SPECIAL REPORT

Special Report: WADEM Climate Change Position Statement

Joseph Cuthbertson;[1] Frank Archer;[1] Andy Robertson[2]

1. Monash University, Melbourne, Victoria, Australia
2. Western Australia Department of Health, Perth, Western Australia

Correspondence:
Joseph Cuthbertson
Monash University
Monash University Disaster Resilience Initiative
Clayton, Melbourne, Victoria 3800 Australia
E-mail: Joseph.Cuthbertson@monash.edu

Conflicts of interest: none

Keywords: climate change; disaster risk reduction; health

Abbreviations:
WADEM: World Association for Disaster and Emergency Medicine
WHO: World Health Organization

Received: December 21, 2017
Revised: February 23, 2018
Accepted: March 4, 2018

Online publication: July 17, 2018

doi:10.1017/S1049023X18000535

Abstract

The World Association for Disaster and Emergency Medicine (WADEM; Madison, Wisconsin USA) is a multi-disciplinary professional association whose mission is the global improvement of prehospital and emergency health care, public health, and disaster health and preparedness. In April 2017, the biennial general meeting of the World Congress for Disaster and Emergency Medicine (WCDEM) endorsed the WADEM Climate Change Position Statement, which was subsequently published in *Prehospital and Disaster Medicine* in July 2017. This special report examines literature used and reviews the process of development of this Position Statement as a product of WADEM.

Cuthbertson J, Archer F, Robertson A. Special report: WADEM climate change position statement. *Prehosp Disaster Med*. 2018;33(4):428–431.

Introduction

The World Association for Disaster and Emergency Medicine (WADEM; Madison, Wisconsin USA) is a multi-disciplinary professional association whose mission is the global improvement of prehospital and emergency health care, public health, and disaster health and preparedness.[1] Currently, WADEM recognizes its responsibility as a multi-disciplinary leader in health to provide guidance and engage in climate science. The development of the WADEM Climate Change Position Statement was undertaken by the WADEM Board of Directors in conjunction with the WADEM Oceania Chapter, who are cognizant of the threat that climate change poses to population health and livelihood in the Asia-Pacific region.

The WADEM Oceania Chapter and Board of Directors reviewed policy statements and key literature related to climate change and disasters. Then, WADEM drafted and released this Position Statement to illuminate the global disaster risk to health presented by climate change. The target audience for this Position Statement included WADEM members, readers of *Prehospital and Disaster Medicine,* and the global disaster health community. The Position Statement will be updated as climate science evolves and as carefully structured impact evaluations of related disaster health interventions come to hand.

In the Position Statement, WADEM:

- recognizes the importance of climate change due to its influence on frequency and severity of natural hazards, and on disasters of natural, public health related, and conflict causes; and
- recommends all disaster and emergency professionals and organizations adopt a risk-based approach to emergency planning that prepares for and enhances resilience to climate change effects and recommends linking this to the implementation of the Sendai Framework for Disaster Risk Reduction (2015-2030).[2]

The significant elements of literature identifying the contemporary association between climate change and disaster, and the implications for sustainable development and health used in the Position Statement, are summarized in this special report.

Disaster Risk Reduction

Disaster risk reduction is a holistic approach to long-term community and state development that unifies preparation and mitigation practices. Its function has been described as "lying between the interface of humanitarian response to disasters and developmental programs."[3] It is more than this, however, as the context of disaster risk reduction is broader

https://doi.org/10.1017/S1049023X18000535 Published online by Cambridge University Press

than that of the developing country model and speaks equally to the long-term planning needs of developed countries.

The effects of climate change are an emerging risk to health and have bearing upon sustainable development, disaster risk reduction, and health agendas. Climate change and its relationship to disaster is clearly articulated in the Sendai Framework and follows the identification and description of climate change impact on disaster in the Hyogo Framework for Action (2005-2015).[4,5] The Sendai Framework identifies the importance of climate change and disaster risk reduction; in particular, the Sendai Framework calls for "addressing climate change as one of the drivers of disaster risk" and that "more dedicated action needs to be focused on tackling underlying disaster risk drivers, such as the consequences of poverty and inequality, climate change, and variability."[4] The focus of the Sendai Framework for action in respect to climate change is specifically related to disaster risk assessment. This is noteworthy in that it articulates the relationship between climate change and disaster risk and sets the tone of policy relationship between the Sendai Framework and the United Nations (New York USA) Framework Convention on Climate Change Paris Agreement. This clarity assists in defining the scope of the Sendai Framework and identifying the need for collaboration in disaster risk assessment and management across policies and sectors. The WADEM Climate Change Position Statement clearly reflects the need to adopt a risk-based approach to emergency planning that prepares for and enhances resilience to climate change effects.

Climate Change and Health

The Fifth Assessment Report produced by the Intergovernmental Panel on Climate Change (Geneva, Switzerland) provided a consensus of scientific knowledge relevant to climate change.[6] Four impact categories identified by the report associated with contemporary disasters include: reduced food yields due to drought; increased morbidity and mortality due to extreme heat waves; fire and extreme weather events; and changes in infectious disease geographical spread and seasonal variation due to alterations in weather and vector distribution. Climate change was described by the Lancet Commission (London, UK) in 2009 as "the biggest global health threat of the 21st century."[7] Six years later in 2015, Watts, et al published the Lancet Commission on Health and Climate Change and initiated five thematic workgroups to develop and monitor health impact due to climate change.[8] These thematic areas included: climate hazards; health resilience and adaptation; health co-benefits of climate change mitigation; economics and finance; and political and broader engagement, and found that the impact of global warming on human health was a health emergency.[8]

Findings from the 2017 Lancet Countdown on Health and Climate Change (London, UK) noted a 46% increase in the frequency of weather-related disasters since the year 2000. Indicator 1.4 of the Lancet Countdown, *Lethality of Weather-Related Disasters,* found no clear trend in lethality of weather-related disasters in this time period; however, 90% of disasters in the last 20 years have been associated with weather-related events.[9] Importantly, the burden of deaths associated with disasters caused by natural hazards predominantly affects poorer countries.[10]

More broadly, the emergence of discussion regarding planetary health has engaged the health sector to focus on the related impact upon humanity. The alignment of public and planetary health as a construct of health determinants was proposed by Horton, et al[11] and the ability and responsibility of health professionals as public health advocates in ensuring action on climate change is proposed in the Lancet Countdown[9] and endorsed in the WADEM Position Statement.

The World Health Organization's (WHO; Geneva, Switzerland) Risk Reduction and Emergency Preparedness Strategy for the health sector and community capacity development reflects the recommendations of a global consultation organized by the Health Action in Crisis Cluster.[12] Since 2005, the WHO, within its role as health cluster lead, has implemented planning processes to strengthen emergency preparedness and response activities with a specific targeting of action at a community level. As a consequence, this strategic framework signals a shift from traditional, short-term focused emergency management doctrine to one of capacity building, developing resilience, and reducing vulnerability. The challenge in achieving this goal, as described by the strategic framework, is:

> Establishing systematic capacities, such as legislation, plans, coordination mechanisms and procedures, institutional mechanisms and budgets, skilled personnel, information and public awareness, and participation that can measurably reduce future risks and losses.[12]

This strategy also recognizes the importance of applying a "whole of health" approach and utilizes the WHO definition of health as the benchmark for intervention effectiveness. This strategic direction complements efforts in other areas, notably the agenda for Sustainable Development and the Sendai Framework for action.

Humanitarian Emergencies

Many small island states in Oceania are vulnerable to the effects of climate change. Sea level rise at almost three-times the global average has been reported in the Solomon Islands, five reef islands are reported as lost to rising sea levels and erosion, and Nuatambu Island has lost more than one-half of its habitable area.[13] Rising sea levels, increasing frequency and intensity of tropical storms, and acidification of ocean water are expected to make parts of Kiribati uninhabitable. The people of Kiribati are expected to begin climate migration in 2020.[14]

The *Protecting the Health of Vulnerable People from the Humanitarian Consequences of Climate Change and Climate-Related Disasters* paper was submitted to the Inter-Agency Standing Committee Task Force on Climate Change (Geneva, Switzerland) by the WHO in 2009. Five policy directions designed to protect and enhance human health and well-being from the risks of climate change were proposed, which included strengthening of public health systems, enhancing capacity to address public health emergencies, strengthening surveillance and control of infectious disease, improving the use of early warning systems by the health sector, and enhancing local public health interventions to enhance community resilience to climate change and climate-related disasters.[15]

The current drought affecting millions of people across Kenya, Yemen, South Sudan, and Somalia has demonstrated the need for further action on this guidance as this event is evolving as one of the greatest preventable humanitarian emergencies of the generation. In a statement to The UN Security Council (New York USA) on March 10, 2017, Mr. Stephen O'Brien, Under-Secretary-General for Humanitarian Affairs and Emergency Relief Coordinator, reported this event as the worst crisis since the

https://doi.org/10.1017/S1049023X18000535 Published online by Cambridge University Press

2nd World War and the largest humanitarian crisis since the creation of the United Nations.[16] Thus, WADEM has highlighted its responsibility to support the capacity of emergency management, humanitarian, and health professionals to address the disaster impacts of climate change.[2]

Global Urbanization

The Habitat III Issue Paper 17, co-led by United Nations Development Programme (UNDP; New York USA) and UN-Habitat (Nairobi, Kenya), investigated climate change and disasters in urban areas. Urban population size is now estimated to have exceeded rural populations, and by the year 2050, the proportion of populations living in urban areas is estimated to be 66%.[17] The consequences of increased urbanization, climate change, and related disasters are not well understood; additionally, vulnerability to climate change is greater in some urban areas and populations than others. Informal settlements established on land vulnerable to natural disasters, with absence or limited application of planning or building codes, can increase hazards to urban populations. Invariably, these populations are also suffering the consequences of poverty and inequality and are less resilient to climate change impact and disasters.[6]

Sustainable Development

Sustainable development has been defined as: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[18] The Johannesburg Plan of Implementation of the World Summit on Sustainable Development found that:

> An integrated, multi-hazard, inclusive approach to address vulnerability, risk assessment, and disaster management, including prevention, mitigation, preparedness, response, and recovery, is an essential element of a safer world in the 21st century.[19]

In the Seventieth Session of the United Nations on September 25, 2015, the General Assembly adopted 2030 Agenda for Sustainable Development to end poverty and hunger, protect the planet, and ensure prosperity for all.[20] The 17 goals that comprise the sustainable development goals are intimately linked with disaster risk reduction targets and climate change adaptation. As the global lead for the development, the United Nations Development Programme has focused three out of seven outcome areas of their strategic plan on disaster risk reduction, energy, and climate change.[21] In alignment with this, the Sendai Framework has endorsed coherence of disaster risk reduction and sustainable development policies, programs, and actions as a guiding principle and stated that effective disaster risk reduction contributes to progress on achieving the Sustainable Development Goals.[4] In short, disaster risk reduction is essential to achieve sustainable development.

Conflict

Drought, population migration, and political instability resulted in civil war in Darfur. This war was described as the world's first climate change conflict by UN Secretary General Ban Ki Moon in 2007[22] and has been estimated as the cause of several hundred-thousand deaths.[23] Conflict-caused destruction of public health infrastructure increases risk, incidence of disease, and reduced access to health care. The challenge to the international community presented by internal/intrastate conflict is that, unlike war between states, international humanitarian and military law does not readily enable response and protection to affected populations, yet the consequences upon a population are equally severe. Internal conflict is a chronic, smoldering problem that systematically destroys public health infrastructure and protections.[24]

While conflict is not a new cause of population displacement, conflict due to climate change has emerged as a new, non-traditional driver of conflict, population migration, and displacement.

Limitations of the Report

The causal effects of disasters are multi-faceted, inter-related, and contextual. This paper examines the key literature used to inform the WADEM Climate Change Position Statement and reports on the process undertaken for its development, which, as an organizational consensus statement, may be biased in the views expressed given the membership's beliefs.

A comprehensive literature review is beyond the scope of this paper, which is not intended to report on the systematic reviews of the literature relative to climate change and disaster that are available from other sources.

Conclusion

The WADEM Climate Change Position Statement demonstrates the organizational commitment to health and effort to reduce disaster effects on populations. Importantly, WADEM recognizes the increasing effect of climate change on disaster risk as an issue of global concern and the increasing impact of climate-related factors in contemporary disasters. It is incumbent upon the international community to recognize climate change as an influencing and intensifying driver of disasters and to engage in scientific efforts to uphold global health security.

References

1. FitzGerald GJ, Tarrant M, Aitken P. *Disaster Health Management: A Primer for Students and Practitioners*. United Kingdom: Taylor & Francis; 2016.
2. WADEM Climate Change Position Statement. *Prehosp Disaster Med*. 2017; 32(4):351.
3. The Sphere Project. *Humanitarian Charter and Minimum Standards in Disaster Response*. Geneva, Switzerland: The Sphere Project; 2004.
4. UNISDR. *Sendai Framework for Disaster Risk Reduction 2015 - 2030.* 9-11 Rue de Varembé CH 1202, Geneva, Switzerland: UNISDR; 2015.
5. United Nations Office for Disaster Risk Reduction. *Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters*. Geneva, Switzerland: UNODRR; 2005.
6. Intergovernmental Panel on Climate Change. *Climate Change 2014–Impacts, Adaptation and Vulnerability: Regional Aspects*. New York USA: Cambridge University Press; 2014.
7. Costello A, Abbas M, Allen A, et al. Managing the health effects of climate change. *Lancet.* 2009;373(9676):1693-1733.
8. Watts N, Adger WN, Agnolucci P, et al. Health and climate change: policy responses to protect public health. *Lancet*. 386(10006):1861-1914.
9. Watts N, Adger WN, Ayeb-Karlsson S, et al. The Lancet Countdown: tracking progress on health and climate change. *Lancet.* 2017;389(10074):1151-1164.
10. UNISDR. The Human Cost of Natural Disasters: A Global Perspective. 2015. https://reliefweb.int/report/world/human-cost-natural-disasters-2015-global-perspective. Accessed February 1, 2018.
11. Horton R, Beaglehole R, Bonita R, Raeburn J, McKee M, Wall S. From public to planetary health: a manifesto. *Lancet*. 383(9920):847.
12. World Health Organization. Risk Reduction and emergency preparedness. WHO six-year strategy for the health sector and community capacity development. 2007. http://www.who.int/hac/techguidance/preparedness/emergency_preparedness_eng.pdf. Accessed February 1, 2018.
13. Bearne ADA. The Future of Historic Districts: A Model for Protecting Our Past from Climate Change. 2016. https://drum.lib.umd.edu/handle/1903/18881. Accessed February 1, 2018.

https://doi.org/10.1017/S1049023X18000535 Published online by Cambridge University Press

14. Bedford R, Bedford C. "International migration and climate change: a post-Copenhagen perspective on options for Kiribati and Tuvalu." In: Burson B, (ed). *Climate Change and Migration: South Pacific Perspectives*. Institute of Policy Studies, Victoria University of Wellington, New Zealand: 2010; 89.
15. World Health Organization. Protecting the health of vulnerable people from the humanitarian consequences of climate change and climate related disasters. 6th session of the Ad Hoc Working Group on Long-Term Cooperative Action under the Convention (AWG-LCA 6); 2009.
16. Centre UNN. "UN aid chief urges global action as starvation, famine loom for 20 million across four countries." Geneva, Switzerland: United Nations. http://www.un.org/apps/news/story.asp?NewsID=56339#.WM43yBKGNxg. Accessed February 1, 2018.
17. United Nations. *World Urbanization Prospects: The 2014 Revision, Highlights*. Department of Economic and Social Affairs. Population Division; United Nations; 2014.
18. United Nations. Report of the World Commission on Environment and Development. http://www.un-documents.net/wced-ocf.htm. Accessed February 1, 2018.
19. United Nations. Report of the World Summit on Sustainable Development. http://www.un-documents.net/aconf199-20.pdf. Accessed February 1, 2018.
20. United Nations General Assembly. Resolution adopted by the General Assembly on September 25, 2015. Washington, DC USA: United Nations; 2015.
21. United Nations Development Programme. 2006. http://www.undp.org/content/undp/en/home.html. Accessed February 1, 2018.
22. Ki-Moon B. A climate culprit in Darfur. *Washington Post*. 2007;16:A15.
23. Degomme O, Guha-Sapir D. Patterns of mortality rates in Darfur conflict. *Lancet*. 2010;375(9711):294-300.
24. Burkle FM Jr., Martone G, Greenough PG. The changing face of humanitarian crises. *Brown J World Affairs*. 2014;20(11):25-42.

https://doi.org/10.1017/S1049023X18000535 Published online by Cambridge University Press