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The initial and other identifying characteristics of the patient have been changed to protect his privacy.

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Climate Change — A Health Emergency

Caren G. Solomon, M.D., M.P.H., and Regina C. LaRocque, M.D., M.P.H.

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As the Camp wildfire spread rapidly in California in early November 2018, the University of California, Davis, Burn Center received a call that nearby Feather City Hospital was on fire and patients were being urgently transferred. That, recalls David Greenhalgh, professor and chief of the Burn Division, UC Davis Department of Surgery, was when the chaos began. Within the next 24 hours, with fires raging, 12 new burn patients were rushed to his facility (which usually admits 1 or 2 patients in a given day). The most severely injured man had burns over nearly half his body, with exposed bone and tendon; a month later, he and two other patients remained hospitalized, facing repeated surgeries. And these were the patients fortunate enough to have made it to the hospital. At least 85 people died and nearly 14,000 homes were lost in what is the largest California wildfire on record — a record that unfortunately is likely to be short-lived.

In this issue of the *Journal*, Haines and Ebi summarize the

devastating effects that the global burning of fossil fuels is having on our planet (pages 263–273). Disruption of our climate system, once a theoretical concern, is now occurring in plain view — with a growing human toll brought by powerful storms, flooding, droughts, wildfires, and rising numbers of insectborne diseases. Psychological stress, political instability, forced migration, and conflict are other unsettling consequences. In addition, particulate air pollutants released by burning fossil fuels are shortening human life in many regions of the world. These effects of climate disruption are fundamentally health issues, and they pose existential risks to all of us. People who are sick or poor will suffer the most.

As physicians, we have a special responsibility to safeguard health and alleviate suffering. Working to rapidly curtail greenhouse gas emissions is now essential to our healing mission. The United Nations Intergovernmental Panel on Climate Change concluded that we need to cut global greenhouse gas emissions in half

by 2030 and entirely by 2040 to avoid the most catastrophic effects of climate change.¹ Yet these emissions hit a record high in 2018. Rapid but equitable changes in energy, transportation, and other economic sectors are needed if we are even to begin to meet the requisite emissions-reduction targets. Tackling this challenge may feel overwhelming, but physicians are well placed and, we believe, morally bound to take a lead role in confronting climate change with the urgency that it demands.

Individual lifestyle actions (e.g., walking or cycling rather than driving, eating less meat, reducing food waste, and conserving energy) are the easiest for us to undertake, offer many benefits for personal wellness, and allow us to model health-promoting behaviors as we reduce our environmental footprint. But individual actions are far from enough to address the challenge we collectively face. The financial interests of organizations vested in the fossil fuel industry, a federal administration that disavows climate science and its own respon-

Selected Resources for Physicians' Response to Climate Change.		
Resource	Website	Description
American College of Physicians	www.acponline.org	Climate change tool kit
American Lung Association	www.lung.org	"State of the Air" report on air pollution
Health Care without Harm	https://noharm.org	Environmentally responsible health care, physician advocacy network
Medical Society Consortium on Climate and Health	https://medsocietiesforclimatehealth.org	Coalition of U.S. medical societies supporting climate action, educational materials, and consensus statements
Physicians for Social Responsibility	www.psr.org	List of local chapters, "Climate change makes me sick" educational campaign
The Lancet Countdown on Health and Climate Change	www.lancetcountdown.org	International research collaboration tracking the world's response to climate change, including a policy brief for the United States

sibility to act, and inertia are powerful countervailing forces. Changing our institutions and society will therefore require concerted, organized, and forceful efforts.

Institutionally, a first step is for the U.S. health care system to recognize that we are part of the problem. The health care sector accounts for nearly 1/10th of U.S. greenhouse gas emissions and reportedly would rank seventh in the quantity of such emissions internationally if it were its own country.² Health care professionals therefore have an ethical obligation to insist on a transformation of the way our hospitals and clinics operate. Kaiser Permanente, Partners HealthCare, and Boston Medical Center are examples of health systems that are showing leadership by cutting their greenhouse gas emissions and working toward carbon neutrality. Gundersen Health System achieved energy independence several years ago and produces more energy than it consumes, using wind power, solar power, and methane from a local landfill. But there is still much more to

do to make health care "climate-smart," and as Haines and Ebi point out, we also need to ensure that our health care institutions are resilient to the effects of extreme weather and climate change.

Most Americans perceive climate change as a distant problem that will not affect them personally.³ Others simply feel powerless. As trusted sources of health information, physicians can educate our colleagues, patients, and students about the health effects of climate change and the need for rapid reductions in fossil fuel use. We can help motivate people to act by clarifying the links between environmental degradation and tangible problems, such as air pollution, insect-borne diseases, and heatstroke. We can also emphasize the health benefits that will accrue as we move to alternative sources of energy. Resources for promoting these messages are available from a variety of sources, some of which are listed in the table.

Beyond serving as educators, physicians and health institutions can engage in legislative advocacy, with a focus on the health

imperative of addressing climate change. At one end of the advocacy spectrum is simply contacting legislators to weigh in on the health implications of climate and energy policy. In our experience, personal contact from a physician attracts special attention and takes little time. For those who are open to more active involvement, testifying at public hearings and meeting directly with legislators is useful. Advocacy skills are increasingly included in medical school curricula, and most hospital systems have professionals devoted to government relations; talking about climate change should be part of their mission. Joining an advocacy organization, such as Physicians for Social Responsibility (of which we are members) or the Health Care without Harm Physician Network, can provide physicians guidance on promoting legislative action.

Financial divestment, with support from physicians, has been an effective tool in other health movements, including efforts to thwart the tobacco industry. Much like the tobacco industry, fossil fuel companies have used their

vast resources to sow disinformation and influence policymakers against the public interest.⁴ The American Medical Association and the Royal College of General Practitioners passed resolutions in 2018 calling for financial divestment from fossil fuel companies, joining other medical societies, including the now fully divested Canadian Medical Association. These actions set an example for other health care organizations, medical schools, and individual physicians, who can align their financial power with their mission of protecting health by divesting their retirement portfolios and endowments from the fossil fuel industry.

Some physicians may be willing to take more direct action in protest of policies that harm health. On this question, we agree with Charles van der Horst, a North Carolina physician who

was arrested for protesting his state's failure to expand Medicaid, that "In the face of great danger to our patients . . . remaining silent is not an option."⁵

We, like others, are frightened by the unfolding climate crisis, with its implications for the health of our communities and the future of our children. Rather than being paralyzed by despair, we choose to focus our efforts on areas where our voices are most powerful — for instance, by working with medical students on climate action, supporting the undergraduate divestment movement, joining forces with like-minded health professionals, and speaking with our legislators. There are currently more than a million physicians in the United States, and our actions matter. When the next generation asks us, "What did you do about climate change?," we want to have a good answer.

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Better Words for Better Deaths

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Everyone died in the intensive care unit — or it certainly got to feel that way. I was an intern with a half-year of training, and we saw five deaths in the first week before I stopped counting. "He's gone," we'd say. "She passed, we lost her." Or when we felt dark, we'd say among ourselves, "He was transferred to the morgue." At first I tried to just say "died." Physicians, at least, should call death what it is. It didn't take me long, though, to begin using the euphemisms. The families weren't the only ones who needed consolation.

Later, another intern and I were sharing stories. The deaths I'd seen were mostly good ones, where the end rolled up with clear signs first, the families could prepare, and the patients were comfortable. But the other intern had had it way worse. "We coded everyone," he said. "I just had bad luck. No matter what I did, my patients' families never wanted to withdraw care."

I have a reflex like the snap of a ruler when I hear someone say that. When the end of life is inevitable and patients or their families consent, we may with-

draw aggressive therapies or medications, or stop interventions, but we should never withdraw care.

"You know what I mean," he said.

I knew what he meant. But in the years before medical school, when I was teaching college English, writing short stories, and studying linguistics, I came to believe that words have a power that is deeper and stranger than the definitions we more or less agree to. A great turn of phrase is one that rings true (ringing — a sound, an effect you construct with phonemes, not facts: we be-