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## COMMENTARY

# Healthcare Systems Should be Leaders in Patient-Centered Sustainability

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In 2015, the Rockefeller Foundation and the Lancet issued a report that proposed changing how we conceptualize health: “Planetary health” broadens the definitions of human and public health to include the planet’s natural systems.<sup>1</sup> Whitmee et al stress that human health is built upon the foundation of the health of the planet. Thus, the current rate of environmental degradation coupled with climatic change serve as the single, largest public health threat. This focus on the environment as a driver of human health is not new. Almost twenty years ago, it was estimated that one-quarter to one-third of the global disease burden is the result of environmental hazards, including unsafe drinking water and degraded air quality<sup>2</sup>, yet the medical community and healthcare systems have been slow to respond in a meaningful way.

Responding to the challenges of the climate crisis will take fundamental change at all levels of society, not only through the adoption of clean energy standards and innovative carbon capture technologies as is currently the topic of much public discourse, but also through the appropriate valuation of nature and the acknowledgement of our dependence on the stewardship of its resources. This should include adjusting our approach to patient care to incorporate the benefits of healthy ecosystems. While there is some opportunity to accomplish this within the provider-patient relationship, such as prescriptions for active transportation or promotion of a plant-based diet, the urgency and scale of change needed demands a coordinated and systematic approach. As the mechanism of healthcare delivery, healthcare systems are well-positioned to become leaders in

this arena by committing to valuing and preserving natural resources for the benefit of human health.

The authors’ home healthcare system of MaineHealth, provides one such example of a single project that supports planetary health. MaineHealth has taken steps towards a clean energy future by investing in the development of three solar farms with the aim of generating half its electricity needs.<sup>3</sup> Not only will this reduce the system’s contribution to greenhouse gas emissions, but it also contributes to keeping Maine citizens healthy by reducing air pollution, which is estimated to contribute to nearly 300,000 avoidable deaths per year in North America alone.<sup>4</sup> Conveniently, it is expected to reduce the healthcare system’s electricity bill by \$1 million annually. This example highlights that pursuing sustainability can align with human health and, when done within the values of a healthcare system, patient-centeredness. The next step towards a future that is healthier for both people and the planet is to broaden the impact of such initiatives through the creation of transparent and effective patient-centered sustainability departments as well as the explicit addition of sustainability to healthcare systems’ values statements.

Several healthcare systems have already accomplished the reframing of their missions to include sustainability in ways that align with their values. The Cleveland Clinic in Cleveland, Ohio, for example, created a sustainability office in 2007 with the aim of positively impacting human health through a mission of conservation, sustainable design and the promotion of sustainable patient behaviors.<sup>5</sup> They have pursued projects that directly impact individual and community health, such as their tree planting program which provides green space and mitigates the effects of extreme weather through the prevention of soil erosion and

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filtration of stormwater. Gunderson Health System in La Crosse, Wisconsin, has also incorporated the environment into their operational planning. Through their Envision® environmental program, Gunderson explicitly makes the link between their public health mission and the natural environment. Gunderson is the first healthcare system in the United States to achieve energy independence by producing more energy that it consumes, while at the same time boasting cumulative financial savings of more than \$28 million.<sup>6</sup>

The Cleveland Clinic and Gunderson Health Systems' efforts coincide with a growing national concern over the climate crisis. A 2019-2020 poll conducted by the Pew Research Center found that 62% of Americans said that global climate change was already affecting their local communities and 64% said that protecting the environment should be a top national priority.<sup>7</sup> Maine citizens are concerned as well: A 2020 poll released by the Natural Resources Council of Maine found that 53% of Maine citizens think global warming is already harming Maine, an increase of 10% from 2018.<sup>8</sup> This is reflected at the state level through creation of the Maine Climate Council in 2019, which includes a working group explicitly tasked with public health. Healthcare systems have the opportunity to address the climate crisis in ways that significantly and positively affect the quality of life for their surrounding communities. While projects such as solar energy generation or departmental waste reduction efforts that we have already seen in Maine are appropriate and necessary, the examples of the Cleveland Clinic and Gunderson Health System highlight the powerful influence of a coordinated health system mission of sustainability.

It is time for healthcare systems nationally and in Maine to become leaders in patient-centered

sustainable practices. Each system has a unique opportunity to redefine its organizational definition of health and invest in the community to help build resilience in this era of climate change. We urge healthcare systems across the nation, as well as those local to our home state, to formally incorporate the ideals of sustainability into their values statements so that all levels of the organization align towards this shared and necessary goal.

## REFERENCES

1. Whitmee S, Haines A, Beyrer C, et al. Safeguarding human health in the Anthropocene epoch: report of The Rockefeller Foundation-Lancet Commission on planetary health [published correction appears in *Lancet*. 2015 Nov 14;386(10007):1944]. *Lancet*. 2015;386(10007):1973-2028. doi:10.1016/S0140-6736(15)60901-1
2. Smith, K, Corvalán, C & Kjellstrom, T. How much global ill health is attributable to environmental factors? *Epidemiology* 1999; 10 (5): 573-84.
3. Turkel T. MaineHealth commits to solar power for half of its energy needs. *Press Herald*. Published July 1, 2020. Accessed May 11, 2021. <https://www.pressherald.com/2020/06/30/mainehhealth-commits-to-solar-power-for-half-its-energy-needs/>.
4. Munzel, Thomas et al. Loss of life expectancy from air pollution compared to other risk factors: a worldwide perspective. 2020; *Cardiovascular research*. 11(116): 1910-1917 <https://academic.oup.com/circres/article/116/11/1910/5770885>
5. Cleveland Clinic. *Serving Our Present, Caring for our Future: Progress in Community and Global Citizenship*. Cleveland Clinic; 2019. Accessed May 11, 2021. <https://my.clevelandclinic.org/-/scassets/files/org/about/community-reports/sustainability-global-citizenship-report/previous-sustainability-reports/ohe-2019-site-report.ashx>
6. Energy conservation. *Envision Gunderson Health System*. Accessed May 11, 2021. <https://www.gundersenenvision.org/envision/our-programs/energy-conservation>
7. Funk C, Kennedy B. How Americans see climate change and the environment in 7 charts. *Pew Research Center*. Published July 27, 2020. Accessed May 11, 2021. <https://www.pewresearch.org/fact-tank/2020/04/21/how-americans-see-climate-change-and-the-environment-in-7-charts/>.
8. Poll Shows Strong Majority of Maine Voters Support Climate Action and Clean Energy. *Published May 12, 2020*. Accessed May 11, 2021. <https://www.nrcm.org/news/strong-majority-maine-voters-support-climate-action-clean-energy/>