

Nurses Step Up to Address Climate Change and Health

Opportunities exist to mitigate impacts.

The impact of climate change on health is all around us—visible in people struggling to breathe because of pollution from fires, people hospitalized or dying from excessive heat, and people exhibiting signs of mental and emotional distress as a result of changes in the climate.

“Extreme weather events, wildfires, we’re seeing hospitals evacuated—all of those things impact our ability to practice as nurses,” says Katie Huffling, DNP, RN, CNM, FAAN, executive director of the Alliance of Nurses for Healthy Environments.

Huffling witnessed a direct connection between climate and health while practicing midwifery in Prince George’s County, Maryland, from 2006 to 2011. Many of her patients rode the bus to their appointments, and they often arrived wheezing on hot days. Huffling testified before the Environmental Protection Agency (EPA) about the region’s air quality in 2008. “I was one of the only nurses there,” she says, “talking to policymakers and helping them make that health connection.”

Huffling found the experience empowering, and ultimately transitioned her practice from patient care to focusing on environmental health. “When we’re looking at environmental exposures,” Huffling says, “we have such a huge opportunity to be preventing many chronic diseases or minimizing their impacts.”

A growing legion of nurses are battling climate change and pollution on a diverse array of fronts. Many are in clinical settings, but others are working in communities—on farms, at schools, and in homes—while still others are exerting their influence through research, education, and grassroots advocacy. Whether by educating a single patient, supporting waste reduction in the workplace, promoting clean air in the community, or advocating for policy change, nurses have many opportunities to improve the health of the planet.

HEALTH SYSTEM POLLUTION

“We know that health care is part of the problem. We also know that our whole mission is about health,” says Elizabeth Schenk, PhD, RN, FAAN,

executive director of environmental stewardship at Providence Health and Services.

The health sector is responsible for an estimated 4.6% of global and 8.5% of domestic greenhouse gas emissions. Fortunately, many health systems are finding ways to lower their emissions without jeopardizing patient care. According to a 2023 Commonwealth Fund survey of clinicians, including nurses in leadership roles, respondents overwhelmingly agreed that addressing climate change is both important and aligned with their organization’s mission.

“In health care, we won’t solve this problem without nursing,” says Schenk. “We are everywhere.”

Providence is among the health care systems that have signed the White House and Department of Health and Human Services’ Health Sector Climate Pledge to reduce greenhouse gas emissions by 50% by 2030 and achieve net zero by 2050. The need to meet these targets is urgent, as the effects of climate change become more disruptive, especially for health systems. When Portland, Oregon, experienced a record-breaking string of over 100° days in 2023, Schenk says, “We struggled to keep our buildings cool and operating well.” Other natural disasters related to climate change—such as fires and floods—are also challenging health systems. “Can we get to work when trees are falling because of the fires?” she asks. “Can we keep our doors open?”

Schenk is leading Providence’s efforts to meet its environmental goals through mitigation, resilience, and advocacy. Among the accomplishments Providence touts in its 2023 environmental stewardship report: 31 of its facilities now run on 100% renewable energy, 20 sites have committed to the Cool-food Pledge to curb food waste and reduce food’s climate impacts, and since 2019 the health system has reduced carbon emissions due to volatile anesthetic agents and nitrous oxide by 58% and 49%, respectively.

Providence is just one of many health systems working to reduce its carbon footprint. As of November 2023, 133 organizations representing 900 hospitals had signed the Health Sector Climate Pledge.

SUSTAINABILITY AT WORK

“The people at the bedside have the real understanding of what is wasted in health care,” says Sara Wohlford, MPH, RN, who tuned in to the issue of waste reduction while working as a nurse in the ED at Carilion Roanoke Memorial Hospital in Roanoke, Virginia. Through her advocacy, the ED switched from single-use pillows and pulse oximeters to reusable products. She says the change reduced waste and saved money.

Wohlford eventually convinced senior administrators to take the ED initiative system-wide and create the position she now occupies: director of sustainability for the entire Carilion Clinic system. She and her colleagues have since established recycling and donation programs for many kinds of clinical waste. In the hospital’s operating rooms, they have replaced the use of blue plastic wrap on surgical instruments with rigid metal sterilization containers. “We were able to reduce the volume of blue wrap used in two of our OR suites by more than seven tons, and saved more than \$150,000 for the institution,” she says. All but \$19,000 of those savings are from a reduction in the time staff spent wrapping.

Taking on environmental challenges that could also improve clinical efficiencies was central to Wohlford’s ability to build trust and persuade senior leaders that she was the right person to oversee Carilion’s sustainability work. “As a nurse, I have a unique view of the clinical role and the pressures associated with that. I understand what I’m asking,” she says. For instance, she knows taking the time to properly recycle waste can add to the “million different conflicting priorities coming at nurses all the time.” As a result, she’s learned the value of occasionally backing off and letting sustainability champions on the units—other people within the health system who support and engage with her efforts—take the lead in encouraging sustainable practices.

Conserving resources at the bedside or serving on hospital green teams that spearhead sustainability initiatives are ways nurses can engage in what Olga Yakusheva and colleagues, writing in *Nursing Outlook* in 2022, call “value-informed nursing practice.” As they conclude, “In the era of value-based health care, hospitals and other providers will increasingly be rewarded for improving environmental outcomes and reducing environmental waste”—goals nurses can achieve by routinely considering the cost and use of resources when they make clinical decisions.

COMMUNITY CARE

While most nurses interact with patients primarily in clinical settings, Atenas Mena, MSN, RN, the co-



Nurses were among the many health care workers participating in the 2019 Global Climate Strike in Washington, DC. Photo courtesy of the Alliance of Nurses for Healthy Environments.

executive director of the grassroots advocacy group CleanAirNow, has turned her attention to the places where people live and work. “I want to focus on preventive care. I want to go out to the community,” she says.

While working previously as an environmental health coordinator for Children’s Mercy in Kansas City, Missouri, Mena regularly found herself providing preventive care in the community. She took part in home assessments, looking for potential asthma triggers and exposure to lead and connecting families with resources to help them improve their living environments.

These concerns are close to home for Mena. She grew up in a house right next to a major highway in a low-income, Kansas City, Kansas, neighborhood. The city is a transportation hub, and it sits in Wyandotte County, whose health outcomes rank at or near the bottom of the state’s 105 counties.

On the morning of May 19, 2023, Advantage Metals Recycling caught fire in Armourdale, a mostly Spanish-speaking neighborhood sitting in the shadow of Interstate 70 and encircled by rail lines. It wasn’t until after 2 PM that Wyandotte County officials posted an air quality alert on social media. CleanAirNow became aware of the decline in air quality hours before, says Mena, “so we started notifying the community that this could impact your health and put you at a greater risk.”

Poor air quality also affects residents of Denver. The American Lung Association ranked it as the

sixth worst U.S. city for ozone pollution in 2023. As a Denver school nurse for 17 years and certified asthma educator, Christy Haas-Howard, MPH, RN, led school-based asthma programs at the local and state levels. She also worked to set up air quality sensors in Denver's public schools.

colleagues studied, the odds of acute kidney injury rose 47% for each 5°F increase in the heat index.

Daniel Smith, PhD, AGPCNP-BC, CNE, the Weingarten Endowed Assistant Professor at the Villanova University Fitzpatrick College of Nursing, found a similar pattern while conducting his

Addressing the effects of pollution on the communities with the greatest health burdens is a matter of environmental justice.

Today, Haas-Howard is the program director for health at the National Environmental Education Foundation, a congressionally chartered organization that creates opportunities for people to experience and learn about the environment. In this capacity, she educates school nurses on asthma, health equity, and climate change. She encourages them to consider scent-free and no-idling policies to improve the air quality at their schools and to help families mitigate triggers in the home that exacerbate students' health conditions.

For CleanAirNow, addressing the effects of pollution on the communities that have the greatest health burdens is a matter of environmental justice. The organization meets with regional EPA officials and municipal leaders to identify and address local environmental concerns. To Mena, this highlights nurses' ability to bridge the gap between communities, policymakers, and health providers.

HEAT AND HEALTH

When the price of food goes up, consumers don't necessarily think about connections to avian flu, unseasonable frosts, or drought—occurrences whose frequency has increased with climate change—nor to how rising temperatures affect the people who harvest their food.

At Emory University's Nell Hodgson Woodruff School of Nursing in Atlanta, Dean Linda McCauley, PhD, RN, FAAN, FRCN, leads a team studying the toll heat takes on farmworkers and interventions to reduce dehydration. In partnership with the Farmworker Association of Florida, the researchers sampled blood and urine from farmworkers and found that most were dehydrated, and one-third experienced acute kidney injury on at least one workday during the study period. Kidney disease is most common in older adults, but as temperatures rise, younger farmworkers are experiencing acute kidney injury. Among the population McCauley and her

doctoral research at Emory University. He studied the records of undocumented immigrants receiving frequent hemodialysis for acute kidney injury at a safety net hospital in Atlanta. These patients lacked traditional risk factors for developing kidney disease, but like the farmworkers, they worked outside, doing landscaping and construction. "The only risk factor was heat exposure at work," he notes.

SHARING KNOWLEDGE

Wohlford is a member of Virginia Clinicians for Climate Action and sits on the group's steering committee for health care sustainability, which educates clinicians throughout the state. She also meets with her representatives in Richmond each year to educate them on climate change and health. "If you have this understanding and you have this knowledge, you sort of have the responsibility to share it," she says.

Other nurses are finding creative ways to spread the word. CleanAirNow is hosting environmental health workshops and conducting tours of local sites it deems hazardous. At the National Environmental Education Foundation, Haas-Howard partnered with Hip Hop Public Health to create one-minute videos that teach young people about asthma self-care. She's also leading a program in partnership with the U.S. Forest Service that promotes a greater understanding of the physical and mental health benefits of outdoor activities and provides veterans with opportunities to spend time on public land.

Smith is sharing his knowledge in the classroom. He teaches students in Emory University's Farm Worker Family Health Program how to recognize heat-related illness, while also teaching courses in global, public, and planetary health at Villanova University. "The nursing students eat it up," he says.

Schenk, who is also an assistant research professor at the Washington State University College of Nursing, agrees. "They're concerned, they want to know, and that is heartening." ▼