

European federation of Critical Care Nursing associations (EfCCNa) position statement: Towards sustainable intensive care

The earth's climate is changing as a result of human-induced excessive resource usage and carbon dioxide (CO₂) emissions.¹ The healthcare sector accounts for approximately 4.4% of annual worldwide greenhouse emissions, and European Union (EU) countries collectively are among the top three emitters.² Climate change severely affects the global ecosystem, including increased health risks, poverty, and displacement.¹ As the climate is already changing, immediate action is required.

The United Nations (UN) formulated 17 sustainable development goals and set up a structure to resolve human-induced climate change that includes a Framework Convention on Climate Change (UNFCCC), an Intergovernmental Panel on Climate Change (IPCC), and annual Conferences of the Parties (COP). The World Health Organization (WHO) has developed a roadmap and partnerships for healthier people, a thriving planet and a sustainable future.^{3,4} The EU has formulated 'the green deal', striving to be the first climate-neutral continent in which specific goals are stated to provide sustainable healthcare.⁵ Healthcare professionals have great potential to influence more sustainable decisions made within the social and policy landscape.⁶

1 | NURSES' ROLE IN ENVIRONMENTAL SUSTAINABILITY IN THE ICU

As the largest profession in healthcare, nurses play a pivotal role in transitioning services to reduce the damage caused to our environment. Within hospitals, the Intensive Care Unit (ICU) is responsible for large amounts of waste. Daily ICU care results in seven bags of waste per ICU patient, and the materials used leave the ICU via the sewage system, regular waste procedures (burning) or specific high-risk hospital waste.⁷ The European federation of Critical Care Nursing associations (EfCCNa) advocates that all ICU nurses in Europe have a role in endorsing more sustainable ICU practices.

As nurses are continuously at the bedside, we are responsible for the care we deliver, individually and as part of a team. Four simple but effective interventions can have a strong impact to facilitate a transition towards sustainable care in the ICU: (1) reduction in use of chemicals (medication and iv-fluids); (2) decreasing energy consumption; (3) reducing waste generation; and (4) reduction of water pollution

and consumption seem to have the greatest impact.^{7,8} For example, when using intravenous fluids, choosing the appropriate amount and volume of the bag contributes to lowering the CO₂ footprint.⁹ energy consumption may be reduced by shutting down devices when not used.¹⁰ Furthermore, waste reduction may be realized by adapting replacement frequencies of materials¹¹⁻¹³ or reducing unnecessary glove use.⁸ Lastly, re-useable instead of disposable materials can decrease our CO₂ footprint.¹⁴⁻¹⁶

2 | FORMATION OF 'GREEN TEAMS'

Within a team, nurses can inspire colleagues to integrate sustainability in the way care is delivered and how it is organized, for example, by the formation of green teams.¹⁷ A green team is a multidisciplinary group of environmentally conscious professionals that have regular meetings at their ward, in which ideas and suggestions are discussed and deployed to contribute to sustainable care. Good examples are projects on awareness of the use and saving of emails in relation to the carbon footprint, and hospital-wide initiatives like 'no risk, no glove'.⁸ An additional strength of green teams lies in their ability to take action with careful consideration of the regional and local characteristics of the context, as well as the available healthcare facilities. Furthermore, these teams are motivated and inspired by their own colleagues.

3 | EDUCATION ON SUSTAINABILITY

From an educational perspective, additional efforts can be made to implement environmental sustainable healthcare in curricula. The international association of health professions education (AMEE) has formulated a consensus statement on planetary health and education for sustainable healthcare.¹⁸ This consensus statement provides vision for educating an interprofessional healthcare workforce that can deliver sustainable healthcare and promote planetary health. Creating awareness and providing best practices will help the new generation to develop their professional practice in an environmentally sustainable manner. During the training of critical care nurses, awareness and

knowledge of the possibilities to provide care in a more sustainable way should be embedded into the curriculum.

4 | EfCCNa POSITION STATEMENT

The EfCCNa sustainability group formulated this statement as a first step to transform towards more sustainable ICU care within Europe. EfCCNa will contribute to this transformation by informing and supporting our members to deliver ICU nursing care in the most sustainable way. EfCCNa strongly supports adopting practices that reduce our impact on the environment whilst ensuring that ICU services are maximally sustainable. Maximally sustainable ICUs optimize resource efficiency and embrace eco-friendly initiatives while ensuring a balance between patient care, environmental responsibility and long-term social health. We are committed to maintaining, and whenever possible, improving the quality and safety of patient care. Our mission is to show that providing the best ICU care and being environmentally responsible can go hand in hand, setting new standards for healthcare practices. We call for every ICU nurse in Europe to contribute to a more sustainable ICU care as much as possible.

5 | EXAMPLES TO INSPIRE

Several initiatives have been published to support sustainable healthcare practices, and several more are currently being developed. For inspiration purposes, these practical tools and best practices encourage nurses to inquire about local, national and international initiatives, and publicly share their own:

1. The Australian and New Zealand Intensive Care Society (ANZICS) have a Beginners Guide to Sustainability in the ICU (<https://www.anzics.com.au/safety-quality-resources/>) and a range of intensive care sustainability resources are available from the Intensive Care Society (<https://ics.ac.uk/membership/sustainability.html>).
2. Awareness on sustainability starts with education and knowledge. To enhance the Sustainability Literacy and Competency (SLC) in nurse education, teaching approaches and materials are available from: NurSus (<http://nursus.eu/>), BeWell (<https://bewell-project.eu/project/>), Climate Resources for Health Educators Nursing (<https://climatehealthed.org/nursing-resources/>) and SusQI Framework (<https://www.susqi.org/>).
3. The Sustainable Hospital Initiative provides environmentally sustainable healthcare publications, cases and videos (<https://sustainablehospital.org/>).
4. Critical Care Susnet is a sustainability network hosted by the Centre for Sustainable Healthcare with a resources repository, virtual events and online topic board for asking questions, sharing practices and collaborating with others (<https://networks.sustainablehealthcare.org.uk/critical-care-sustainability-network/stream>).
5. Health Care Without Harm Europe (<https://noharm-europe.org/>) is a network of thousands of hospitals, healthcare leaders and

healthcare professionals, with members across Europe and partners across the globe, championing sustainability in their workplaces and supporting the Nurses Climate Challenge Europe (<https://eur.nursesclimatechallenge.org/en>).

6 | CONCLUSION

Intensive care currently requires significantly high amounts of energy, consumables and medicines, and results in large volumes of waste. Healthcare professionals choose what materials to use for the care they provide. Since ICU nurses are continuously at the bedside, they play a pivotal role in transitioning intensive care services to reduce the damage caused to our environment whilst also providing the best possible care for the critically ill. This mission statement is a first step to transform towards more sustainable ICU care within the EU by creating awareness and providing practical information. The EfCCNa encourages ICU nurses throughout Europe to contribute to sustainable ICU care as much as possible.

DATA AVAILABILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

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