



# Planetary Health & Holistic Nursing: A Natural Partnership

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Planetary health incorporates the areas of population health, ecology (Horwitz & Parkes, 2019), environmental health, One Health, and EcoHealth (Seltenrich, 2018), as well as ethics and systems thinking (Foster et al., 2019). This is a growing interdisciplinary field that endeavors to understand and promote human health within the context of environmental health, and holistic nurses play an integral role. One of the largest and most trusted professions, nurses are in a unique position to protect patient health, adapt and innovate healthcare systems, and shepherd communities into a sustainable future. Through our healthcare practice, we have the opportunity to effect change — especially in the areas of community and population health, research, education, policy, and advocacy (Kurth, 2017).

The theoretical framework of planetary health draws from indigenous wisdom (Redvers, 2018), First Law (Redvers, et al., 2020), and integrative and holistic health theories (Prescott & Logan, 2018). It has begun to take shape as a field over the last decade after it became clear that a systems-based approach to understanding human, environmental, animal, plant, and global health was needed. A 2015 report by the Rockefeller Foundation and the Lancet Commission on Planetary Health reviewed the urgency of global environmental degradation and outlined the domains in which human health is being impacted (Whitmee et al., 2015). This report also served as the foundation for the Planetary Health Alliance, which works across disciplines and countries (more than 200 member institutions from more than 40 countries) to promote research, education, and policy on

the interconnectedness of human and environmental health (Whitmee et al., 2015).

## A New Epoch of Human Impact on Planetary Health

Holistic nurses recognize that we are living in the “Anthropocene Epoch,” also referred to as the “sixth mass extinction” (Subramanian, 2019). This is generally considered to have started at the end of World War II with the first detonation of an atomic bomb, and is marked by exponential human population acceleration where our global population has gone from 2.3 billion in 1940 to 7.8 billion in 2020. In this same time, humans have been using more resources than can be replenished and are rapidly degrading nature’s reserves (McBain, 2017).

The consequences of this epoch, where human activity is having a massive impact on the environment, are significant.

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## Examples of Human-Caused Disruptions in Earth's Natural Systems

- 🌀 Water scarcity
- 🌀 Changing food systems
- 🌀 Urbanization, sprawl, and changing land use
- 🌀 Declining health of animals and insects
- 🌀 Shifts in biodiversity
- 🌀 Natural disasters
- 🌀 Climate change
- 🌀 Global pollution
- 🌀 Changing biogeochemical flows

(Planetary Health Alliance, 2021)

As a result, there has been a critical loss of fresh water supplies. In addition, natural environments and rainforests, which provide planetary oxygen and sequester carbon, are rapidly disappearing. There has been a dramatic reduction of suitable land and soil for food production and carbon sequestration, a degradation of air quality, and significant biodiversity loss. All of the oceans have been impacted by pollution (e.g., marine debris and microplastics) and atmospheric changes, and this results in loss of sea life and diminished coastline health and safety. Humans have also caused a rise in greenhouse gas emissions from carbon, methane, and ozone, which contribute to global warming, sea level rise, shifting weather patterns, and further biodiversity loss (Salk, 2019).

The framework of planetary health addresses these impacts of human activity on the environment and illustrates how environmental degradation over multiple systems affects human health (Prescott et al., 2018). The causes of poor planetary health, and consequently human health, sit squarely with pollution (air, water, soil) and the loss and destruction of natural places. The field of planetary health recognizes that modern, colonial human civilization has historically looked to nature as a stockpile of resources to pull out and utilize, versus looking at the presence of undisturbed nature as the resource that needs to be protected. A “tipping point” in climate and planetary systems has occurred because of this practice, and urgently seeks to mitigate the consequences that we are now experiencing. The planetary health story takes us through explorations on how human-caused disruptions in Earth's natural systems (see box above) impact the prevalence of non-communicable and infectious diseases, mental health, water and food availability and nutrition, and social and economic well-being, and it lays the foundation for the work health professionals must take (Planetary Health Alliance, 2021).

### Air, Soil & Water Pollution

In order to understand just how human-caused environmental damage is affecting health, we need to look first at air pollution. Indoor and outdoor air pollution is one of the top three causes of

death and disease, and in 2017, it was responsible for 9 percent of global deaths annually (Ritchie & Roser, 2017). Outdoor air pollution consists mainly of carbon monoxide, lead, nitrogen dioxide, methane, ozone, small and large particulate matter, sulfur dioxide, and benzene. The sources of these pollutants are from oil and gas production, industry and manufacturing, transportation, common agricultural practices, waste and sewage treatment, transportation, wildfires, volcanic emissions, and domestic wood burning (Landrigan et al., 2018). These pollutants affect human health (see box below). The World Health Organization estimates that 92 percent of the global population lives in communities where air pollution exceeds safety limits (WHO, 2016).

In addition to air pollution, contamination of the environment by industrial waste, oil and gas extraction, manufacturing, plastic, mining activities, and industrialized agriculture has caused widespread soil and water pollution (UN Environment, 2019). This contamination contributes to significant burden of disease for people living in all countries, but particularly in poor and marginalized communities.

Since the 1950s, more than 140,000 different chemicals have been developed for consumer products and are now present in all communities — in soil, materials, water, and air. These contaminants include pesticides from agriculture, industrial chemicals, and radioactive materials, infecting both surface and groundwater, altering soil health, and subsequently impacting the health and safety of food. They also elevate indoor and outdoor air pollution. There is insufficient safety and toxicity regulation on these chemicals and materials globally, and they are considered to be the cause of 16 percent of all the deaths worldwide. In addition, endocrine, cardiovascular, renal, neurological diseases, and cancer make up 70 percent of the diseases attributed to environmental pollution from these (Landrigan et al., 2018; Shaffer et al., 2019).

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## Common Impacts of Air Pollution on Human Health

- ◆ **Cognitive and neurological impacts:** cognitive disorders, anxiety and depression, fatigue, and neuro-degenerative disease (Chen & Nakagawa, 2018)
- ◆ **Respiratory disease:** asthma, lung cancer, and COPD (Manisalidis et al., 2020)
- ◆ **Cardiovascular complications:** increased arrhythmias, atherosclerosis and inflammation, heart attacks and strokes (Manisalidis et al., 2020)
- ◆ **Reproductive problems:** miscarriage, slowed fetal development, low birth weight, and prematurity (Manisalidis et al., 2020)

## Climate Change

Climate change, which is a direct result of air pollution (greenhouse gases), has been impacting human health in a variety of ways. Climate change from these emissions has led to a rise in the average earth temperature by 1.2 degrees Celsius from pre-industrial temperatures, and the level of carbon dioxide in our atmosphere has also dramatically increased since the 1950s (NASA, n.d). One of the major consequences of climate change is rising sea levels, with resultant flooding of low lying areas impairing fresh water supply, habitat, and agriculture. Another consequence is an increased frequency of severe weather that results from changes in ocean temperatures that affect how weather occurs across the globe.

Extreme weather can cause loss of property, damage to water and food systems, and economic and social losses. It can lead to injury and death, as well as incite or exacerbate anxiety, depression, and grief. As weather patterns shift, around 40 percent of the global population will consistently experience long-term/severe drought, which predisposes communities to wildfire, loss of topsoil, food insecurity, and ecosystem shifts (WHO, 2021). Due to increasingly severe drought, especially in low to middle income countries, people are forced to migrate, contributing to depression through “loss of place” and changes in social infrastructure, as well as loss of economic base. All this leads to land and economic conflicts, and in worst cases, it creates civil conflicts.

Heat waves and extreme heat will continue to become more common. Extreme heat correlates to more acute cardiovascular events (strokes and heart attacks) and can also cause renal failure, severe dehydration, and heat emergencies especially with the elderly. Warmer winters contribute to longer asthma and allergy seasons, as well as shifts in animal and insect populations that can carry disease.

Infectious diseases from animal and insect vectors will persist in new areas, as exemplified by Zika virus, bubonic plague, Hantavirus, Lyme disease, Chickungunya and West Nile virus. Waterborne and viral respiratory diseases will also continue to increase in frequency, as water ecology and geochemical processes undergo human-induced change (e.g., shifts in water flow from drought, flooding, and “acid rain”). This sustains challenges with waterborne infections like Cholera, Cryptosporidiosis, Campylobacter, Cyanobacteria, Giardiasis, and Leptospirosis.

Ultimately, climate change has impacted our food supply through multiple mechanisms, such as loss of soil microbiome, loss of food species, pollinator loss, diminished access to water for irrigation, and reduced nutrient densities of our food. This will all continue to contribute to significant malnutrition as well as famine in many global communities (CDC, 2021).

## Actions Holistic Nurses Can Take for Planetary Health

- 1) First, we must learn about the environmental issues in our communities: How is our air pollution? Is our water safe, and is there sufficient supply for generations? Are there industries that are contaminating the air, water or soil, and hence, the patients and communities we care for? Are our agricultural practices sound and supported to ensure that there is no food insecurity?
- 2) Then, we must apply what we know to our practice. We need to understand and detect the consequences of environmental pollutants to our patients. For example, we can:
  - Alert people to the importance of modifying activities due to air quality and extreme heat.
  - Help our patients prepare for extreme weather events and plan for prolonged drought or extreme flooding.
  - Help our patients and communities understand local environmental contaminants, with ways to mitigate and reduce exposure to these.
  - Work to prevent widespread food insecurity (Dekker et al., 2020).
  - Partner with public health and local leadership to build policies and practices that protect human and planetary health
- 3) Holistic nurses are called to be the “models” of resiliency. Holistic nurses can lead this work. We can shift how we live and actively practice what we all need to be doing to ensure a healthy planet for the future. Each of us needs to reduce our pollution footprint by reducing our own reliance on products, materials, and foods that contribute to environmental damage (Logan et al., 2020). To inform this work, nurses can join the Nurses Climate Challenge (<https://nursesclimatechallenge.org>) and the work of the Alliance of Nurses for Healthy Environments and the Planetary Health Alliance.
- 4) Holistic nurses are uniquely set up to translate the scientific knowledge and interconnected understanding of human and environmental health into community advocacy and action (Fernando et al., 2019).
- 5) Holistic nurses are well-respected and listened to! We are called to help our communities resolve these problems, and we must use our voices to address air, water, and soil pollution; land use and nature preservation; environmental clean-up; and the systems that disadvantage and adversely impact certain populations over others.

“We’re really concerned that potentially the majority of the global burden of disease over the next century is going to result from *our* impacts across our planet’s natural systems....those transformations are accelerating at a pace that threatens every dimension of human health.”

—Samuel Myers, Harvard T.H. Chan School of Public Health (<https://youtu.be/atAU00JWF10>)

### Holistic Nurses: Role Models & Advocates for Change

The health of all ecosystems, which include humans, will continue to deteriorate as the environment on our planet changes due to human activities. As we continue to pollute our air, water, and soil resources and dismantle our natural places, our health worsens. We have more depression, grief, and anxiety. We have more cognitive and neurological diseases; we have more endocrine and cardiovascular disease; we have more liver, digestive, and kidney problems; and we have more cancer. We also experience more food insecurity, and with more natural disasters and climate change, we have more economic and social disruption and global migration. These health problems also disproportionately impact the most vulnerable and disenfranchised communities globally (IPBES, 2019).

Several scholars have proposed a planetary health ethical framework that connects the principles of planetary health in a document called the Canmore Declaration (Prescott et al., 2018) with the call to action that is laid out in the Lancet Commission on Planetary Health (Whitmee et al., 2015). This ethical framework is divided into three “challenges,” identified as “imagination,” “knowledge,” and “implementation” (Foster, et al., 2019).

The “imagination challenges” recognize that the predominant global business, energy, and urban development culture has been that of humans as “masters” over all other species and nature as “resources” to be used as needed without regard. We are called to shift that thinking (or imagination) to the idea that humans are citizens (and equals) in a complex web of life and stewards to the safeguarding of all life on the planet. This requires a transdisciplinary and cooperative effort that assigns the role of “steward” to the human community (shining a light on the practices of many global indigenous cultures).

The second challenge is concerned with “knowledge” (i.e., research and information), and addresses the urgent call to give rights to nature. It also calls on society to re-think economic growth and development. Instead of viewing growth as expansion, we are challenged to frame it within a paradigm of sustainable reciprocity and the flourishing of all citizens, including those from the more-than-human world. Technology and urban development needs to be centered in these factors.

The third challenge focuses on “implementation” (i.e. governance). It calls for human civilization to be ecologically aligned with nature (Foster et al., 2019).

For the holistic nurse, the planetary health ethical framework resonates with Standard 17 (Environmental

Health) of the *Holistic Nursing: Scope and Standards of Practice* that calls on us to:

*Encourage activities that respect, nurture, and enhance the integral relationship with the earth, and advocate for the well-being of the global community’s economy, education, and social justice.* (ANA & AHNA, 2019, p. 110)

According to our standards, holistic nurses are called to:

*Act as a leader, collaborator, consultant, and change agent in evaluating global health issues related to environmental health and safety; designing holistic plans of care that address all effects of environmental changes on the health and welfare of individuals, groups, and communities; and assisting in reducing or eliminating environmental hazards.* (ANA & AHNA, 2019, p. 111)

It is clear that the field of planetary health needs all of us, and that holistic nurses are important members of the transdisciplinary team promoting the understanding of planetary health. Together, we advocate for a future where humans live in reciprocity with the natural world, and where all life on earth can flourish. We understand intrinsically how our human health is dependent on our planetary health. We know that if we do what is good for the planet, we will reap great benefits ourselves.

### REFERENCES

- American Nurses Association (ANA) & American Holistic Nurses Association (AHNA). (2019). *Holistic nursing: Scope and standards of practice* (3rd ed.). ANA & AHNA.
- CDC. (2021). Climate effects on health. Accessed 2/9/2021 <https://www.cdc.gov/climateandhealth/effects/default.htm>
- Chen, C., & Nakagawa, S. (2018). Planetary health and the future of human capacity: The increasing impact of planetary distress on the human brain. *Challenges*, 9(2), 41. <http://dx.doi.org/10.3390/challe9020041>
- Dekker, S.C., Kraneveld, A.D., van Dijk, J., Kalfagianni, A., Knulst, A.C., Lelieveldt, H., Moors, E.H.M., Müller, E., Pieters, R.H.H., Pieterse, C.M.J., Rosenkranz, S., Voesenek L.A.C.J., & van Westen, A.C.M. (2020). Towards healthy planet diets—A transdisciplinary approach to food sustainability challenges. *Challenges*, 11(2), 21. <https://doi.org/10.3390/challe11020021>
- Fernando, J., O’Brien, L., Judge, M., & Kashima, Y. (2019). More than idyll speculation: Utopian thinking for planetary health. *Challenges*, 10(1), 16. <http://dx.doi.org/10.3390/challe10010016>
- Foster, A., Cole, J., Farlow, A., & Petrikova, I. (2019). Planetary health ethics: Beyond first principles. *Challenges*, 10(1), 14. <http://dx.doi.org/10.3390/challe10010014>
- Horwitz, P., & Parkes, M.W. (2019). Intertwined strands for ecology in planetary health. *Challenges*, 10(1), 20. <https://doi.org/10.3390/challe10010020>
- IPBES. (2019). Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. E. S. Brondizio, J. Settele, S. Díaz, & H. T. Ngo (Eds.). IPBES secretariat, Bonn, Germany. Retrieved from <https://ipbes.net/global-assessment>
- Kurth A. E. (2017). Planetary health and the role of nursing: A

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call to action. *Journal of Nursing Scholarship*, 49(6), 598-605. <https://doi.org/10.1111/jnu.12343>

Landrigan, P. J., Fuller, R., Acosta, N., Adeyi, O., Arnold, R., Basu, N., Balde, A. B., Bertollini, R., Bose-O'Reilly, S., Boufford, J. I., Breyse, P. N., Chiles, T., Mahidol, C., Coll-Seck, A. M., Cropper, M. L., Fobil, J., Fuster, V., Greenstone, M., Haines, A., Hanrahan, D., ..., Zhong, M. (2018). The Lancet Commission on pollution and health. *The Lancet*, 391(10119), 462-512. [https://doi.org/10.1016/S0140-6736\(17\)32345-0](https://doi.org/10.1016/S0140-6736(17)32345-0).

Logan, A.C., Berman, S.H., Berman, B.M., & Prescott, S.L. (2020). Project Earthrise: Inspiring creativity, kindness and imagination in planetary health. *Challenges*, 11(2), 19. <https://doi.org/10.3390/challe11020019>

Manisalidis, I., Stavropoulou, E., Stavropoulos, A., & Bezirtzoglou, E. (2020). Environmental and health impacts of air pollution: A review. *Frontiers in Public Health*, 8, 14. <https://doi.org/10.3389/fpubh.2020.00014>

McBain, B., (2017, June 26). Logically, how is it possible to use more resources than Earth can replenish? *The Conversation*. <https://theconversation.com/logically-how-is-it-possible-to-use-more-resources-than-earth-can-replenish-79743>

National Aeronautics and Space Administration (NASA). (n.d.). Climate change facts. Retrieved March 28, 2021, from <https://climate.nasa.gov/evidence/>

Planetary Health Alliance. (2021). Planetary health. <https://www.planetaryhealthalliance.org/planetary-health>

Prescott, S.L., & Logan, A.C. (2018). Larger than life: Injecting hope into the planetary health paradigm. *Challenges*, 9, 13. <https://doi.org/10.3390/challe9010013>

Prescott, S.L., Logan, A.C., Albrecht, G., Campbell, D.E., Crane, J., Cunsolo, A., Holloway, J.W., Kozyrskyj, A.L., Lowry, C.A., Penders, J., Redvers, N., Renz, H., Stockholm, J., Svanes, C., & Wegienka, G. On Behalf of inVIVO Planetary Health, of the Worldwide Universities Network. (2018). The Canmore Declaration: Statement of Principles for Planetary Health. *Challenges*, 9, 31. <https://doi.org/10.3390/challe9020031>

Redvers, N. (2018). The value of global indigenous knowledge in planetary health. *Challenges*, 9(2), 30. <https://doi.org/10.3390/challe9020030>

Redvers, N., Poelina, A., Schultz, C., Kobei, D. M., Githaiga, C., Perdrisat, M., Prince, D., & Blondin, B. (2020). Indigenous Natural and First Law in Planetary Health. *Challenges*, 11(2), 29. <http://dx.doi.org/10.3390/challe11020029>

Ritchie, H., & Roser, M. (2017). *Air Pollution*. OurWorldInData.org. <https://ourworldindata.org/air-pollution>

Salk, J.D. (2019). Planetary health: A new reality. *Challenges*, 10(1), 7. <https://doi.org/10.3390/challe10010007>

Seltenrich, N. (2018). Down to Earth: The emerging field of planetary health. *Environmental Health Perspectives*, 126(7), 072001. <https://doi.org/10.1289/EHP2374>

Shaffer, R. M., Sellers, S. P., Baker, M. G., de Buen Kalman, R., Frostad, J., Suter, M. K., Anenberg, S. C., Balbus, J., Basu, N., Bellinger, D. C., Birnbaum, L., Brauer, M., Cohen, A., Ebi, K. L., Fuller, R., Grandjean, P., Hess, J. J., Kogevinas, M., Kumar, P., Landrigan, P. J., ... Hu, H. (2019). Improving and expanding estimates of the global burden of disease due to environmental health risk factors. *Environmental Health Perspectives*, 127(10), 105001. <https://doi.org/10.1289/EHP5496>

Subramanian, M. (2019). Humans versus Earth: The quest to define the Anthropocene. *Nature*, 572(7768), 168-170. <https://doi.org/10.1038/d41586-019-01641-5>

UN Environment. (2019, March 11). *UN report: Urgent action needed to tackle chemical pollution as global production is set to double by 2030* [Press release]. <https://www.unep.org/news-and-stories/press-release/un-report-urgent-action-needed-tackle-chemical-pollution-global>

Whitmee, S., Haines, A., Beyrer, C., Boltz, F., Capon, A. G., de Souza Dias, B. F., Ezeh, A., Frumkin, H., Gong, P., Head, P., Horton, R., Mace, G. M., Marten, R., Myers, S. S., Nishtar, S., Ososky, S. A., Pattanayak, S. K., Pongsiri, M. J., Romanelli, C., Soucat, A., ... Yach, D. (2015). Safeguarding human health in the Anthropocene epoch: report of The Rockefeller Foundation-Lancet Commission on planetary health. *The Lancet*, 386(10007), 1973-2028. [https://doi.org/10.1016/S0140-6736\(15\)60901-1](https://doi.org/10.1016/S0140-6736(15)60901-1)

World Health Organization [WHO]. (2016, September 27). *WHO releases country estimates on air pollution exposure and health impact* [Press release]. <https://www.who.int/news/item/27-09-2016-who-releases-country-estimates-on-air-pollution-exposure-and-health-impact>

World Health Organization [WHO]. (2021). *Drought*. Retrieved February 14, 2021, from <https://www.who.int/health-topics/drought>

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