1-2019

Addressing Climate Change: We Can't Afford Not To

Elizabeth Schenk
St. Patrick Hospital

Elizabeth C. Schenk, PhD, MHI, RN-BC, FAAN

Leadership Opinion

Addressing Climate Change: We Can't Afford Not To

Climate change presents significant challenges to health, well-being, and quality of life (U.S. Global Change Research Program [USGCRP], 2018). Thus, it is a matter of importance to nursing. In the past decade, we have witnessed more severe storms (National Oceanic and Atmospheric Administration [NOAA], 2018) with flooding, trauma, and loss of life and property (USGCRP, 2016a). We have seen an increase in wildfires (Congressional Research Service, 2018) including several devastating fires that have burned communities to the ground, with billions of dollars of loss in property and infrastructure, and priceless losses of human and animal lives (California Fire Data, 2018). While each of these have occurred historically, today their frequency and intensity are aggravated by climate change (NOAA, 2018).

Dramatic large-scale events are extremely challenging to address from a nursing and public health perspective, but they are not the only health threats from climate change. Heat-related illness, worse infectious diseases related to vector movement, longer allergy seasons, and other issues risk the health of our communities (USGCRP, 2016b) and bring new challenges to nurses and the healthcare system (Anderko, Schenk, & Huffling, 2017).

What Role Does Nursing Play?

Nurses have long been faithful to our contract with society, which obligates us to promote the health of the public, through caring service, using knowledge, skills, and competence, even in hazardous service (Fowler, 2015). For us to meet this commitment, it is imperative that nurses understand the risks and challenges associated with a warming planet, including the basic science that leads to the global warming that causes climate change and the health impacts that arise from or are worsened by it. Further, it is crucial that nurses understand their role in contributing to climate change, so they may institute changes in practice and policy to help mitigate climate change by decreasing greenhouse gas emissions.

Nursing is the largest single group of healthcare professionals, with 2.7 million active registered nurses (Bureau of Labor Statistics, 2018). Nurses have tremendous input into decisions that are made in healthcare and hold responsibility for the pollution generated from nursing practice.

U.S. healthcare contributes about 10% of the nation's greenhouse gases (Eckelman & Sherman, 2016). Not only are hospitals and clinics very energy intensive, but the vast majority of energy used is fossil-fuel based (Energy Information Administration, 2018). Nurses can help conserve energy in the clinical setting. They can develop processes that include low-power settings for rooms, lighting, equipment, and computers. Nursing leaders can ask facilities staff to meet energy efficiency goals, measured by tracking greenhouse gas emissions. Nurses may not feel the energy efficiency of the buildings where they practice is their primary concern. However, the burning of that energy is causing health problems, making it the concern of the nursing profession, which is responsible for nursing practice. After all, we are professionally obligated to "practice in an environmentally safe and healthy manner" by our Scope and Standards of Practice (American Nurses Association, 2015). Similarly, nurses can ask hospital and health system leaders to adopt renewable energy sources, which helps ensure nurses are meeting their professional obligations for safe practice.

Further, the massive amounts of waste produced by hospitals and clinics (Practice

Greenhealth, 2018a) contribute greenhouse gases in both production of the supplies, and disposal of refuse in landfills or incineration (U.S. Environmental Protection Agency [EPA], 2018a). Because of our wide presence in health care, nurses are involved in almost all clinical encounters. This means that they also touch, literally, most waste streams. Proper segregation of waste is an important aspect of environmental stewardship. Not only is proper segregation of waste required by regulation, it also reduces pollution, can reduce use of supplies, and can save significant dollars for a facility. Nurses need to understand the complex waste stream in health care, and to steward this aspect of their practice until waste is disposed of safely and correctly.

Food systems in healthcare facilities contribute to climate change through non-sustainable agricultural practices (EPA, 2018b). Nurses are often interested in healthier food options. This includes highly nutritious foods for patients, staff, and visitors. More and more, it also means more environmentally sustainable foods, such as locally grown foods, foods with fewer chemicals, less meat, and use of reusable dishware. Many hospitals are planting gardens to grow food for their community or offering Community Supported Agriculture (CSA) shares for staff, or hosting hospital-based farmer's markets. Nurses are often the instigators for these healthy practices.

Nurses make many purchasing decisions for products and supplies; pollution caused by the production, use, and disposal of these products needs to be taken into consideration (Practice Greenhealth, 2018b). Nurses can reduce waste by purchasing more reusable products. Nurses can choose energy-efficient equipment, including beds, monitors, and pumps.

Lastly, the transportation sector, dependent largely on the burning of gasoline and diesel fuels, contributes about 28% of U.S. greenhouse gases (EPA, 2018c). Thus, nurses' and others' choice of transportation methods makes a significant contribution to our profession's greenhouse gas contributions. Commuting to work is a significant part of the workday. In larger cities, public transportation can help reduce the pollution caused by single-occupancy vehicle commuting. Yet it is not available everywhere to meet the needs of nurses and other healthcare staff. Nurses can lead the way for hospitals to develop commuting strategies. By reducing car traffic, pollution is reduced (both long-term climate impacts and shorter-term air quality), parking congestion is relieved, staff gains health benefits from biking or walking, and everyone saves money. Nurses can help translate these benefits to leaders, community members, and other nurses.

Saving Dollars

Not only do these actions reduce harm and help build healthier communities and workforces, but they save money in healthcare operations and supplies. Conservation of resources means less is purchased, translating to more dollars saved. For instance, energy efficiency efforts can save hundreds of thousands of dollars per year for hospitals. When efficient processes are established to reduce waste, time and labor are saved, also contributing to the bottom line. When nurses work to recycle and segregate waste properly, the overall costs of waste management can be lowered by many thousands of dollars each year, while at the same time reducing risks posed by regulated waste materials. When reusable products are purchased and used, first costs may be higher, yet if they are used dozens or even hundreds of times, costs are saved over time. Establishing healthy food choices, gardens, and CSA shares not only contribute to staff satisfaction but may help keep staff members healthier. Supporting active transportation for staff can help relieve parking congestion and contribute to employee health.

The Time Is Now

Two important reports were published in recent months. The Intergovernmental Panel on Climate Change (2018) stated that we have until 2030, a short 12 years, to avoid the worst impacts of climate change. The Fourth National Climate Assessment stated that if unchecked, the United States is likely to see hundreds of billions of dollars of damage to our economy by the end of

the century (USGCRP, 2018). The urgency stated by these reports calls us to act now.

Mitigating climate change helps to protect our patients and communities as well as the future of all people. Conveniently, it saves substantial dollars in avoided risk and tragedy long-term, and in daily operations in the short-term. Our professional imperative to respond, plus the practical advantages of decreasing our own pollution, makes this a win-win challenge. Should nurses respond by decreasing greenhouse gas pollution and preparing for the impacts of climate change that are already occurring? We can't afford not to. $

Elizabeth C. Schenk, PhD, MHI, RN-BC, FAAN
Nurse Scientist/Sustainability Coordinator
Providence St. Patrick Hospital
Missoula, MT
Assistant Research Professor
Washington State University College of Nursing
Spokane, WA

References

American Nurses Association. (2015). *Nursing: Scope and standards of practice*. Silver Spring, MD: Author.

Anderko, L., Schenk, E., & Huffling, K. (2017). *Climate change, health, and nursing: A call to action.* Retrieved from https://envirn.org/wp-content/uploads/2017/04/Climate-change-health-and-nursing-1-11-17.pdf

Bureau of Labor Statistics. (2018). *Registered nurses.* Retrieved from https://www.bls.gov/ooh/healthcare/registered-nurses.htm

California Fire Data. (2018). *Incident information.* Retrieved from http://cdfdata.fire.ca.gov/incidents/incidents_statsevents

Congressional Research Service. (2018). *Wildfire statistics.* Retrieved from https://fas.org/sgp/crs/misc/IF10244.pdf

Eckelman, M.J., & Sherman, J. (2016). Environmental impacts of the US health care system and effects on public health. *PloS one*, *11*(6), e0157014.

Energy Information Administration. (2018). *Petroleum, natural gas, and coal still dominate U.S. energy consumption.* Retrieved from https://www.eia.gov/todayinenergy/detail.php?id=36612

Fowler, M.D.M. (2015). *Guide to nursing's social policy statement: Understanding the profession from social contract to social covenant.* Silver Spring, MD: American Nurses Association.

Intergovernmental Panel on Climate Change. (2018). Summary for policymakers. In V. Masson-Delmotte, P. Zhai, H.O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, … T. Waterfield (Eds.), *Global warming of 1.5°C. An IPCC special report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty.* Geneva, Switzerland: World Meteorological Organization.

National Oceanic and Atmospheric Administration (NOAA). (2018). *Hurricanes and global warming.* Retrieved from https://www.gfdl.noaa.gov/global-warming-and-hurricanes/

Practice Greenhealth. (2018a). *Why less waster?* Retrieved from https://practicegreenhealth.org/topics/less-waste/why-less-waste

Practice Greenhealth. (2018b). *Greening the supply chain initiative.* Retrieved from https://practicegreenhealth.org/initiatives/greening-supply-chain

U.S. Environmental Protection Agency (EPA). (2018a). *Basic information about landfill gas.* Retrieved from https://www.epa.gov/lmop/basic-information-about-landfill-gas

U.S. Environmental Protection Agency (EPA). (2018b). *Global greenhouse gas emissions.* Retrieved from https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data

U.S. Environmental Protection Agency (EPA). (2018c). *Fast facts on transportation greenhouse gas emissions.* Retrieved from https://www.epa.gov/greenvehicles/fast-facts-transportation-greenhouse-gas-emissions

U.S. Global Change Research Program (USGCRP). (2016a). *Extreme events.* Retrieved from https://health2016.globalchange.gov/extreme-events

U.S. Global Change Research Program (USGCRP). (2016b). *The impacts of climate change on human health in the United States: A scientific assessment.* Retrieved from https://health2016.globalchange.gov/

U.S. Global Change Research Program (USGCRP). (2018). *Impacts, risks, and adaptation in the united states: Fourth national climate assessment* (vol. II). D.R. Reidmiller, C.W. Avery, D.R. Easterling, K.E. Kunkel, K.L.M. Lewis, T.K. Maycock, & B.C. Stewart (Eds.). Washington, DC: U.S. Global Change Research Program.