

## Editorial



# SPECIALIST NURSES AT THE FRONTLINE OF THE CLIMATE CRISIS: A CALL TO ACTION

**Adriano Friganovic<sup>1,2,3</sup>, Alessandro Stievano<sup>3,4,5</sup>, Vedrana Vejzovic<sup>3,6</sup>, Aleksandar Racz<sup>1,8</sup>**

<sup>1</sup>University of Applied Health Sciences, Zagreb, Department of Nursing

<sup>2</sup>Faculty of Health Studies, University of Rijeka, Department of Nursing

<sup>3</sup>European Specialist Nurses Organisation

<sup>4</sup>Department of Clinical and Experimental Medicine, University of Messina, Italy

<sup>5</sup>Centre of Excellence for Nursing Scholarship OPI, Rome, Italy

<sup>6</sup>Malmö University, Faculty of Health and Society, Department of Care Science, Malmö, Sweden.

<sup>7</sup>Department of Clinical and Experimental Medicine, University of Messina, Italy

<sup>8</sup>Medical Faculty, University of Rijeka

Author for correspondence: Adriano Friganovic ✉ [adriano@hdmsarist.hr](mailto:adriano@hdmsarist.hr)

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## INTRODUCTION

Climate change is no longer a distant threat; it is an immediate and accelerating public health emergency with catastrophic consequences for human health and survival. The rapid increase in global temperatures, the intensification of extreme weather events, and the degradation of air, water, and food systems are no longer future projections—they are daily realities. Climate disruption is reshaping the very foundations of health, safety, and equity worldwide, undermining decades of progress in public health and exposing the most vulnerable populations to disproportionate and compounding risks (1). We are witnessing a planetary crisis unfolding in real time: rising sea levels are displacing entire communities; prolonged droughts are fuelling food insecurity and conflict; and unprecedented heat waves are pushing human physiology to its limits. The Earth's climate system, once a stable backdrop to human civilisation, is becoming increasingly volatile, destabilising ecosystems, economies, and healthcare systems alike.

Among these growing challenges, specialist nurses are emerging as vital, yet under-recognised actors at the frontlines of the climate emergency. Their roles are expanding far beyond clinical care: they are responding to heat-related illness, treating respiratory diseases exacerbated by air pollution, supporting communities displaced by disasters, and offering psychosocial

care in the wake of climate trauma. They are not only healers—they are human shields against the health consequences of environmental collapse.

Yet the scale of the crisis demands more than resilience; it requires transformation. As the climate emergency deepens, so too must our collective resolve to support, empower, and elevate the role of nurses within the global response.

The health impacts of climate change are complex. Increasing frequency of heatwaves has caused more heat-related illnesses and deaths, especially among vulnerable groups such as the elderly, children, and those with preexisting conditions (2). Changes in rainfall and temperature patterns have enabled the spread of vector-borne diseases, including malaria and dengue, into areas that were previously unaffected by these illnesses (3). Additionally, climate-related displacement leads to mental health issues, malnutrition, and interruptions to healthcare services (4).

Specialist nurses, particularly in emergency, community, and respiratory care, are uniquely positioned to reduce these impacts. Their clinical expertise and community engagement make them essential in early detection, treatment, and health education. In areas vulnerable to disasters, specialist nurses provide vital care during climate-related emergencies such as floods, wildfires, and hurricanes (5). Beyond clinical response, these nurses often organise care pathways, advocate for

vulnerable groups, and educate communities about preparedness and resilience.

Moreover, specialist nurses play a vital role in environmental health advocacy. As trusted voices within healthcare systems and communities, they play a key role in promoting sustainable practices in hospitals and healthcare services (6). Nursing-led initiatives to reduce the carbon footprint of care—such as waste management, sustainable procurement, and energy conservation—have demonstrated clear environmental benefits (7).

Despite their frontline role, specialist nurses are often under-supported in climate adaptation strategies. A 2023 global review highlighted a lack of formal climate training in nursing curricula and limited institutional investment in resilience-building for nursing workforces (8). To enhance health system preparedness, it is vital to incorporate climate literacy into nursing education and develop policy frameworks that recognise and expand the role of specialist nurses in climate adaptation and response (9).

## CLIMATE CHANGE AND ITS BROADENING IMPACT ON HEALTHCARE SYSTEMS

The climate crisis is putting unprecedented pressure on healthcare systems worldwide, threatening their ability to deliver safe, timely, and equitable care. As climate-related events become more frequent and severe, healthcare infrastructure grows increasingly vulnerable to disruption. Hospitals and clinics have suffered direct damage from hurricanes, floods, and wildfires, resulting in service outages, patient displacement, and the loss of vital medical supplies (10). These disruptions are not isolated; they cause cascading effects across emergency services, transport networks, and public utilities, worsening healthcare access issues, especially in rural and under-resourced areas.

Rising temperatures and deteriorating air quality exacerbate the pressure on healthcare systems already under strain. For instance, the rise in heat-related illnesses, cardiovascular issues, and respiratory conditions such as asthma and chronic obstructive pulmonary disease (COPD) during heat waves has resulted in more hospital admissions (11). This seasonal variation requires flexible healthcare planning and robust emergency protocols, which many systems are not yet fully equipped to implement.

Furthermore, climate change has increased the burden of infectious diseases. Altered ecological conditions facilitate the spread of waterborne and vector-borne diseases, placing new demands on

diagnostic, surveillance, and treatment capacities within healthcare systems (3). The 2022 re-emergence of dengue in southern Europe, partly due to warmer temperatures and changed rainfall patterns, clearly exemplifies how climate change is reshaping the global disease landscape (12).

Mental health services are also experiencing increased demand due to climate-related trauma, displacement, and chronic stress. Communities repeatedly affected by natural disasters report higher rates of depression, anxiety, post-traumatic stress disorder (PTSD), and substance use disorders (13). Healthcare providers, including specialist nurses, are seeing a rise in climate grief and eco-anxiety, especially among young people, which requires a psychosocial approach integrated into both general and specialised care.

Notably, these increasing pressures arise within systems already facing workforce shortages, funding constraints, and ageing populations. The convergence of these stressors' risks damaging the resilience of healthcare delivery. Without proactive measures such as climate-aware infrastructure planning, enhanced training, and community-based care strategies, the chance of systemic failure will only increase (14).

## THE ROLE OF SPECIALIST NURSES IN INFLUENCING CLIMATE ACTION AND MITIGATION

Specialist nurses hold a unique position at the intersection of clinical practice, education, public health, and leadership, making them influential in climate change mitigation and adaptation. While traditionally seen as responders to health crises, specialist nurses are increasingly recognised for their ability to shape healthcare practices that reduce environmental impact and strengthen resilience.

During the 7<sup>th</sup> Congress of the European Specialist Nurses Organisation in Zagreb, a workshop on climate change was held, and participants actively engaged in discussions, addressing several questions presented in Table 1. The workshop outcomes emphasised the importance of nurses' organisations being actively involved in this matter. Based on these findings, ESNO will establish a Climate Change Committee and initiate research through its network.

Table 1. Results from the ESNO workshop in Zagreb, May 2025.

QUESTIONS	ANSWERS
1. Does climate change impact your personal life? Your mental health? Your daily living? Does it keep you awake at night?	Yes, climate change affects my personal life in several ways. I often feel anxious about the future, especially for younger generations. The increasing frequency of extreme weather events makes me feel uneasy and uncertain. It doesn't always keep me awake at night, but it adds to a constant low-level stress, especially when I see the slow pace of global action.
2. Does climate change impact your work as a nurse? How? Do you see patients with health issues based on climate change?	Yes, I've seen a noticeable increase in heat-related illnesses, respiratory problems due to poor air quality, and mental health issues following extreme weather events. These cases are becoming more common. Climate change also indirectly affects our workload, hospital admissions, and resource availability. As a nurse, I believe we are on the front lines of a growing public health crisis.
3. How should nurses contribute to mitigating and adapting to the impact of climate change?	Nurses can play a vital role through education, advocacy, and the adoption of sustainable practices. We should educate patients about the health risks associated with climate change and provide them with ways to protect themselves. We can advocate for policies that enhance environmental health and reduce greenhouse gas emissions. Within healthcare settings, we can push for waste reduction, energy efficiency, and climate-resilient infrastructure.
4. Has your employer implemented mitigation/adaptation efforts related to climate change?	Some efforts have been made, including reducing the use of single-use plastics, improving energy efficiency within the facility, and establishing emergency protocols for heatwaves and floods. However, these measures still feel piecemeal rather than part of a larger strategy. There is a need for more leadership and integration of climate considerations into our healthcare planning.
5. What should the role of ESNO be?	ESNO should take a leadership role in integrating climate change into specialist nursing education, advocate for stronger climate-health policies at the EU level, and support nurses with resources and training to address climate-related health issues. It could also serve as a platform for sharing best practices across Europe.
6. Is access to education on climate change and health sufficiently available for you?	No, access to education on climate change and health is not sufficiently available for me. While there is some general information online and, in the media, there is a lack of structured, reliable, and easily understandable education—especially in schools, workplaces, and local communities. Many people are still unaware of how climate change directly affects human health (e.g., through air pollution, heatwaves, or vector-borne diseases). More formal education programs, public awareness campaigns, and community workshops would be helpful to fill this gap.
7. Have you been well-informed about climate change and its impact on health to support mitigation and adaptation activities? Including patient care?	No, my formal education included very little on this topic. I've had to take the initiative to learn about the health impacts of climate change and how to respond as a nurse. I think structured training and institutional support are still lacking.
8. What should the role of nurses be in the education of patients/caregivers, etc.?	Nurses should be trusted educators who help patients and caregivers understand how climate change can impact health — from asthma to heat stress — and offer practical advice on prevention and adaptation. We should also raise awareness of how sustainable practices at home and in healthcare can reduce climate impacts. Education should be ongoing and tailored to each community's needs.

## 1. CLINICAL LEADERSHIP IN SUSTAINABLE HEALTHCARE

At the point of care, specialist nurses can implement and advocate for environmentally sustainable clinical practices. This includes minimising waste through better inventory management, reducing dependence on single-use items, promoting low-carbon medical options (e.g., using dry powder inhalers instead of metered-dose inhalers), and engaging in energy-efficient care delivery (15). Operating theatres and intensive care units are among the most carbon-intensive areas, and nurses with specialised training in these fields are vital in redesigning workflows that are both safe and sustainable [16].

## 2. HEALTH EDUCATION AND COMMUNITY RESILIENCE

Specialist nurses often participate in health promotion and patient education—roles that can be expanded to include climate-related health risks. They are well-positioned to advise patients on the health benefits of climate-conscious behaviours, such as walking, cycling, adopting plant-based diets, and reducing exposure to air pollution (17). In rural and underserved areas, community-based specialist nurses can enhance local resilience by preparing communities for extreme weather events, heat waves, and outbreaks of vector-borne diseases.

## 3. POLICY ADVOCACY AND INSTITUTIONAL CHANGE

Beyond clinical practice, specialist nurses can shape institutional and national responses to climate change through advocacy and engagement. As members of interdisciplinary teams, hospital governance boards, and professional nursing associations, they can promote organisational sustainability policies, climate risk assessments, and green procurement practices (18). In some regions, specialist nurses have played a key role in establishing “green teams” within hospitals, leading quality improvement projects that reduce emissions and environmental damage.

## 4. EDUCATION AND WORKFORCE DEVELOPMENT

Specialist nurses also play a crucial role in preparing the future workforce for climate-smart healthcare. Nurse educators and clinical preceptors can incorporate environmental health into training curricula, ensuring new professionals understand how climate change intersects with health and clinical decision-making (19). They can mentor new nurses on embedding climate mitigation into daily practice and promote participation in sustainability initiatives within healthcare settings.

## 5. RESEARCH AND EVIDENCE GENERATION

Nurses engaged in advanced practice and academic research provide valuable evidence on climate-health interactions and effective interventions. Specialist nurse researchers have begun exploring areas such as heatwave preparedness in long-term care, green interventions in wound care, and psychosocial support strategies for climate-related trauma (20). These contributions help strengthen the case for systemic reform and inform climate-health policy.

By integrating patient advocacy, systems thinking, and evidence-based practice, specialist nurses are not only responding to climate change but also shaping how healthcare mitigates and adapts to it. Recognising and strengthening this role is essential for building a climate-resilient healthcare system.

## CONCLUSION

We are no longer speaking of a distant threat or an abstract environmental concern. Climate change is here—disrupting lives, overwhelming health systems, and intensifying suffering. In this escalating emergency, specialist nurses are not just caregivers; they are witnesses, advocates, educators, and protectors. They feel the heatwaves in overcrowded emergency rooms, hear the breathlessness of children during pollution spikes, and witness the silent despair that follows each flood, fire, or storm. They carry the weight of the climate crisis not only in their clinical roles but also in their hearts, knowing that the systems within which they work are often unprepared and under-resourced.

Yet, amid this storm, nurses remain a source of resilience and hope. Their deep connection with patients and communities allows them to translate scientific knowledge into compassion, action, and healing. They are leading efforts to green healthcare, build climate literacy, and defend the most vulnerable, often without recognition, training, or institutional support. This is not sustainable.

To safeguard human health in a warming world, we must act decisively and collectively. Education systems must embed environmental health into every level of nursing training. Healthcare institutions must empower nurses to lead sustainability initiatives and include them in disaster planning and policy-making. Governments must recognise specialist nurses as essential actors in national and international climate strategies.

This is a call to action. To health leaders: open space for nurses to lead. To policy-makers: fund and support their work. To educators: equip future nurses with the tools to face the century's defining challenge. And to

nurses themselves: your voice, your knowledge, and your courage are needed now more than ever. You are not alone, and the world cannot afford to move forward without you.

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