



Nurses, climate change and health

Climate change presents the single largest threat to global development with the potential to undermine the past 50 years of public health gains.¹ Nurses can make a powerful contribution to both mitigate climate change and to support people and communities around the world to adapt to its impacts. Leadership from nurses to take immediate action to build climate resilient health systems is necessary. This includes, but is not limited to, developing models of care to reduce unnecessary travel, developing climate-informed health programmes for emerging infectious and communicable diseases; engaging in sustainable practices in the health sector, building the response capacity of the health workforce; engaging in health and climate research, and participating in intersectoral policy and governance responses.¹ The healthcare sector makes both positive and negative contributions to climate change. The nursing profession has a duty to contribute to climate change adaptation (reducing vulnerability to the harmful effects) and mitigation (reducing or preventing green house gas (GHG) emissions) as it is committed to protecting health and wellbeing and to promoting social justice.

Climate change refers to a change in the state of the climate which is attributed directly or indirectly to human activity that alter the composition of the global atmosphere and which is in addition to natural climate variability observed over a comparable period.² Climate change is unequivocal: the atmosphere and oceans have warmed, the quantity of snow and ice has diminished and the sea levels have risen.³

Climate change is a direct result of the rise in global concentrations of greenhouse gases (GHGs) in the atmosphere. These human-induced GHG emissions arise out of use of natural resources, particularly in the energy, transport, industry, agriculture, forestry and land use sectors.³ To reduce climate change and protect health and wellbeing, a reduction in GHG emission is required and only through international cooperation and commitment to mitigation and adaptation strategies will this be accomplished.⁴ The Paris Agreement (2016) aims to achieve this through strengthening the global response to climate change and at the time of writing 179 Parties have ratified.⁵

The effects of climate change have profound implications for human health and wellbeing. The adverse effects will arise from an impact on our most fundamental determinants of health: food, water, air and a safe environment that enables protection from extreme weather events. Health is already affected and the impacts are expected to increase as climate variability and change continue. The World Health Organisation (WHO) predicts that between 2030 and 2050, climate change is expected to cause approximately 250,000 additional deaths per year from malnutrition, malaria, diarrhoea and heat stress.⁴ According to the *Lancet* Commission “the delayed response to climate change over the past 25 years has jeopardised human life and livelihoods” and has created potentially irreversible human symptoms.¹



The relationship between health and climate change is complex. The mechanisms through which health is affected are both direct: heat-related incidents, extreme temperatures and extreme weather events (floods, drought, storms) and indirect: water quality, air pollution, land use change, and ecological changes. These mechanisms interact with certain social dynamics to produce negative health outcomes. Social dynamics include age, gender, health status, socioeconomic status, social capital, public health infrastructure and mobility and conflict status. The resulting impact on health and well-being includes loss of livelihoods, mental illness, increased food- and water-borne infections; increased vector-borne diseases; respiratory and cardiovascular diseases, and undernutrition.^{1,3}

All regions and populations will be affected but those who will be displaced by the effects of climate change and people in low- and middle-income countries, are disproportionately affected.^{1,3,4,6} This vulnerability will be further challenged by lowered resilience, less access to resources and decreased capacity to adapt and respond to the threats of climate change.⁷ The susceptibility of countries to the adverse effects of climate change depends on factors such as topography, population density, economic and infrastructure development, food availability, income level and distributions, local environmental conditions, and the quality and availability of primary healthcare. At the population level, groups that are already considered disadvantaged and vulnerable – young children, older people, women (70% of the 1.3 billion people living in poverty, people with existing health problems or disabilities, poor and marginalised communities and indigenous populations – are most at risk for adverse health and wellbeing outcomes associated with climate change.¹ Indigenous populations are not only affected by the impacts of climate change but also by some mitigation strategies. Furthermore, their ability to adapt is compromised by legal, political, technical and financial contexts.⁸

Improving core public health infrastructure services (clean water, sanitation), ensuring essential health care (vaccination and child health services) and improving disaster preparedness and response capacities will have the most effective impact on reducing risks in the near term.⁵ Climate informed strategies also have the potential to directly reduce risks to health, enhance community resilience, alleviate poverty, and address global inequities.³

The health sector itself contributes to climate change through its consumption of energy and resources and generation of waste. Healthcare facilities in developed countries such as the U.K. and the U.S. have been estimated to contribute to 3-8% of the respective countries' climate change footprint.^{9,10}

Increased demand for well-educated and trained nurses is likely to occur as the incidence and prevalence of non-communicable diseases (NCDs) is rising across the globe. When coupled with the trend towards ageing populations, climate change is likely to further increase the demand for nurses capable of caring for increasing populations of people with progressing and debilitating NCDs. The need for nurses to deliver integrated models of care – across promotion, prevention and management and control of lifestyle factors to prevent or delay progressing morbidity from NCDs – will be significant.



Disasters as a result of climate change are increasing in frequency and intensity. As such, nursing's existing collaborations and partnerships with humanitarian organisations will become even more important as the challenges and adverse health impact from disasters, coupled with displacement, will be complex and long-term.

ICN Position & Recommendations

As the global voice of nursing, ICN:

- Urges countries, who have not yet done so, to ratify the Paris Agreement without further delay.
- Strongly believes that nurses have a shared responsibility to sustain and protect the natural environment from depletion, pollution, degradation and destruction.
- Recognises that building climate change resilience must include efforts to improve and sustain the social and environmental determinants of health through sustainable development.^{3,11}
- Recognises the opportunity to take advantage of the massive potential to implement mitigation and adaptation policies that also have co-benefits to health.¹
- Calls on governments to scale-up financing for climate resilient health systems including developing models for healthcare workers to engage in sustainable practices. Donor countries should ensure that low- and middle-income countries are supported to strengthen their health systems and to reduce the environmental impact of healthcare.³
- Encourages governments to reduce the risks they are expected to face from climate change by making choices in how they advance technology and industry and make investments in infrastructure and public policies that have less environmental impact. This includes:
 - Well-designed urban transport systems to reduce use of motorized vehicles and promote active transport to reduce urban air pollution and support physical activity and mental health.^{1,3}
 - Housing with efficient insulation and protection from extreme weather events to cut energy consumption, reduce exposure to cold and heat, reduce infectious and vector-borne diseases, and in some countries, reduce the need for burning of biomass fuels and associated indoor air pollution.^{1,3}
 - Policies and support for individual choices that moderate consumption of animal products to reduce the associated significant GHG emissions and non-communicable disease burden⁶
- Calls on governments to 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.^{1,3}



ICN encourages national nurses' associations (NNAs), in collaboration with their respective government, 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 policy-making.
- 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.

ICN calls on individual nurses in their role as clinicians, educators, researchers, policy influencers, or executives, to:

- Advocate for policies that promote the reduction of healthcare waste and ensure correct waste management.
- Actively engage in environmental health committees and policy-making that focus on the safety and protection of health workers and the management and regulation of the healthcare environment.
- Empower individuals, families and communities to make healthy lifestyle choices and change own practices (i.e. active transportation, use green energy, dietary changes) to decrease the contribution to GHGs.



- Engage with other sectors to support strategies that lower GHGs such as urban redesign, enhanced public transportation and modifying indoor technologies (i.e. cookstoves) to reduce emissions.
- Work with communities to build resilience to the impacts of climate change in a way that is driven by the local context and needs and that goes beyond reactivity but seeks to address underlying vulnerabilities. Strategies include vulnerability assessments to develop resilience plans, incorporating uncertainty in resilience planning, including poor and socially excluded groups into decision making, scaling successful adaptation interventions, and monitoring and evaluation.¹²

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