the size and exact nature of the natural disaster escalates such that Federal coordination is required. This particularly applies during summer months when bushfires spread rapidly, frequently in an unexpected fashion and across jurisdictional boundaries.

As part of longer-term planning for natural disaster (the curative phase), ACN proposes that there be a nationally coordinated approach to developing preventative factors for national health arrangements and subsequent care delivery needs directly related to natural disasters. In particular, more focus should be given to research and action on climate change and/or emissions reduction programs and related strategies to reduce the occurrence of natural disasters. Together with the International Council of Nurses, ACN considers climate change to be a global health emergency which has a direct negative impact on the health of individuals and communities and undermines decades of advances in health care.³

¹ Australian College of Nursing. 2018. *Improving health outcomes in rural and remote Australia: Optimising the contribution of nurses*. Retrieved 25 June 2020, from <https://www.acn.edu.au/wp-content/uploads/position-statement-discussion-paper-improving-health-outcomes-rural-remote-australia.pdf>

² Australian College of Nursing, 2020. Disaster Health Community of interest. Retrieved 25 June 2020 from <https://www.acn.edu.au/engagement-structures>

Dr Jamie Ranse. Retrieved 25 June 2020 from, <https://experts.griffith.edu.au/8443-jamie-ranse>

³ International Council of Nurses. 2018. *Nurses, climate change and health: Position Statement*. Retrieved 25 June 2020 from <https://www.acn.edu.au/wp-content/uploads/ICN-position-statement-nurses-climate-change-health-final.pdf>. Australian College of Nursing, 17 December 2019. Media release: *Climate change a global health emergency*. Retrieved 25 June 2020, from <https://www.acn.edu.au/media-release/climate-change-global-health-emergency>

Given the negative impacts on health caused by climate change, ACN suggests a linkage between disaster risk reduction (DRR) and climate change adaptation (CCA) in health be developed. This linkage is crucial to reduce and prevent the increasing risks of natural disasters to health. A collaborative yet nurse led extensive literature review and research should be conducted to find clear and effective ways to achieve this purpose. Some existing studies recommend maximising synergies between DCC and DRR,⁴ for example, the Sendai Framework for Disaster Risk Reduction 2015-2030 adopted at the Third United Nations World Conference on Disaster Risk Reduction held in Sendai, Japan, on March 18, 2015. The “Sendai Framework for Disaster Risk Reduction 2015-2030 is the roadmap for how we make our communities safer and more resilient to disasters”. It aims to reduce the occurrence of disasters and to substantially reduce the risks of those disasters, for example, by adopting inclusive measures which strengthen disaster risk governance and build community resilience.⁵

Health coordination arrangements should be reflected in all health and environmental policy considerations and recommendations at local, state/territory and federal levels. If systems remain reactionary rather than proactive, health care gains of the past decades will continue to be disadvantaged and negatively impact the health and well-being of Australian’s as well as having negative financial, social and environmental impacts.

As the professional organisation for nurses, ACN recommends the development of a multi-portfolio response to natural disasters which is proactive rather than simple reactive, for example, treating climate change as a public health emergency. Any improvements developed should involve Federal and State/Territory governments, local governments as well as subject matter experts with a view to developing a National Strategy on Climate, Health and Well-being for Australia. ACN further recommends that governments should invest in climate change and public health research, monitoring, and surveillance to improve understanding of the health co-benefits of climate mitigation and the health implications of adaptation measures at the community and national levels. That research activity and investment will provide the data and evidence to inform Policy and co-ordinate outcomes which are credible, realistic and positive.

ACN is pleased to offer the expertise of its Members and Fellows in developing the improvements we recommend.

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?

Yes. ACN supports the integration of primary care providers and primary health networks in natural disaster preparedness, response and recovery. As explained in the response to #1 above, nurses play a leading role in mitigating the impacts of natural health disasters. ACN considers that all nurses, including primary care nurses, will not only support those experiencing natural disasters, but will also provide care for those experiencing climate related health issues. It is the case however, that nurses are not utilised to their full scope of practice provided by their education, hence ACN’s recommendation above that nurses must be more actively involved in planning and policy

⁴ Banwell, N, Rutherford, S, Mackey, B & Chu, C. 2018. ‘Towards Improved Linkage of Disaster Risk Reduction and Climate Change Adaptation in Health: A Review’, *International Journal of Environmental Research and Public Health*, 15(4), p. 793.

Peters, D, Hanssen, O, et al. 2019. ‘Financing Common Goods for Health: Core Government Functions in Health Emergency and Disaster Risk Management’, *Health Systems & Reform*, pp. 307-321.

⁵ United Nations Office for Disaster Risk Reduction. 2020. *About the Sendai Framework*. Retrieved 25 June 2020 from, <https://www.undrr.org/>

Reifels, L, Arbon, P, et al. 2017. *Health and disaster risk reduction regarding the Sendai Framework*, Australian Institute for Disaster Resilience, pp. 16-17.

development for natural disasters, not only in the provision of clinical care.⁶ Whether they are primary care providers or not, nurses have the necessary skills and expertise to collaborate with others and to formulate and develop policy and holistic clinical care pathways for the reactive and curative phases of disasters.

An example of how nurses may be actively involved is described in the International Council of Nurses Position Statement on climate change⁷ where nurses are encouraged to collaborate with respective governments to:

- work to enable nursing leadership and nurses to support healthcare organisations to contribute to climate change mitigation through implementation of environmental policies and sustainable practices.
- engage in national and multisectoral measures to mitigate the impact of climate change on the population with a focus on vulnerable groups and those more exposed to disease and injury.
- be involved in developing national action plans and policies for mitigation, adaptation, and resilience strategies as well as contribute to environmental health and justice policymaking.
- raise awareness of the health implications of climate change and how to assess and address climate change risks to health by developing policy documents on the subject.
- embed the concept of sustainability in nursing practice as well as climate change-related knowledge into nursing curricula and in post-registration continuing education.
- collaborate with other health professional organisations, intergovernmental organisations, environmental and health organisations and other civil society groups when developing health-adaptation policies and programmes.
- engage with media to promote public awareness of the harmful effects of climate change on health and to promote mitigation strategies.
- support the introduction of incentives for nurses to incorporate environmentally responsible health practices into their interventions.
- strengthen existing and create new partnerships with humanitarian organisations and other NNAs to increase collaborative action.⁸

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?

Factors that increase preparedness for disaster response include previous disaster response experience and disaster-related training. The recommendations above that nurses be actively involved in disaster research and planning rather than simply in the delivery of care at times of disaster is crucial to developing disaster specific education. It is research evidence as well as direct anecdotal experience which will provide the necessary data to design and implement educational programs that can build appropriate capability for nurses and other health care professionals (currently there is a paucity of research in this area).

In the meantime, ACN proposes that primary care providers should be trained at the undergraduate level and the postgraduate level, to develop an understanding of the risks of natural disasters and climate related disasters on health, particularly bushfires. The training includes continuing professional development in relation to disaster preparedness, mental and physical health impacts,

⁶ Australian College of Nursing. 2019. *White Paper: A New Horizon for Health Service: Optimising Advanced Practice Nursing*. Retrieved 25 June 2020 from <https://www.acn.edu.au/wp-content/uploads/white-paper-optimising-advanced-practice-nursing.pdf>

⁷ International Council of Nurses. 2018. *Nurses, climate change and health: Position Statement*. Retrieved 25 June 2020 from <https://www.acn.edu.au/wp-content/uploads/ICN-position-statement-nurses-climate-change-health-final.pdf>.

⁸ International Council of Nurses (ICN), 2018, *Nurses, climate change and health: Position Statement*.

mechanisms to encourage emergency department nurses to develop personal and family preparedness plans (to improve disaster preparedness), increase training in relation to psychological assessment of patients, and identification of biological agent signs and symptoms.⁹

The scale of support for primary care providers to provide health services in the response and recovery phases of a natural disaster will depend on the nature, complexity and impact of the natural disaster and its recovery. Support and awareness of these risks is essential as noted above in relation to the Sendai Framework and the need to involve nurses in the reactive and curative phases, including planning and policy development for primary care providers.

ACN members feedback recommend that in times of crisis, locals with relevant and beneficial skill sets on the scene should be welcome to practice within their scope of practice to assist in the time of crisis.

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

ACN members strongly recommend that all Australian jurisdictions present real time, hourly averaged PM_{2.5} data as it is the most appropriate metric to guide personal behaviour that can minimise exposure to bushfire smoke. Consistency of air quality information and related public health advice across jurisdictions is essential. While there is no safe level of PM_{2.5} exposure, the PM_{2.5} national standard of 25 µg/m³ measured as a 24-hour mean is consistent with the World Health Organization's air quality guidelines.¹⁰ However, PM_{2.5} concentrations presented as hourly averages are more useful for planning daily activities, as these better reflect current air quality, which can change rapidly during bushfire episodes.¹¹

Currently, state and territory government departments use a range of different air quality metrics (such as a composite Air Quality Index based on multiple pollutants), averaging times and thresholds to stratify health messages into colour-coded bands (very good, good, fair, poor, very poor, hazardous).¹² The discrepancies in the presentation of this air quality information and related health advice across jurisdictions is confusing for the public.

Inhaling particulate matter from bushfire smoke can cause many serious health problems. The link between respiratory issues and particulate matter is well established. Small particles can penetrate deep into the respiratory system, inducing oxidative stress and inflammation, and even translocate into the bloodstream.¹³ Therefore ACN considers that there should be an independent national expert committee on air pollution and health protection to be established to support environmental health decision making in Australia. This new expert committee should have a clear mandate and resources to develop evidence-based, accurate, practical and consistent advice on health protection against bushfire smoke and air pollution across jurisdictions.

⁹ Brewer, C, Hutton, A, Hammad, K & Geale, S. 2020. 'A feasibility study on disaster preparedness in regional and rural emergency departments in New South Wales: Nurses self-assessment of knowledge, skills and preparation for disaster management', *Australasian Emergency Care*, Volume 23 (1), pp. 29-36.

Labrague, L, Hammad, K, et al., 2018, 'Disaster preparedness among nurses: a systematic review of literature', *International Nursing Review*, Volume 65 (1), pp. 41-53

¹⁰ World Health Organization (WHO). 2006. Air quality guidelines for particulate matter, ozone, nitrogen dioxide and sulfur dioxide-Global update 2005, Copenhagen. Retrieved 18 June 2020, from http://www.euro.who.int/_data/assets/pdf_file/0005/78638/E90038.pdf?ua=1

¹¹ Duckett, S, Mackey, W, Stobart, A, 2020, *The health effects of the 2019-20 bushfires - Submission to the Royal Commission into National Natural Disaster Arrangements*, Grattan Institute. Retrieved 25 June 2020 from, <https://grattan.edu.au/wp-content/uploads/2020/04/Grattan-Institute-submission-to-Royal-Commission.pdf>

¹² Vardoulakis, S, Jalaludin, B, Morgan, G, Hanigan, I and Johnston, F, 'Bushfire smoke: urgent need for a national health protection strategy', *The Medical Journal of Australia*, Volume 212(8), pp. 349-354.

¹³ Hannam, P and Mannix, L, 2020, 'Australia fires: What is back burning and will more reduce bushfire risks?', *The Sydney Morning Herald*. Retrieved 18 June 2020, from <https://www.smh.com.au/national/prescribed-burning-what-is-it-and-will-more-reduce-bushfire-risks-20200106-p53paf.html>

How should public health information about bushfire smoke be improved?

ACN members propose that authorities must improve their communication to the public on health risks from exposure to bushfire smoke. Governments must provide actual, more detailed and accessible information to the public when bushfire smoke causes high pollution. It should be emphasised that there is no safe level of exposure to PM_{2.5} and any reduction in exposure reduces the risk of long-term health risks associated with outdoor air pollution and reinforces preventive measures.¹⁴

Governments should also develop health alert systems for bushfire smoke. Health warning systems can reduce the number of people who get sick, by advising communities of imminent risks to their health and steps they can take to protect themselves. Air quality alert systems should target at-risk people and provide practical information about how to minimise health risks. Air quality alert systems should also give people guidance on how to minimise air pollution in the home during short- and long-exposure periods; and how to minimise exposure to air pollution if staying at home is not possible.¹⁵

General advice also includes having access to regular medication, such as asthma medication, checking on older neighbours, and seeking medical attention if needed. Such advice, however, has been tailored to brief air pollution episodes that last only a few hours or days. In situations like the 2019–20 bushfire smoke events in eastern Australia, where severe smoke pollution persists over longer periods (weeks to months) and affects large population centres, there is a need for more refined and detailed health advice based on location-specific air quality data and forecasts. Accurate information will be useful for individuals to plan their daily activities in ways that minimise exposure to pollution.

To improve public health information about bushfire smoke, ACN members recommend integrating it with information from the Bureau of Meteorology's (BOM) website. Besides that, information on air quality and its risk can be broadcast on electronic media, mass media and putting them alongside or combining it with the coloured fire risk rating scales which most townships and communities have already. The last one could be an alternative for widespread coverage of information to rural and remote areas.

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

Natural disasters impact human health in many ways, from minor injuries to death, and physical to mental health issues. In relation to research concerning health impacts of natural disasters, ACN proposes:

- priority areas of research concerning health impacts of natural disasters including but not limited to, climate change adaptation. In Australia, climate change relatively leads to an increased frequency of natural disasters. The linkage of disaster risk reduction on health and climate change adaptation is fundamental to reach common goals including building resilience and reducing risk and vulnerability. However, there is currently a lack of in-depth

¹⁴ Duckett, S, Mackey, W, Stobart, A, 2020, *The health effects of the 2019-20 bushfires - Submission to the Royal Commission into National Natural Disaster Arrangements*, Grattan Institute. Retrieved 25 June 2020 from, <https://grattan.edu.au/wp-content/uploads/2020/04/Grattan-Institute-submission-to-Royal-Commission.pdf>

¹⁵ Vardoulakis, S, Jalaludin, B, Morgan, G, Hanigan, I and Johnston, F, 'Bushfire smoke: urgent need for a national health protection strategy', *The Medical Journal of Australia*, Volume 212(8), pp. 349-354.

knowledge on how these links can be advanced and the forms they take, as well as the opportunities, challenges and enablers for building and sustaining these links.¹⁶

- health institutions increasing access to disaster simulation-based education and exercises as an effort to enhance disaster preparedness of emergency caregivers.
- research on the medium- and longer-term impacts of bushfire smoke, as well as the effectiveness and health equity implications of related health protection advice.
- more government investment in air quality monitoring, forecasting and research on public health messaging, and exposure reduction measures to protect Australians from bushfire smoke.
- research on the risks of mental health problems among the communities as a result of natural disasters and how to best address them.

¹⁶ Duckett, S, Mackey, W, Stobart, A. 2020. *The health effects of the 2019-20 bushfires - Submission to the Royal Commission into National Natural Disaster Arrangements*. Grattan Institute. Retrieved 25 June 2020 from, <https://grattan.edu.au/wp-content/uploads/2020/04/Grattan-Institute-submission-to-Royal-Commission.pdf>