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It's Time For The Health Care System To Reckon With The Human Costs Of Climate Change

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This year, an estimated five million people worldwide will die from climate change. On its own, this statistic would seem unbelievable, even absurd, to most. However, if one considers even a fraction of the direct and indirect consequences of a hotter planet—air pollution, reduced food production, the spread of diarrheal diseases—it becomes apparent that climate change is not an imperceptible environmental process, but a bona fide public health crisis in the making. In the US alone, warmer climates are contributing to the northward spread of ragweed and ticks, driving up rates of pollen-induced asthma and vector-borne diseases. Rising temperatures weigh upon vulnerable populations such as the elderly and impoverished, who have suffered disproportionate increases in heat-related hospitalizations and deaths. These issues are only the tip of the iceberg; the 2018 National Climate Assessment, commissioned by the US Global Change Research Program, revealed that climate change will negatively impact water quality, mental health, and even the nutritional content of many foods. The US health care system is already bearing the human cost of environmental change, and sooner, rather than later, it must take proactive measures to deal with this growing crisis.

The Health Care Industry Paradox

Health care institutions are some of the biggest culprits in climate change. The US health care sector singlehandedly produces 10 percent of the nation's total annual carbon emissions; in 2011 alone it pumped out 655 million metric tons of carbon dioxide and other greenhouse gases (GHGs). Collectively, it is the seventh-largest producer of carbon dioxide worldwide. A 2018 study estimated that, annually, GHG emissions from large US health care organizations took 123,000 to 381,000 years off of the total life expectancy of the US population. It seems paradoxical that institutions dedicated to healing would play a major role in jeopardizing human health. Yet, health care organizations lag behind every other economic sector in sustainability reporting, a practice that is common among large businesses; more than 78 percent of the S&P 500 issued public reports about environmental stewardship in 2018. Even as the business world embraces greater transparency and accountability regarding climate change, most health care organizations have failed to follow suit.

A Regulatory Intervention?

A few US health systems stand out in their efforts to report their environmental impact. For example, Kaiser Permanente has announced an initiative to go carbon neutral by 2020; however, these individual triumphs are meager compared to the systemwide reform needed to bring hospital emissions down to sustainable levels. Achieving this

goal is nigh impossible without the data provided by sustainability reports. So how do we coax the US health care system out of its inertia?

The answer lies in regulatory oversight. All health systems build their policies and procedures around the regulatory requirements placed upon them; external pressures shape operational, staffing, and safety standards to a greater extent than internal initiative ever could. Thus, federally mandated sustainability reporting could push health systems to critically examine their internal operations and reckon with their environmental impact. Of course, the polarized political climate, coupled with the Trump administration's active denial of climate change, precludes any possibility of enacting a sweeping legislative mandate for reporting in the foreseeable future. However, the Centers for Medicare and Medicaid Services' (CMS's) authority to develop and test health care delivery models under the Affordable Care Act offers another potential avenue to address the issue.

Since its inception in 2011, CMS's Center for Medicare and Medicaid Innovation has developed more than 41 alternative payment models (APMs), including accountable care organizations (ACOs), which tie payments to quality improvement and reductions in the cost of care. Because quality metrics are vital to assess the performance of ACOs and other value-based health care models, CMS requires participating health systems to collect and report extensive data on multiple dimensions of quality. Sustainability reporting would be a natural addition to this system. Metrics such as carbon and GHG emissions, waste production, and electricity usage are quantitative measures of health care entities' operational efficiency as much as they are indicators of climate impact. By requiring ACOs and other APMs to collect and publicly report these data, CMS can play a pivotal role in promoting environmental accountability among health systems across the country. CMS developed core quality measures for ACOs by soliciting input from public and private stakeholders throughout the health care industry. Environmentally minded physicians and health systems now have an opportunity to make their voices heard and actively push CMS to require sustainability reporting.

The Carbon Count

Meaningful sustainability reporting means establishing valid measures for health care facilities' carbon and GHG emissions. Thankfully, numerous metrics for emissions already exist and can be easily calculated by hospitals or external reporting organizations. The New York City (NYC) Carbon Challenge, an initiative started by the NYC Mayor's office in 2009 to reduce GHG emissions in the health care sector, is a promising model. The Carbon Challenge uses carbon dioxide equivalents per gross square foot, calculated by dividing a facility's carbon footprint by the square footage of

the facility, as the primary measure of GHG emissions. This metric makes it easy to compare emissions among health care institutions of different sizes since it accounts for the total area that a facility occupies, not just its total GHG output. To determine annual GHG emissions, health systems collect data on their energy use (for example, electricity, natural gas, diesel), waste production, and fleet size. They then use a set of "carbon coefficients" developed by the Mayor's office to calculate the amount of carbon equivalents attributable to each form of energy use. Since some of this energy data are already collected through existing quality improvement processes, this reporting model makes it easy for hospitals to determine their GHG emissions. CMS ought to look at the NYC Carbon Challenge as an example of streamlined sustainability reporting and consider adopting a similar framework for hospital systems across the nation.

Incentivizing Sustainability

Gathering metrics is a good start, but CMS's capabilities go much further than that. Since ACO programs and other APMs are designed to incentivize long-term improvements in health care entities' efficiency, why not link those incentives to achieving certain milestones in climate change mitigation? After all, reducing carbon emissions, electricity usage, and waste production does have a quantifiable impact—measured by energy savings—on operating costs. This is certainly the case at the Theda Clark Medical Center in Wisconsin, which is saving about $800,000 a year after investing in energy-saving technologies such as retrofitted lights and insulated pipes. There are many ways in which CMS can tie financial incentives to health systems' climate impact. One example is to tie incentive payments directly to per-unit reductions of environmentally harmful substances such as carbon dioxide or GHGs. Since these climate initiatives will reduce operating costs in the long run, CMS also could allow ACOs and other APMs to retain a larger percentage of these cost savings—a model that the agency has used for its popular Shared Savings Program.

First Steps

As compelling as the case for CMS-mandated sustainability reporting may be, reform efforts would face formidable challenges. First, CMS's ability to create and enforce new reporting initiatives outside of its own ACOs and APMs is debatable; any new environmental reporting would need to be consistent with the agency's existing regulatory authority. While most public and private hospitals in the US receive payments from Medicare and Medicaid and must report standard quality measures via administrative claims, it is unclear whether this reporting obligation would extend to environmental metrics that do not directly pertain to reimbursement. Second, and more

crucially, sustainability reporting in and of itself does not lead to climate change mitigation. Pressure from the public, stakeholders, and competing hospital systems is vital to compel health care institutions to act. That said, public reporting of GHG emissions data, even if limited initially to a few organizations, would mark an important first step toward greater transparency and environmental stewardship in the health care industry.

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David Introcaso • a month ago

My sincere and heartfelt congrats to the authors in preparing/publishing this essay! My congrats also to HA for - finally - recognizing the health care industry significantly (and perversely) contributes to the climate crisis/emergency. It should be however noted further, per Dr. Jodi Sherman's research, the US health care industry's GHG emissions are responsible for upwards of an estimated 98,000 US deaths annually. (See my related 5/3/19 Morning Consult essay that the Health Affairs Blog rejected.) Per the authors' recommendation CMS tie incentive payments (I'd argue all payments) to sustainability performance, it is only a matter of time before use of green energy/reductions in carbon footprint become a Medicare Condition of Participation (CoP).

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Bradley Hammer • 23 days ago

Agreed that the issue is about large hospital systems getting

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