



Viewpoint

Maintaining Health Care Innovations After the Pandemic

Regina Herzlinger, DBA; Barak D. Richman, JD, PhD; Kevin A. Schulman, MD

The COVID-19 pandemic exposed the worst failings of the health care system, but it also stimulated a flurry of innovations that could lead to a much-improved delivery system. These were innovations that were born out of necessity: telemedicine access and use skyrocketed, new hospital-at-home services emerged, ambulatory surgical centers expanded their menu of procedures, and a variety of novel therapeutics—such as widespread vaccine distribution, new medical diagnostics, and innovative monoclonal antibodies—were introduced.¹ The collection of new services with flexible delivery mechanisms suggested a future that reduces the scope of the legacy and costly brick-and-mortar delivery system and instead forges ahead toward a new era of digital medicine.

With the crisis now behind us, we are witnessing an attempted retrenchment from this spate of innovation. Whereas industry leaders partnered with policy makers during the pandemic to meet the urgencies of the moment, some are now demanding a return to prepandemic delivery models. The period of creativity was made possible by emergency regulatory relaxations, targeted funding, Emergency Use Authorizations, flexible payment models, and a Federal Retail Pharmacy Program that partnered with more than 41 000 retail pharmacy locations nationwide.² Now, dominant industry interests—as they are prone to do³—are attempting to ensure that temporary measures lapse, old funding mechanisms return to prominence, and regulatory relaxations end.

How can we retain the substantial, potentially transformational innovations that emerged during the pandemic? We argue that preserving useful innovations and combatting the pressure to discard them requires testing the innovations' clinical quality and value. While traditional interests are making arguments that challenge the economic and quality benefits of the innovations, their business models are not subject to the same robust evaluation. The public needs access to data to scrutinize and, when appropriate, challenge these industry-led assertions. Enabling and preserving value-enhancing innovations require rethinking the health care data infrastructure.

Consider virtual care, which is by far the largest transformation in the market. Medicare saw an increase from 840 000 telehealth visits in 2019 to 52.7 million in 2020.⁴ Virtual care seemingly provided substantial benefits to patients—providing access during COVID-19 waves for patients receiving routine care services,⁵ for patients in rural communities (saving hours of travel time for appointments), for working families, and for those with demanding diseases requiring quotidian assistance from clinicians.

A legitimate debate is raging over the benefits of this transition to telehealth. Did it improve access for all populations or exacerbate health disparities? Did it provide the quality of care that could sustain or improve health outcomes? Finally, does telehealth save money, or is it yet one more costly layer atop the traditional care model?^{6,7}

We are in danger of permitting these questions to be answered by the hospitals that worry about losing revenue from lost office visits, physicians who are employed by the hospitals, and insurers who are beholden to the hospital for access to monopolized services. These important policy debates might become resolved not by the merits of the initiatives but instead by short-run financial pressures of these legacy business models. Without definitive public data sources and support for an independent assessment of the COVID-19 response, patients, policy makers, and innovation-seeking payers will be unable to assess the economic or consumer benefits of these innovations and thus unable to counter anti-innovation arguments made by vested interests.

Another danger is letting these policy debates turn on the early experiences and almost inevitable failures of early innovating firms. Often, successful business innovation requires

Author affiliations and article information are listed at the end of this article.

 **Open Access.** This is an open access article distributed under the terms of the CC-BY License.

generations of business model development, as first movers cede to followers that learn from the mistakes of early entrants (and do not bear the cost of establishing the market). Nevertheless, the failures of first-mover firms or models are typically used to broadly attack the innovation model. Building innovative and profitable business models takes time and investment, investment that can be rapidly curtailed in an environment that favors the status quo.

One might wonder why insurance providers, which have terabytes of data, do not use them to drive efficiency-enhancing innovation on behalf of their insureds. Experience reveals, however, that insurers have not been the drivers of innovation that drives down costs. One likely reason is that when they are dependent on monopolist or oligopolist health care systems for service delivery, they are hesitant to challenge the hospitals' core business model. Another reason is that their financial incentives, in part driven by the medical loss ratio and other regulations, do not encourage them to drive down costs; in fact, the medical loss ratio can mean that insurers benefit when spending increases. A third reason is that rethinking health care financing is onerous. It requires a facility with business model innovation that entails risk and uncertainty. Finally, even if insurance providers did find ways to use data to drive efficiencies, they are unlikely to make those data public and instead would use them to acquire private gains over their competitors.

The absence of the clinical, equity, and financial data that could evaluate these differing points of view is the Achilles' heel of the US COVID-19 pandemic response.⁸ The massive struggles to integrate public and private data to track the pandemic did not fully succeed. For example, there is no common platform to integrate medical quality home pulse oximeter sensor data with those from electronic health records. The continued reliance on paper medical records, as illustrated by the individual Centers for Disease Control and Prevention COVID-19 vaccination status cards, caused a massive failure in vaccine safety assessment that could instead have provided large-scale postmarketing surveillance data.

Policy makers can and should play a leading role in building up a useful data infrastructure. The final rule implementing the 2016 21st Century Cures Act mandated that electronic health records have application programming interfaces to provide patients with electronic access to their data,⁹ and aggressive implementation of this rule can provide data access to commercial and academic evaluators. Such an open infrastructure can also invite new types of clinical services for patients, though policy makers should also develop appropriate payment models for these new digital services. Policy makers might even build a new data infrastructure to aid health care markets much as Franklin Delano Roosevelt solved a similar crisis for financial markets. During the Great Depression, Roosevelt created the US Securities and Exchange Commission to provide the uniform data repository that, for the first time, permitted evaluation of the comparative financial performance of publicly traded firms. He called it *the Truth Agency* to underscore its data role.¹⁰

Winston Churchill (and many others) famously said that we should never let a good crisis go to waste. We are in danger of doing exactly that: we may be wasting the benefits of a good crisis. Many heroes rose to the occasion during the COVID-19 pandemic, and the innovation model of relaxed and supportive government policy and a motivated private sector achieved several outstanding successes. But sustaining these innovations will be challenging absent data that can assess what actually happened.

The stakes are higher than many policy makers imagine. Carrying legacy health care business models into the digital age will likely cause health care costs to rise at a double-digit rate over the next few years. The pandemic unleashed decades-worth of pent-up innovation concepts that were largely blocked by competing status quo business models across the health care ecosystem. Evaluating and perhaps extending the record of successful innovation arising from the pandemic will require advocacy, courage, and data-driven leadership from across the health care ecosystem.

ARTICLE INFORMATION

Published: February 10, 2023. doi:10.1001/jamahealthforum.2022.5404

Open Access: This is an open access article distributed under the terms of the [CC-BY License](#). © 2023 Herzlinger R et al. *JAMA Health Forum*.

Corresponding Author: Kevin A. Schulman, MD, Clinical Excellence Research Center, Stanford University, 453 Quarry Rd, Suite 117 B, Palo Alto, CA 94304 (kevin.schulman@stanford.edu).

Author Affiliations: Harvard Business School, Harvard University, Boston, Massachusetts (Herzlinger); School of Law, Duke University, Durham, North Carolina (Richman); Clinical Excellence Research Center, Stanford University, Palo Alto, California (Richman, Schulman); Graduate School of Business, Stanford University, Stanford, California (Schulman).

Conflict of Interest Disclosures: Dr Herzlinger reported teaching 2 courses on innovating in health care at Harvard Business School's Master's in Business Administration program and writing and publishing broadly on this topic. No other disclosures were reported.

REFERENCES

1. Leff B, Milstein A. What we learned from the acute hospital care at home waiver—and what we still don't know. *Health Affairs Forefront*. June 27, 2022. Accessed December 29, 2022. <https://www.healthaffairs.org/doi/10.1377/forefront.20220623.684203/>
2. Centers for Disease Control and Prevention. The federal retail pharmacy program for COVID-19 vaccination. Updated December 29, 2022. Accessed December 29, 2022. <https://www.cdc.gov/vaccines/covid-19/retail-pharmacy-program/index.html>
3. Herzlinger RE. Why innovation in health care is so hard. *Harv Bus Rev*. 2006;84(5):58-66, 156.
4. Samson LW, Tarazi W, Turrini G, Sheingold S. Medicare beneficiaries' use of telehealth in 2020: trends by beneficiary characteristics and location. ASPE Research Report. December 2021. Accessed September 14, 2021. <https://aspe.hhs.gov/sites/default/files/documents/a1d5d810fe3433e18b192be42dbf2351/medicare-telehealth-report.pdf>
5. Dixit RA, Ratwani RM, Bishop JA, et al. The impact of expanded telehealth availability on primary care utilization. *NPJ Digit Med*. 2022;5(1):141. doi:10.1038/s41746-022-00685-8
6. McDonough DJ, Su X, Gao Z. Health wearable devices for weight and BMI reduction in individuals with overweight/obesity and chronic comorbidities: systematic review and network meta-analysis. *Br J Sports Med*. 2021;55(16):917-925. doi:10.1136/bjsports-2020-103594
7. Baughman DJ, Jabbarpour Y, Westfall JM, et al. Comparison of quality performance measures for patients receiving in-person vs telemedicine primary care in a large integrated health system. *JAMA Netw Open*. 2022;5(9):e2233267. doi:10.1001/jamanetworkopen.2022.33267
8. Abernethy A, Adams L, Barrett M, et al. The promise of digital health: then, now, and the future. *NAM Perspect*. 2022;2022:10.31478/202206e. doi:10.31478/202206e
9. Health and Human Services Department. 21st Century cures act: interoperability, information blocking, and the ONC health IT certification program. August 4, 2020. Accessed December 29, 2022. <https://www.federalregister.gov/documents/2020/08/04/C2-2020-07419/21st-century-cures-act-interoperability-information-blocking-and-the-onc-health-it-certification>
10. Herzlinger R. Transparency as a solution for the hospital capacity problem. *Ohio State Law J*. 2021;82(5):787-794. <https://kb.osu.edu/handle/1811/101139>