

# Nursing Planetary Health

The growing recognition of existential threats related to global environmental change, such as the climate crisis and the collapse of biodiversity, has led to the formulation of strengthened public health and environmental approaches. 'Planetary health' proposes an interdisciplinary, holistic and comprehensive approach to analyse and respond to the health impacts on our planet that are mediated by social, economic and political factors. **Nurses can play a leading role in implementing planetary health, from the individual and organisational level (behaviour change) to the global level (policies and governance).**

Nursing science is adapting to this current trend, and we acknowledge an increase in the number of publications in this domain. Largely fuelled by the COVID-19 pandemic, there is a renewed focus on the need to address health equity. Starting with the implementation of the European Green Deal in 2021, the European Union (EU) would benefit from an increased investment in nursing planetary science. This would allow some pressing questions to be answered on the ways to adapt to and mitigate environmental change through energy, food, mobility and gender-based and nature-based solutions, in and out of the healthcare sector, which would improve the health and wellbeing of European citizens.

## Definition and current perspectives within health and environmental approaches

The impacts of global environmental change have precipitated many approaches that connect the health of natural ecosystems, non-human organisms and humans.<sup>1</sup> However, the proliferation of approaches can lead to confusion due to overlaps in terminology and ideas.<sup>1,2</sup>

Planetary health is one of a set of environmental public health approaches that are relevant to the field of global public health. This approach:

*'is the achievement of the highest attainable standard of health, wellbeing, and equity worldwidethrough judicious attention to the human systems – political, economic, and social – that shape the future of humanity and the Earth's natural systems that define the safe environmental limits within which humanity can flourish. Put simply, planetary health is the health of human civilisation and the state of the natural systems on which it depends.'*<sup>3</sup>

Chris G. Buse, a Canadian researcher, provides a glossary of seven approaches in environmental public health research and practice:<sup>1</sup>

1. Occupational and environmental health: the health impacts of occupational and environmental risks; risk management.
2. Political ecology of health: how the authority, power and organisation of human society interact with the environmental determinants of health.
3. Environmental justice: what is moral or right in producing environmental health outcomes; legal and procedural relationships between health equity and environmental management.
4. EcoHealth: ecosystems as the foundations of human health and wellbeing; durability; systems thinking; multi-stakeholder participation; trans-disciplinarity; social and gender equity; knowledge to action.

**Keywords: environment, sustainability, planetary health, ecohealth, ecology, ecosystems, environmental health, One Health, public health**

5. One Health: human/animal/ecosystem link; modelling and management of zoonoses and infectious diseases; a key approach implemented to strengthen health security (COVID-19 link). This approach is promoted by the World Health Organization (WHO), the World Organisation for Animal Health (formerly the OIE), and the Food and Agriculture Organization (FAO) in tripartite.
6. Ecological public health: ecological determinants of health; eco-social theory; interdependence between ecosystems and human health.
7. Planetary health: understanding and living within planetary (ecological) limits under which modern civilisation can flourish.

None of the concepts listed here is *a priori* 'better' or 'more useful' for tackling complex socio-ecological health problems. Rather, each brings specific strengths and tools to the task of understanding and responding to the health impacts of environmental change.<sup>1,2</sup>

The holistic nature of this approach is strongly aligned with the philosophical and practice foundations of the nursing profession.<sup>4-6</sup> Reviewing the scope of research and evidence on 'nursing planetary health', covering all the seven overlapping environmental public health approaches introduced above, with particular attention to equity in research and decision making, can drive further developments in nursing research.

## History

Historically, the scope of nursing science has been focused mostly on healthcare, with limited investment in and attention to health promotion and environmental health.<sup>4-7</sup> However, the evidence shows that the health of an individual or a population depends more on broader health determinants (individual, social, economic, commercial, political and ecological) than the performance of healthcare systems.<sup>8-11</sup> Recent evolutions of the role of nurses include the recognition of advanced practice nurses (APNs) in roles that encompass public health.<sup>12-14</sup>

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Policies to tackle global environmental change, also called 'planetary change', understood as a climate and ecological emergency, are gaining an important momentum in the design of COVID-19 recovery policies and the Green Deal in the EU. We foresee that the role of nurses will evolve in parallel with these policies. Therefore, nurses have a key role to play in the co-design and implementation of planetary health solutions.

Among the key advancements in this field, we can cite the European Federation of Nurses Associations' Policy Statement on the Nurses' Contribution to Tackle Climate Change,<sup>15</sup> Nurses Climate Challenge Europe,<sup>16</sup> Nurses Drawdown (a project of the Alliance of Nurses for Healthy Environments and Project Drawdown)<sup>17</sup> and the work of the International Council of Nurses (ICN) on nurses and climate change.<sup>18</sup>

## Are the roles relevant?

Many articles call for increasing the role of nurses to address planetary change.<sup>19-27</sup> But despite growing attention to this, existing research on nursing planetary health remains very limited.

A rapid purposive review on PubMed shows that scientific publications on 'planetary health nurse' (or alternatively 'environmental health nurse' or other synonyms) are rather scarce. Except viewpoints on the role of nurses mentioned earlier, there are not a lot of publications on the impact of concrete field environmental health and planetary health interventions led by nurses, despite a recent expansion of research in these fields.<sup>28-33</sup> Larger and more systematic reviews would be necessary to scope this issue in European countries and Europe as a whole, and accurately.

## Definition of nursing planetary health

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*‘Nursing planetary health is defined as taking care of the health of the human civilisation together with the state of the natural systems on which it depends.’*

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This proposed definition of nursing planetary health covers all comprehensive research in the fields of public health, environmental health and health promotion, with attention to the social, political and ecological determinants of health (the state of natural systems).

## What are the roles of nurses in planetary health?

Nurses have a key role to play in the co-design and implementation of planetary health solutions. Based on a long tradition of informing the public about diseases and promoting health, it is evident that nurses take on an important role as change agents in a variety of activities concerning the health aspects of local and global environmental change. To contribute to nursing planetary health effectively, it is necessary to advance the role of nurses.

At the philosophical level, since humanity must now take care of those living on earth more than ever, a philosophy of care, which is at the heart of the nursing profession, is among the best frameworks for action.

At the policy level, nurses can showcase their frontline experience and use their voice to advocate for ambitious planetary health action, from the local level to the higher levels of political action.

At the health promotion and prevention level, nurses can be the primary sources of information for individuals, families and communities about the effects of environmental change and inequalities in health, and use their agency to promote planetary health lifestyles that are good for people's health and for the planet.

At the healthcare level, nurses can participate in the ecological transformation of their

workplaces to contribute to reducing greenhouse gas emissions and the diverse pollutants generated through healthcare, and to adapt the infrastructure and procedures for a better preparedness for future threats.

Finally, at the individual and patient level, nurses can implement nature-based solutions, participate in the planetary health education of their patients, adapt their practice to lower the footprint of nursing care (with environmentally responsible practices) and be better prepared to deal with the effects of global environmental change in patient management.

## What are the characteristics of planetary health education for nurses?

Education on planetary boundaries – such as climate change, the biodiversity collapse and globalised pollution – should start at primary school in the entire EU, if we want the next generations to be prepared to deal with these mega-threats. This is in line with two current and important European Commission initiatives: Education for Environmental Sustainability<sup>34</sup> and the Education for Climate Coalition.<sup>35</sup>

While this is not yet implemented at scale, baccalaureate nursing education should integrate core skills and competencies on planetary health. EU decision makers should therefore facilitate and support the education of nurses in the mitigation of and adaptation to both local and global environmental change in addition to existing health promotion and public health education.

Planetary health education for nurses in the EU would be an extension of existing health promotion and public health education. Article 31;7 of the European Directive 2005/36/EC (amended by 2013/55/EU)<sup>36</sup> focuses on important competencies that EU nurses should have:

- point (c): ‘competence to empower individuals, families and groups towards healthy lifestyles and self-care (...)’.
- point (d): ‘To independently initiate life-preserving measures and to carry out measures in crises and disaster situations.’

Therefore, the EFN recommends the integration of the concept of health–environment co- benefits<sup>37-40</sup> – actions that have many cascading and beneficial effects for health, society and ecosystems – in future modernised European Directives on health professionals’ education. Many actions with such co-benefits are already contained in EU COVID-19 recovery policies and the Green Deal. This is not a new phenomenon, as many nursing theorists have argued for this holistic and comprehensive approach. But, sadly, the work of nurses has been subsumed under a predominant and powerful biomedical model.

*‘Relating to the nature of practice, the nurse focussing on planetary health has the ability to integrate evidence-based practice, education, and clinical management, to integrate the planetary health approach, and other health & environment concepts in healthcare, community and public health interventions.’*

## European planetary health agenda

The European planetary health agenda lies in the European Green Deal, the Biodiversity Strategy and the Fit for 55 Package designed for a fairer, greener and climate-neutral Europe. The priority is to empower people and consulting citizens to know their needs to implement the right decisions. Nurses have a key role to play in this empowerment because most citizens are in contact with them personally or professionally.

Nurses and nursing researchers have a unique contribution to make to the co-design and implementation of EU health and relevant Green Deal related policies that impact on planetary health. In this perspective, European institutions’ ambitious investments in the nursing research and workforce are key and timely, so that nurses can act on the mitigation of and adaptation to environmental change.



Figure 1. Picture representing policies contributing to the European Green Deal (European Commission).

In a planetary health perspective, the EFN sees the trunk of the European Green Deal trees as being health and the entire tree as being planetary health. The tree representation lacks the roots, which are the European socio-cultural roots celebrated in art and diverse traditional customs.

There are many examples where ‘health and wellbeing’ is mentioned in the European Green Deal and related policy documents: the moral obligation to ‘put sustainability and the well-being of citizens at the centre of economic policy’; the need to ‘protect the health and well-being’ and ‘maximise benefits for health, quality of life, resilience and competitiveness’; the transformation of the health system that will be green and digital; the renovation of hospitals, saving money, which would be made available to support public health; the transport system, which would become ‘more affordable, accessible, healthier and cleaner alternatives to the current mobility habits’; the ‘From ‘Farm to Fork’ [strategy]: designing a fair, healthy and environmentally-friendly food system’; ‘EU’s forested area [which] needs to improve (...) for (...) a healthy environment’; greater attention to nature-based solutions, including healthy and resilient seas and oceans; and the fact that ‘all parties including industry should work together to combine better health and environmental protection’.

Central to this goal is transforming our economy and society, with an important focus on equity. As stated: ‘Climate change is the biggest challenge



of our times. And it is an opportunity to build a new economic model.’ However, a new economic model without the ultimate goal of improving the health and wellbeing of European citizens is challenging. The EFN sees climate change as an opportunity to improve European health and wellbeing with the evidence coming from nursing research programmes.

Of the most important EU policy areas relevant for nursing planetary health (information derived from factsheets on the European Green Deal), we would like to cite:

- Nature-based solutions related to: the EU Biodiversity Strategy for 2030 and the EU Forest Strategy for 2030.
- Food solutions related to: the ‘Farm to fork’ strategy and the Organic Farming Action Plan.
- Infrastructure solutions: the Renovation Wave.
- Reducing pollution: the Zero Pollution Action Plan.
- European Commission initiatives on adaptation to the health effects of climate change in Europe.
- The work of the Environment Working Group: Zero-Pollution Ambition: Prioritising citizens’ health and well-being.

There are many areas of research and action where nurses and nursing researchers could substantially contribute.

## What are the major areas of nursing research in planetary health?

Using a planetary health perspective, which is considered holistic or integrative, nurse researchers could lead research and actions on the whole sector of human activity and the state of the environment. The priority should be on traditional sectors where nurses work, such as the healthcare sector or health education activities, but research activities could also concern the wider determinants of health.

Nurses Drawdown, a project of the Alliance of Nurses for Healthy Environments and Project Drawdown,<sup>16</sup> identified five areas where ‘nurses from all specialties and in all clinical settings are encouraged to take action’:

- **Energy:** Supporting a clean energy future by promoting energy efficiency and advocating for a transition to renewable energy.
- **Food:** Committing to a plant-based diet, using clean-cook stoves and reducing food waste.
- **Mobility:** Bike infrastructure, walkable cities and mass transit.
- **Gender equity:** Educating girls and family planning.
- **Nature-based solutions:** Planting trees and protecting forests.

Overlapping areas of the green transition of the healthcare sector, the control of toxic exposure, sustainable economic models and green prescribing could also be mentioned.

According to the existing level of evidence, the EFN has drawn up a non-exhaustive list of research problematics – broken down according to the most important EU policy areas relevant for planetary health – which nurses could contribute to answering and could target in their research (– action). The indicators drawn from the research could help to monitor and evaluate the progress and impacts of the implementation of the Green Deal at various levels.

1. **Nature-based solutions:** How could these types of solution be integrated in healthcare and patient education through the institutionalisation of green (and social) prescribing practices? How does increased exposure of young children to biodiversity reduce their risk of developing allergies?
2. **Food solutions:** To what extent could sustainable food education, according to a planetary health diet, be strengthened in lifestyle management to prevent the risk of a relapse of non-communicable diseases and improve wellbeing? What would be the impact on a given population over a certain period of time?

3. **Infrastructure solutions:** How does the improvement of indoor air quality and the hygiene of housing improve the health outcomes of patients with chronic respiratory diseases such as children affected by severe asthma? How does improved access to bikeable or walkable infrastructure influence the health of a population?
4. **Reducing pollution:** What is the effect of a reduction of air, water or soil pollution in a territory on the health of its population?
5. **Adaptation to the health effects of climate change:** What is the impact of adaptation measures on life saved and reduced morbidity related to, for instance, the health effects of heatwaves or flooding?

For all these problems, nursing researchers could contribute to research on what complementary health promotion activities (e.g., information and alert systems, community empowerment), conducive to the adoption of healthy lifestyles in Europe, should complement efforts to maximise positive impacts on health and wellbeing at the local level (e.g., the area covered by a hospital).

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*‘Nursing planetary health, which can form the substantial contribution of nurses to the implementation and outcomes of the European Green Deal, could have a substantial impact on the safeguarding of the health and wellbeing of European citizens.’*

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To realise this vision and make nursing planetary health happen, the EU urgently needs highly educated and adequately reimbursed nurses, with safe and secure working conditions, who are well supported and empowered to engage with their communities and decision-makers. The COVID-19 pandemic remains a glaring example of the need for reform and the EU should not wait for the next crisis to build the resilience of its nursing capacities.

## Conclusions

The world is facing a huge climate crisis. Climate change exacerbates many social, environmental and economic risk factors for problems in terms of mental health and psychosocial wellbeing.<sup>41</sup> The ecological disruption caused by unsustainable socio-economic systems can threaten the foundation of health systems and withdraw decades of human progress.

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*‘Strategies and activities can take many forms. It is our last chance before climate-induced irreversible damage to people and nature occurs.’*

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There is a great need for political and individual action on climate change. At the European level, this has become an important priority, as climate change is evident across and beyond European regions, and in many sectors, including health, and it affects all citizens’ quality of life in far-reaching ways, including the recovery from the COVID-19 crisis.

Strategies and activities can take many forms. It is our last chance before climate-induced irreversible damage to people and nature occurs. As such, we need a deep, radical and global transformation of our societies, putting the health of the living, of the biosphere, at the heart of our common decisions and actions.

In this context, planetary health provides a relevant framework to understand and tackle the interconnection of causes and consequences between health and climate change.<sup>42</sup>

This is what the COVID-19 pandemic and its consequences have shown to the EU, Europe and the world.

Nurses are among the most trusted professionals in our societies and the best placed to apprehend the health effects of global environmental change and related action for prevention and preparedness. They can play a paramount key role in planetary transformation, in their practice, their communities and policy decisions.

It is therefore very important and relevant that the EU integrates a planetary health lens into its policy making and considers the major contribution that nurses and nursing researchers could bring to its implementation.

Nurses are well placed to implement the Rockefeller Foundation–Lancet Commission report on planetary health, which highlights that planetary health ‘is the achievement of the highest attainable standard of health, wellbeing, and equity worldwide through judicious attention to the human systems – political, economic, and social – that shape the future of humanity and the Earth’s natural systems that define the safe environmental limits within which humanity can flourish. Put simply, planetary health is the health of human civilisation and the state of the natural systems on which it depends.’<sup>4</sup>

It is important to acknowledge the direct contribution of human activity to climate change, and the urgent threat that climate change poses to global health. Nursing planetary health implies addressing the consequences of manmade planetary change for food and nutrition, infectious disease risk and management, the burden of non-communicable diseases, migration and conflicts, and mental and physical health. Most of these issues are trans sectoral

and tackling them requires transdisciplinary research and actions with relevant scientists and professionals.

Although the EU plans to reach climate targets by 2030, no concrete actions are in place to encourage stakeholders and citizens to do more on planetary health. A clear plan, with concrete actions, is crucial for change and successful outcomes. Designing a transition that does not leave anyone behind is more difficult than designing a transition to reach climate neutrality for 2050.

The COVID-19 pandemic has highlighted the importance of the interlinkages between the degradation of our environment and the health of our societies. However, policy makers often lack reliable data and concrete ways to measure the impact of environmental and climate change on citizens’ health and wellbeing.

The health workforce is a huge sector. It is therefore key to look at planetary health and nurses’ and nurse researchers’ contribution to mitigating the consequences of climate change.

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*Nurses are part of that important equation!*

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## Recommendations

### What should researchers do?

1. **Conduct scoping and systematic reviews** of the role of nurses in planetary health in Europe.
2. **Systematically engage frontline health professionals and nurses** in conducting research in health facilities and communities.
3. **Develop a European framework for nursing planetary health research** to be implemented during the seven-year EU 2021–2027 budget related to the implementation of the Green Deal.
4. **Embrace global collaboration** to address contemporary issues.
5. **Make sure that planetary health is part of the national research agenda.**

## What should policy makers do?

1. **Integrate climate change concerns into EU health policies** to be better prepared to respond to the climate crisis.
2. **Facilitate and co-create concrete nursing planetary health actions**, led by nurse researchers.
3. **Finance research and actions to ensure the participation of nurse researchers** in decision making and implementation.
4. **Engage nurses in research and actions related to all relevant components of the Green Deal**, with a priority link to health at local, national and European levels, such as: (a) agriculture and food: Farm to Fork Strategy; (b) energy: Renovation Wave; (c) climate: European Climate Law, Climate Change Adaptation Strategy; (d) environment: Biodiversity Strategy, Environmental Action Plan, Zero Pollution Action Plan; (e) transport: Sustainable and Smart Mobility Strategy, stricter air pollution standards for combustion engines.
5. **Advance planetary health knowledge, skills and competencies** as a new core component of training for current and future nurses.
6. **Promote innovative structures and networks** to create diversity in planetary health skills training for nurses.
7. **Engage nurses and their organisations in monitoring and evaluating** the progress and impacts of the implementation of the Green Deal at all levels.

## What should nurse leaders do?

1. **Foster collaboration with all relevant EU stakeholders and researchers** to analyse the scope of research and action in nursing planetary health.
2. **Pro-actively identify and engage in relevant areas of planetary health research and action** in their sectors and at their levels of responsibility.
3. **Assess and project** climate change-related nursing workforce capacity requirements.
4. **Raise awareness of the health implications of climate change** and how to assess and address the risks to health by developing policy documents on the subject.
5. **Advocate for an increased political will and financial investment** in planetary health research and action within an equity agenda.
6. **Raise awareness of the potential of planetary health solutions** in healthcare and community health.
7. **Engage with decision makers, funders, researchers and private stakeholders** at all levels, focusing on the added value that frontline nurses and nurse researchers can bring to current and future planetary health initiatives.
8. **Collaborate with other organisations** of health professionals, and intergovernmental, environmental and civil society groups, when developing health-adaptation policies and programmes.
9. **Advocate for greater co-design and co-creation** of planetary health solutions, harnessing the experience, expertise and influence on citizens of frontline nurses.



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