Health and Health Care Delivery Transformation and Climate Change: A Global Opportunity to Develop Prepared, Responsive, and Resilient Health Systems

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Health and health care delivery system transformation and climate change, two global megatrends, continue to garner growing attention by governments, non-governmental organizations (NGOs), and international convening bodies. Often viewed as unrelated, these two worldwide challenges have, in fact, an important, yet underrecognized inter-relatedness that may be best addressed simultaneously with cross-cutting solutions. The importance of taking such an interdisciplinary approach has been further highlighted by the recent impact of Hurricane Helene on the facilities of Baxter Hospital Products, which produces a large portion of intravenous (IV) fluids used in care delivery across the United States. In response to the hurricane's destruction, leading hospitals and health systems were required to develop novel IV fluid conservation protocols and even delay non-emergent surgical care because of IV fluid shortages (Alanez, 2024).

In this commentary, the author highlights three key actions that were outlined in a recent report commissioned by the Group of 20 (G20) Global Innovation Hub for Improving Value in Health focused on the intersection of the two global megatrends noted above, examining how a high-value health system (HVHS) provides a framework from which cross-cutting solutions can be derived (Bernstein, 2024). Importantly, this commentary focuses on ensuring the health of populations and resilient health care delivery systems that are optimized to continually deliver high-value care through any crisis, including any climate-related crisis; this commentary does not comment on

specific energy- or decarbonization-related initiatives or policies.

Three Key Actions

Cross-cutting solutions that aim to address simultaneously the inter-connectedness of (1) health and health care delivery system sustainability and (2) climate change are likely to not only be effective but more efficient than solutions implemented in parallel. The following actions could tackle these two global megatrends together.

Build Specific Knowledge Sharing Coalitions to Share Best Practices and Avoid Unnecessary Failures

While much can be done locally to address these two major global challenges, there remains a substantial role for national governments, NGOs, and industry to collaborate to form coalitions aimed at expediting the work in an effective manner. Through established global health fora, such as G20 Health Working Group, the World Economic Forum, and the World Health Organization (WHO), among others, stakeholders can build a routine of continual knowledge sharing. With this approach, best practices can be shared and solutions implemented more broadly and efficiently, while unnecessary failures can be avoided.

Key insights that can be shared through these specific knowledge sharing coalitions include how to (1) reduce redundancies and optimize earmarked financial resources, (2) identify the appropriate agency or agencies that have the intersection of these lines of work well within their defined scope

to lead such efforts, and (3) educate key decision makers. To ensure sustained momentum and measurable progress, discussion among these coalitions could occur at a regular cadence in both formal (e.g., meetings) and informal (e.g., email or phone calls) settings.

Invest in Accelerating and Scaling a Movement to Drive Efficient Progress

In today's complex and hyper-polarized world, the global community faces many challenges that require timely action. However, given the breadth and depth of many such challenges, progress is often sluggish, frequently worsened by inefficiencies commonly appreciated within government decision making bodies and the laissez-faire attitude of the public in many situations. One option to overcome these roadblocks and drive progress efficiently is to create and scale a genuine, grassroots movement.

To succeed in addressing the challenges associated with climate change and health and health care delivery systems, credible urgency at scale must underpin the creation and growth of the necessary movement. The benefit of this approach was noticeable during the COVID-19 global pandemic, when stakeholders acted efficiently and decisively during pivotal moments, leading to great advancements in telehealth, a vaccine in record time, and strong public-private partnerships. To address climate change and its intersection with health and health care delivery system sustainability, a collaboration among experts with varied viewpoints, various stakeholders, and the public is needed. If not, communities will be vulnerable to climate events and subsequent health system crises.

Utilize All Available Resources to Design and Implement System Changes On a Local Level

Reducing low-value care will help build an HVHS prepared for, responsive to, and resilient against climate change, but international and national resources must be utilized to successfully design and implement local level system changes whenever possible. Global one-size-fits-all solutions often

fail because they commonly fall short in delivering on the needs of local communities. While guiding principles to address climate change and health and health care delivery system sustainability, as well as financial and human capital resources, may come from international and national sources, empowering local decision makers and communities to develop and deploy solutions that lead to more sustainable and impactful benefits. This is crucial, as local communities know their atrisk areas best and what would be most beneficial for them.

The international and national resources channeled toward local health care delivery systems will help create systems that are prepared, responsive, and resilient against climate change and its related, commonly unpredictable, crises. To accomplish this, relevant stakeholders could focus on reducing low-value care that wastes clinician time and money without improving the outcomes most important to patients. An HVHS provides reserve in a health care delivery system to adapt to climate-related crises, allowing them to be better prepared, responsive, and resilient.

Concluding Thoughts

There is a moral imperative to address the intersection of health and health care delivery system transformation and climate change. Health care delivery systems that transform away from a focus on volume toward a focus on delivery of highvalue care optimize resources while maintaining population health and well-being. This approach creates prepared, responsive, and resilient systems that can be molded to address a wide array of crises. Clinicians can be re-energized to provide care at the top of their licenses, which is critical at a time of growing health care workforce burnout. While a full health and health care delivery system transformation in the setting of climate change will take time, creating momentum that is tangible and large enough will help ensure an ability to efficiently respond to unexpected crises.

References

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- Alanez, T. 2024. Mass General Brigham temporarily suspends non-emergency surgeries due to IV shortage. The Boston Globe, October 11. Available at: https://www. bostonglobe.com/2024/10/11/metro/massgeneral-brigham-postpones-surgeries-ivshortage/ (accessed December 2, 2024).
- 2. Bernstein, D. N. 2024. Tomorrow's health system today: The need for high-value health systems in promoting health & optimizing care delivery in the midst of climate change. G20 Global Innovation Hub for Improving Value in Health. Available at: https://g20hub.org/wp-content/uploads/2024/11/4af40df3-8a78-4b6f-9525-8e9cc15b20e1.pdf (accessed December 2, 2024).

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