

EDITOR'S PAGE

A Note from the Guest Editor

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In this issue of the *Annals of Global Health*, we address one of the greatest challenges of our time: climate change. As the journal cover images—2 photos of the Alaskan Pedersen Glacier melt in summer 1917 and again in 2005—starkly reminds us, global warming is a reality. It will have far-reaching consequences on the physical environment, global ecosystems, and of course, human civilization. We can examine the consequences and devise solutions from a number of perspectives: medical science gives us evidence-based knowledge to diagnose and treat disease and to promote and protect health; human rights give us shared principals and the rule of law to promote equity and social justice; and the environmental movement galvanizes us to engage in climate action, to protect our fragile earth. In this issue, we bring you a range of experts from different disciplines who approach climate change from these diverse and overlapping perspectives.

Levy and Patz, in their review, highlight the unfavorable effects that climate change will have on human rights and social justice. Environmental and health consequences will disproportionately affect low-income countries, along with poor people in high-income countries, forcing many to become “environmental refugees.” Co-author Bruce and I argue that because the poorest adolescent girls in the poorest communities are at very high risk for suffering the consequences of climate change, they should be a specifically targeted group by humanitarian aid organizations in relief and recovery efforts, as well as in national adaptation plans aimed at enhancing resilience. Our viewpoint is followed by an expert consensus statement on adolescent girls from the Girls in Emergency Collaborative.

Several of the authors explore the health effects of changes in the physical environment. Goldie et al.

studied heat stress in the tropics and show that over-night humidity plays a role in the health of residents of Darwin, Australia. DeNicola and colleagues explore the issue of water scarcity through a case study of Saudi Arabia. They argue that international, multidisciplinary collaboration will be needed to promote global water security. Pino et al. discuss the environmental health challenges (air, water, climate change) that Chile faces after 25 years of unrestrained growth and show how the Chilean experience may represent a model for other Latin American countries experiencing rapid economic development.

Nearly half the world's population burns solid fuels, such as coal and biomass, for cooking, drying, and heating. The household air pollution (HAP) created by burning these solid fuels is directly responsible for 3.5 million deaths globally, predominantly in low- and middle-income countries.¹ In their systematic review, Lee et al. show that understanding the immunomodulatory effects of smoke from biomass fuel combustion has important public health implications and may lead to interventions that will improve the health of billions of people. Balakrishnan and colleagues examine whether a new advanced combustion cook stove, considered a potential intervention to reduce emissions, decreases exposure to HAP among pregnant women in India. They conclude that clean fuels, and not just cleaner stoves, may be needed to address the health burden from household air pollution.

Climate change is also increasing playing a role in driving humanitarian disasters—both natural and man-made—often resulting in mass displacement. In 2014, according to the UN High Commissioner for Refugees, mass displacement reached historic levels worldwide: almost 60 million individuals

were forcibly displaced as a result of persecution, conflict, generalized violence, or human rights violations.² In many places around the globe where these upheavals are occurring, public health systems have broken down. As a consequence, we have witnessed the resurgence of polio—an ancient disease almost eradicated in 2012. Tajaldin and colleagues, using modern-day Syria as a case study, identify an important gap in global health: the inadequate surveillance of polio and other global health threats in settings of conflict and insecurity. In the case of polio, they call for the reinstatement of the clinical definition of the disease to supplement its laboratory-based definition.

Despite the evidence, many people remain substantially uninformed about the link between climate change and global health. Maibach et al. share the results of their national survey: they found that most Americans have a general sense that global warming can be harmful to health, but relatively few understand in what ways or who is most affected. Perhaps as a result, there is only moderate support in the United States for an expanded public health response. In light of these findings, Ring's perspective is timely. She shares effective strategies honed in the field for how to communicate about climate change and highlights the role health professionals can and should play in engaging the public. Lemery and Jackson, in their viewpoint "Independence Day," call on physicians to reframe the climate change conversation within the context of health and to help clarify the detrimental risks from accelerating a carbon-based energy policy. Hyper-technology, they say, will not be our saving grace.

Several of the authors grapple with articulating various strategies, processes, and adaptation and mitigation actions to avert both climate and public health crises. Ebi and Villalobos Prats reason that forging the health component of a national climate

change adaptation plan is critical—to identify the strategic goals for building health resilience to climate change and to prioritize activities to achieve these goals. Bowles warns, however, that reliance on adaptation as a response to climate change will strengthen preexisting health inequalities between Aboriginal and other Australians, and adaptation will also likely increase cultural assimilation. Globally, similar dynamics are likely to affect many disadvantaged minority groups. Rudolph and Gould present a framework that delineates the relationships among climate change, health, and health inequities, as well as the opportunities for public health engagement. They argue that integrating and prioritizing health and health equity in climate action planning is critical to addressing the challenges. Machalaba and colleagues maintain that to address effectively the current and future challenges posed by climate change, cross-sector collaboration must be aimed at addressing the underlying drivers.

Finally, I have included a poem—one of my favorites—by the celebrated environmentalist Wendell Berry, aptly entitled "Questionnaire." In it, Berry asks us to take an inventory of our own complicity in upholding the systems that are destroying our bodies, our lives and our planet. And he leaves us with a profound sense of what Dr. Martin Luther King Jr. called "the fierce urgency of now."

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