

Leveraging Health Care IT Investment

A HARVARD BUSINESS REVIEW WEBINAR FEATURING

David M. Cutler and Robert S. Huckman

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OVERVIEW

In recent years, health care organizations have made massive investments in IT. However, most are still in the early stages of using those IT investments to improve the quality of care. To continue the evolution, organizations must take a three-step approach: identify improvement opportunities, gather and analyze data, and implement organizational change. These actions can result in more efficient, passive data collection, improved business intelligence, more streamlined workflows, and better aligned business models.

CONTEXT

David Cutler and Robert Huckman discussed insights and lessons on how to leverage IT investments to drive meaningful operational changes in health care.

KEY LEARNINGS

There has been rapid adoption of EHR systems, but frustration with health IT continues.

Improved system functionality and usage have been driven both organically and by policies like the HITECH Act. Yet, providers are frustrated with health IT. Although EHR systems improve the quality of care, they also slow physician interaction with patients and some users feel there are too many alerts. As a result, physician job satisfaction hasn't increased.

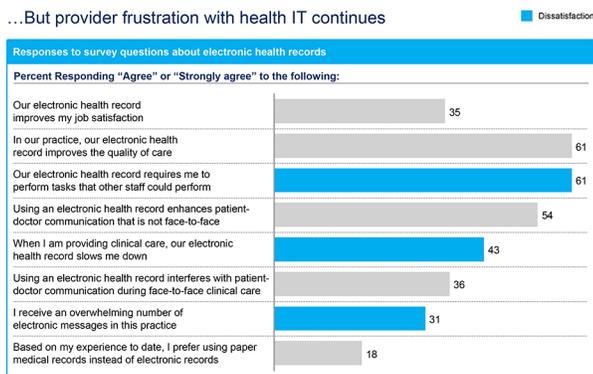


Figure 1
Provider Feedback About Electronic Health Records

Unfortunately, the full potential of health IT is not being broadly realized. Health care providers haven't taken advantage of improved billing capabilities or higher fidelity storage of patient records. Health IT is not yet a driver of productivity improvement.

CONTRIBUTORS

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Organizations must consider how to implement the near future of health IT, while planning for the long term.

Health IT evolves in waves. The present and future can be divided into three phases:

1. **Today.** The emphasis of current health IT efforts is building infrastructure, in response to policy incentives. The primary goals are more efficient billing and improved compliance.
2. **Near future.** In the near future, health IT will evolve to create operational efficiencies, improve patient satisfaction, and increase productivity. The focus of these efforts includes cost effectiveness, customer service, and clinical protocols.
3. **Long term.** In the long term, health IT will support transformational care for patients and create new health care delivery models. This will require personalized care and big data analytics.

Increasing productivity requires an increase in health produced for a given level of spending or a decrease in spending for a given level of health produced. It is important to remember that improving productivity is not the same as increasing profit.

To improve health care productivity through IT, organizations must identify improvement opportunities, gather and analyze data, and implement organizational change.

Cutler and Huckman have developed a three-step cycle for improving health care productivity with IT:

- **Step 1: Identify improvement opportunities.** This may include responding to patient preferences, improving clinical quality, reducing costs, managing variation, and increasing asset utilization.

Successful improvement requires asking the right questions. For example, how much does it cost to provide a specific type of care? How can we better measure and communicate clinical performance to internal and external audiences? How do we improve the productivity of the care we deliver? Answering these questions requires competency in cost accounting, outcomes measurement, and variation and cost-effectiveness analysis.

When identifying opportunities, it can be helpful to look for opportunities and constraints. Cutler and Huckman recommend focusing on easy wins that have patient and institutional benefits. Patient safety can be a good place to start. They also suggested enlisting assistance from salaried staff, since they often have a greater sense of ownership than hourly employees. Interest levels in improvement initiatives tend to increase after some early successes.

- **Step 2: Gather and analyze data.** Organizations must identify what type of data they require. This could include clinical information, cost/operational data, billing, or administrative data. Once they know what kind of data they need, the next task is to facilitate data collection and analysis.

“The critical challenge for health IT has shifted from adoption to use. Truly ‘meaningful use’ is not defined by policy but by doing what is needed to improve the productivity of health care.”

– DAVID M. CUTLER

To analyze data properly, health care organizations must change the process used to collect data. Rather than relying solely on clinicians to gather data, patients should become more engaged. In some cases, patient activities may support more automated data collection. Organizations must also reconsider how data are collected. The shift from active to passive data collection is already underway in the fields of transportation and retail.

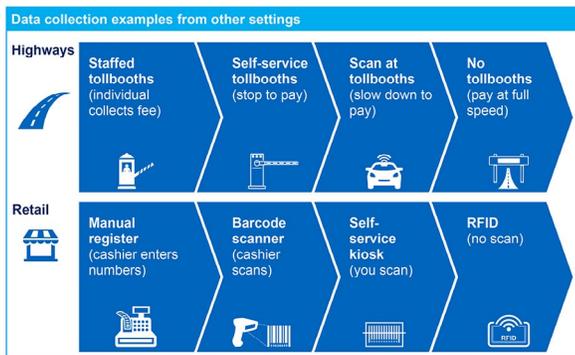


Figure 2
Active to Passive Data Collection Examples

In health care, real-time location systems are one example of passive data collection. At one organization, RFID tags were assigned to patients, equipment, and staff. This enabled automatic tracking of several performance metrics including time-driven costing, customer service wait times, and asset and staff utilization. The tags also allowed for dynamic assignment of patients to rooms or providers. While real-time location systems have many benefits, they also raise concerns related to labor relations, patient privacy, and usability of data for analysis and action.

- **Step 3: Implement organizational change.** Change must be pursued along multiple dimensions including business intelligence, workflow redesign, and business model alignment. Business intelligence uses IT systems for ongoing monitoring to continuously manage and improve performance. Workflow redesign focuses on changing processes or task allocation to optimize workflow. Business model alignment requires shifting business models to align incentives and strategy.

	Description	Examples: Health Care	Examples: Other Industries
Business intelligence	Using IT systems for ongoing monitoring to continuously manage and improve performance	NYU Langone Medical Center implemented centralized dashboard with a single data source, enabling a culture of performance and transparency	Walmart's RetailLink data warehouse displayed sales, shipments, orders, and returns in a single source for internal analysts and suppliers
Workflow redesign	Changing processes or task allocation to optimize workflow	Intermountain Healthcare used a standardized electronic protocol to change workflow in labor and delivery for ~32,000 deliveries/year	Securities firms automated trade fulfillment in 1990s, shifting brokers from handling individual trade orders to managing relationships
Align business model	Shifting business models to align incentives and strategy	Virginia Mason lost revenue by promoting non-surgical treatment of back pain; value-based payment models compensate with shared savings revenue	Google took advantage of new data streams to move from cost-per-impression to cost-per-click pricing, capturing value from ad placement innovations

Figure 3
Organizational Change Examples

“Data is part of the answer for business intelligence, but data is fragmented. Partnerships are needed to get the full benefit. During joint venture discussions, look at the potential business intelligence that can be gained.”

– ROBERT S. HUCKMAN

APIs and data access are needed to realize the vision of health care productivity.

APIs are the key to more fluid data access and interoperability. The technology already exists, but organizations must embrace the concept. Four actions that can help promote APIs are:

- Incentives are needed for providers to engage in data exchange.
- Patient and provider concerns related to privacy and security must be addressed.
- Vendors must support open APIs with transparent terms of use, policies, and developer fees.
- Organizations must consider how data sharing will affect culture and workflows.

Without APIs and data access, the vision of health care productivity won't be realized.

BIOGRAPHIES

**David M. Cutler**

Otto Eckstein Professor of Applied Economics, Harvard College

David Cutler has developed an impressive record of achievement in both academia and the public sector. He served as Assistant Professor of Economics from 1991 to 1995, was named John L. Loeb Associate Professor of Social Sciences in 1995, and received tenure in 1997. He is currently the Otto Eckstein Professor of Applied Economics in the Department of Economics and was named Harvard College Professor in 2014. He holds secondary appointments at the Kennedy School of Government and the School of Public Health.

Honored for his scholarly work and singled out for outstanding mentorship of graduate students, Cutler's work in health economics and public economics has earned him significant academic and public acclaim. Currently, he is a Research Associate at the National Bureau of Economic Research, a member of the Institute of Medicine, and a Fellow of the Employee Benefit Research Institute. He advises many companies and groups on health care.

Cutler is author of two books, several chapters in edited books, and many published papers on the topics of health care and other public policy topics. Cutler received an AB from Harvard University (1987) and a PhD in Economics from MIT (1991).

**Robert S. Huckman**

Albert J. Weatherhead III Professor of Business Administration, Chair, MBA Required Curriculum, Harvard Business School

Robert Huckman is the Albert J. Weatherhead III Professor of Business Administration at Harvard Business School, the Faculty Chair of the HBS Healthcare Initiative, and the Chair of the MBA Required Curriculum. He currently teaches the second-year MBA course entitled Transforming Health Care Delivery and has previously taught both required and elective courses in Technology and Operations Management. Huckman is the Faculty Chair of Executive Education's Managing Health Care Delivery and a member of the teaching faculty for Business Innovations in Global Health Care. He is also a Research Associate at the National Bureau of Economic Research and the Co-Chair of the management track of Harvard's doctoral program in health policy.

**Steve Prokesch (Moderator)**

Senior Editor, Harvard Business Review

Steven E. Prokesch is a senior editor of the *Harvard Business Review*, where he acquires and edits articles on a variety of topics, including health care, strategy, operations, and innovation. An award-winning journalist, he has worked as a reporter and editor at *The New York Times*, *Business Week* magazine, and *The Arizona Republic* and also was an editorial director at the Boston Consulting Group.

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Sponsor's Perspective

DRIVING INNOVATION TO DELIVER VALUE

Innovations in Health Care Delivery and Technology Are Key for Advances in Value-Based Health Care

In many ways, the move toward value-based health care requires important innovations: a new product that enhances a therapy; high-functioning health IT systems that foster accessible data; the formation of new collaborations; or organizational changes—from employers to systems to governments—that make processes more efficient. Together, these types of advances interact to improve long-term patient outcomes in health care.

Many health care systems are incentivized to focus on short-term medical outcomes where volume is rewarded over value. That's changing to a value-based framework where the outcomes that matter most to patients are addressed throughout the continuum of care.

We are already seeing this concept being embraced by hospitals, payers, and governments around the world, but our often fragmented health care systems can slow the progress being made. Innovations that facilitate alignment among all stakeholders during the course of this shift will help produce a more effective and value-based health care environment.

At Medtronic, we define value-based health care as a business model where we share accountability with systems for the cost of care and patient outcomes—in other words, where the costs of the products, services and integrated solutions we provide are directly linked to the quantifiable clinical, patient, and economic outcomes. Most importantly, the value derived from the quality of care isn't determined at a specific point in time that focuses on transactional value. Instead, value is measured holistically over a longer time horizon and in ways that are meaningful to the patient.

Our role in this new era will be to leverage the full power of our technologies, services, and people to work with others to help improve health care outcomes around the world. We are currently partnering with value-based health care experts to develop new arrangements so that we can be active participants in this transformation. Across our company—in different groups and geographies—we're using an internally developed 7-step value-based framework to establish new models in which we share direct accountability for system costs and patient outcomes with our customers. To date, we are working within shared accountability arrangements with like-minded organizations in three distinct areas: chronic care management, episodic care bundles, and therapy based value offerings.

But this is not an effort we are embarking on alone. We are collaborating with other organizations—*Harvard Business Review*, the International Consortium of Health Outcomes Measurement (ICHOM), the Economist Group, and the World Economic Forum, to name a few—to build consensus on how to push value-based health care even further.

Learn more about Medtronic's perspective on value-based health care and the ways we can work together to align more value by visiting [medtronic.com](https://www.medtronic.com).

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