

Toward an Effective Innovation Agenda

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Digital technologies have transformed the U.S. and global economies, offering tremendous benefits to consumers and financial success to investors. Health sector leaders, inspired by this enormous transformation, have embraced digital technology as key to health care reform efforts, promoting massive investments in electronic health records (EHRs) as part of a broader innovation agenda. Yet the health care system remains essentially untouched, with care patterns and unsustainable cost trajectories seemingly unchanged over the past 20 years.¹

The health sector has successfully implemented many technical innovations — from laparoscopic surgery to gene sequencing to immunotherapies — that have provided substantial clinical benefit to patients. Why, then, have investments in digital technologies largely failed to lead to meaningful improvements along the axes of health care's "quadruple aim" — enhancing patient experience, improving population health, reducing costs, and improving the lives of health care professionals? And why have well-intended efforts to adopt digital technologies had so little systemic impact as compared with those in other industries? It is critical to elucidate the reasons for this disappointing result, which suggests that the standard approach to business innovation in the health sector has fundamentally failed.

One reason for this failure is that too often, the health sector neglects one of the essential elements of successful innovation, in

both the technology sector and the broader economy: a disciplined approach to meeting consumers' needs. The innovation scholar Clayton Christensen has formalized this idea, recommending that organizations aiming to bring novel solutions to market focus on "the job to be done." He suggests homing in on "the progress that the customer is trying to make in a given circumstance — what the customer hopes to accomplish."² Organizations, he notes, should not ask customers which existing products they prefer; instead, they should work to understand customers' underlying needs and then work to satisfy those needs.

Health policymaking often provides a stark contrast to this disciplined approach to innovation. Most policy approaches start with crystallized ideas of how physicians and hospitals ought to be organized and ask how existing resources might be deployed. For instance, most policymakers conflate inadequate access to primary care with a shortage of primary care physicians, even though training more physicians and nudging them toward careers in primary care is an enormously expensive solution. Expanding the availability of primary care services — the job that needs to be done — could instead involve new workforce models (for example, featuring allied health professionals such as nurses or physician assistants), new service models (for example, encouraging use of telemedicine for care and behavioral guidance), and new policy approaches (such

as amending scope-of-practice laws and licensure limitations that might limit the realization of this approach).³ If policymakers focus on the job that needs to be done, they would open their minds to exploring these innovative solutions.

The U.S. experience with EHRs offers another example of the sector's concern with resources rather than services. The federal government spent more than \$37 billion to induce existing resources (physicians and hospitals) to transition to digital records. Yet interoperability remains an aspiration, and new laws were required to facilitate patients' access to their own medical data. Not only do these systems fail to directly address patients' needs; they have also done little to reduce the enormous professional billing costs incurred by physicians and payers.⁴

Building from these examples, we suggest that a true innovation agenda in health care requires a focus on services (such as primary care) rather than resources (such as primary care physicians) in designing high-value care and high-quality patient experiences. Examining the services needed by the patient, rather than the available delivery-system resources, would lead to exploration of ways of delivering those services most efficiently and effectively.

To design a services approach from scratch, one would begin by envisioning an array of patient needs, ranging in intensity from self-care to long-term care. On one end of the spectrum are the

behavior choices we make every day — what we eat, how much we exercise, and what activities we pursue. Although most health care expenditures arise from these behaviors, the health care system is not structured to help people manage them. From a resources perspective, preventive care and assistance with behavior change are considered too expensive and ineffective to provide in a clinical setting. Under a services model, however, we could envision learning how to successfully engage populations using new digital tools and strategies that could alter the traditional economics of clinician-based prevention.

The next domain might be acute care services. Patients routinely encounter acute medical needs (a child's fever, a swollen joint), but addressing them involves stark choices among existing resources: making an appointment with a physician, visiting an urgent care center, or purchasing items from a drug store. A health care system that took a services perspective would help patients answer common medical questions, offer a stepped approach to care, arrange for necessary medical tests, and provide guidance to support implementation of appropriate treatment regimens.

There is no question that the cost of health care is concentrated largely among patients with chronic conditions. A services-focused system might offer new solutions for these patients, from high-touch outpatient intensivist care to a high-tech diabetes-monitoring service. Patients with greater medical needs would still re-

quire more complex services, but innovators taking a services approach could consider how to optimize these efforts. For example, greater deployment of “hospital-at-home” programs for appropriate patients could reduce reliance on expensive inpatient care.⁵ Tailoring a distinct set of services around the complex needs of these patients would transform care for the chronically ill and stimulate the development of comprehensive and coordinated services that our current system fails to offer.

In a services model, health information technology could offer a platform for providing these innovative approaches to care, but it would support the business strategy rather than *being* the strategy. Each of the service layers would require ready access to high-quality clinical data to achieve its full potential. The services model would therefore be greatly facilitated by the development of an open, accessible, patient-centered data architecture (in contrast to the proprietary technology currently used by many hospitals and physicians). Strategies centered on personal health records have been implemented successfully in France and Estonia and are now being pursued by consumer electronics giants, including Apple.

A related feature of the services approach is the use of data to enhance the underlying offerings and experience. Even as the health care sector has been aspiring to create “learning health care systems,” consumer technology companies have embraced optimization as a core part of their

strategy, learning in real time through iterative and rigorous testing of services and features, and organizing their offerings to provide data that seamlessly support the application of advanced analytic tools such as machine learning.

A transition to a services model will be difficult for leaders of our existing health care organizations. It will engender conflict between organizations operating under legacy business models and the new, more efficient services organizations that will emerge. But innovation as a reform agenda can only truly succeed when it forces change in business models and practices throughout the health care system.

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