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WEBINAR SUMMARY

Continuous Value Improvement in Health Care

Featuring Kedar Mate
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Continuous Value Improvement in Health Care

PRESENTER:
Kedar Mate, Chief Innovation and Education Officer, Institute for Healthcare Improvement, and co-author of the HBR article, "A Simple Way to Involve Frontline Clinicians in Managing Costs"

MODERATOR:
Steve Prokesch, Senior Editor, *Harvard Business Review*

Overview

Facing significant financial pressures, health care providers are increasingly focused on delivering greater value, which means better quality at lower cost. While much progress has been made at providing frontline clinicians with data on quality, little progress has been made in furnishing frontline caregivers with cost data.

The Institute for Healthcare Improvement has developed a new approach to achieve better value. This approach, termed Continuous Value Improvement (CVI), is a combination of providing frontline clinicians with near real-time data on cost and quality, empowering these clinicians to engage in continuous performance improvement, and providing a simple management system. In an initial pilot of CVI, costs were dramatically decreased while patient safety improved and staff morale was unchanged. CVI is now being expanded. This initial experience indicates that when providing frontline clinicians with accurate, timely data and the ability to improve how care is delivered, they will do so.

Context

Kedar Mate from the Institute for Healthcare Improvement (IHI) discussed a pervasive problem in health care: frontline clinicians have good data on the quality of care but little data on cost. He shared IHI's thinking on an alternative theory of change, described a pilot that puts this theory into practice, and provided initial findings, lessons learned, and next steps.

Key Takeaways

As health care providers work to deliver greater value, they lack tools to do so.

Across the globe, the pressures facing health care providers are similar. Providers have thin operating margins and face significant pressure to reduce costs while improving care. Health systems have high variation in the care delivered; there are pricing failures; and there is fraud and abuse. Also, while there is a great deal of data available in health care, the data provided to frontline clinicians is pushed out, causing frontline clinicians to be in "receivership mode." This data is not timely or usable. As a result of these factors, there is enormous waste in the health care system, with some estimating that 35% of all spending is wasted.

These underlying trends are increasingly forcing providers to deliver greater value, defined as quality outcomes divided by the cost to deliver these outcomes.

VALUE = QUALITY / COST

To achieve greater value, significant strides have been made to provide frontline clinicians with information and tools to deliver higher-quality care. However, little progress has been made with the other part of the value equation: giving frontline clinicians tools to effectively control costs.

> "What we are missing is an accurate, timely, detailed understanding of cost and how to manage costs going forward."
>
> —Kedar Mate

IHI has developed an alternative theory of change: Continuous Value Improvement.

One approach often adopted by providers to attempt to address cost challenges from excessive waste is to start with reducing the costs of non-clinical services. This is a leadership-driven approach that involves reducing the costs of supplies, creating preferred relationships with suppliers and vendors, improving the revenue cycle, and managing labor costs. However, clinicians generally resist these managerial attempts to cut costs by imposing standardization, and staff morale suffers.

IHI has developed an alternative theory of change termed Continuous Value Improvement (CVI). The idea is to furnish frontline providers with timely data—on both quality and cost—and enable them to continuously improve performance. Situating the frontline provider's work within a disciplined performance management system is a key to success.

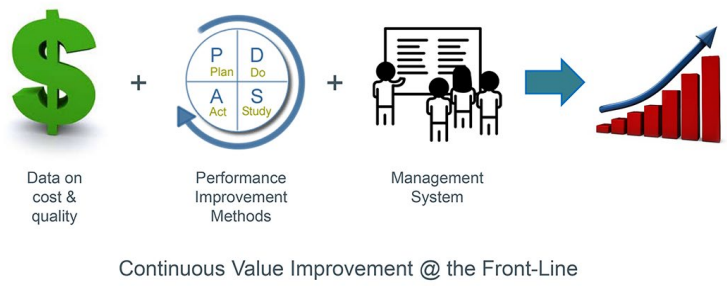

FIGURE 1: KEY ELEMENTS OF IHI'S ALTERNATIVE THEORY OF CHANGE

The ideas behind CVI come from IHI's three decades of experience supplying frontline service providers with tools, methods, and information to reduce errors and defects, and to improve patient safety. In a campaign involving more than 3,000 hospitals focused on driving out harm, errors, injury, and preventable mortality, more than 120,000 lives were saved. The keys were having:

- Data on patient safety available to frontline teams.
- A disciplined practice around change management and performance improvement.
- A management system that allowed frontline teams to continuously improve performance.

An initial pilot of CVI is showing promising results.

IHI initiated a pilot of CVI with the respiratory ward of Raigmore Hospital, a 454-bed teaching hospital in Scotland's Highlands region. The situation in the Highlands is similar to elsewhere, with increasing financial pressures and more patients with chronic conditions. Raigmore knew that errors and defects were common, but had little information about the consequences of frontline care decisions or actions.

To conduct a pilot of CVI, Raigmore:

- **Built a team** of frontline clinicians, including physicians, nurses, and pharmacists, along with people from finance, operations, and IT.
- **Determined methods to put the CVI theory into practice.** These methods included:

  —Methods to understand quality, cost, and workforce capacity on a weekly basis. Raigmore used Lean Accounting to determine actual costs, and developed processes and sources for getting cost data on all key cost categories.

  Being able to access cost data and get it to the front line on a timely basis was critical. With this is mind, in this pilot IHI sacrificed precision for timeliness. The cost data may not have been perfect but it provided a pretty close approximation of what was happening.

Cost Category	*Basis for Charging*	*Source of Data*
Implants	Supplier Purchase Order	Purchase journal
Employees	When paid	Payroll system
Contractors	When paid	Expense Invoice
Pharmaceuticals	Supplier Purchase Order	Purchases journal
Consumables	PO or Receiving Document	General Journal
Facilities	Square feet occupied	Standard Journal Entry
Other Costs	Voucher on receipt	Credit card payment

From: Brian Maskell, BMA Inc

FIGURE 2: SOURCES OF COST DATA

Using cost data, Raigmore developed a **Weekly Box Score** that included: 1) a **Financial Statement** with revenue and expense information; 2) **Performance Measurement** information with data on quality and satisfaction; and 3) **Capacity Utilization** information showing the total available staff time and how much staff time is used for direct patient care and indirect patient care. The Weekly Box Score is how data was presented to the frontline service units.

		Metric	Week 1	Week 2	Week 3	Week 4
Performance measures		On-time discharges	38%	41%	42%	45%
		Average number of discharges per day	2.87	2.96	3.27	3.34
		28-day readmission rate	9.4%	9.7%	9.2%	8.9%
		Patient satisfaction (1–5 scale)	4.4	4.5	4.6	4.6
		Pressure ulcers (raw numbers)	1	1	0	0
		Falls (raw numbers)	0	1	1	0
Staff capacity	Day	Direct care	46%	45%	47%	48%
		Indirect care	38%	36%	38%	39%
		Available time	16%	19%	15%	13%
	Night	Direct care	38%	36%	40%	39%
		Indirect care	39%	36%	35%	32%
		Available time	23%	28%	25%	29%
Financial measures		Medical staff	$20,284	$20,111	$19,383	$19,320
		Establishment nursing staff	$24,445	$22,110	$21,850	$20,998
		Bank nursing staff	$2,667	$2,724	$2,525	$2,694
		Drugs	$9,200	$8,998	$8,527	$8,656
		Surgical supplies	$2,417	$2,822	$2,010	$2,045
		Other	$1,376	$1,212	$1,568	$1,445
		Total costs	$60,389	$57,977	$55,863	$55,158
		Costs per patient seen	$3,006	$2,798	$2,441	$2,359

NOTE REPRESENTATION DOES NOT CONTAIN ANY TRUE DATA.
SOURCE INSTITUTE FOR HEALTHCARE IMPROVEMENT

FIGURE 3: EXAMPLE OF A BOX SCORE

- **Methods for technical performance improvement** included Kaizen events and the PDSA model for continuous improvement. These were the methods used to improve performance after the front line was supplied with timely, accurate-quality cost and capacity data. At Raigmore, for every problem area that was discovered (based on the data), the team conducted a series of active change management steps to try to take corrective action to improve performance.

- **Methods for a simplified management system** included the use of visual management boards and daily point-of-care communication, as well as daily huddles and an escalation system. A visual management board is a way to link the box score measure to problem analysis and improvement work, as the basis of routine management.

Current state map	Future state map	Box score	Strategy deployment	
Performance measurement: e.g., RN hours per patient	Performance measurement: e.g., length of stay	Performance measurement: e.g., patient falls	Performance measurement: e.g., 30-day readmissions	Performance measurement: e.g., on-time discharge to home
Pareto chart showing causes of problems	Pareto chart showing causes of problems	Pareto chart showing causes of problems	Pareto chart showing causes of problems	Pareto chart showing causes of problems
Improvement projects	Improvement projects	Improvement projects	Improvement projects	Improvement projects

FIGURE 4: EXAMPLE OF A VISUAL MANAGEMENT BOARD

The results of this initial CVI pilot at Raigmore have been impressive. The respiratory ward had a 15% reduction in the cost per patient seen, while improving patient safety and maintaining staff satisfaction. Raigmore is now working to expand this pilot to other departments, and other hospitals in the Highlands region are interested in CVI.

> "Supply the front line with knowledge of costs and quality in real time (or close to it), enable them with quality improvement methods and a management system, and you will get results."
>
> —Kedar Mate

Lessons learned from the initial CVI can be applied more broadly.

The initial experience implementing CVI at Raigmore has yielded several important lessons:

- **Senior buy-in is critical.** Senior support is necessary for a major change initiative and so departments can align their goals with overall goals.
- **Much progress can be made with imperfect financial data.** Raigmore has had a great deal of impact with financial data that is not perfect. Raigmore's approach has been to gather financial data that is "good enough" to start acting. For certain cost categories, monthly reporting is still required.
- **There are common improvement areas.** Raigmore has learned that areas such as standardizing drug spending, ensuring timely discharge, and preventing falls and infections are common strategies for improvement.

- **Disciplined management produces results.** Access to real-time data and a methodology of continuous improvement is essential, but Raigmore's results could not have been achieved without a disciplined management methodology. This includes the use of the visual management system and daily communications.
- **A cell lives within a system.** To get breakthrough results it is necessary to recognize that a cell lives within a larger system. At the same time, an improvement in one unit doesn't necessarily lead to an improvement across the entire institution. It is necessary to optimize the entire organization; not just individual units.
- **Physician engagement takes time.** Physicians don't want to be left out of the conversation; if they don't participate, management will make decisions for them. But, engaging physicians in the process and bringing them along takes time.

In providing advice to other providers that might want to get started on the CVI path, important steps are to choose a unit with staff stability, ensure there is alignment between senior managers and frontline clinicians, have good foundational "hygiene" with sound management practices in place—like budgeting—and pick a unit where there is a champion for change.

Additional Information

- **About IHI.** To learn more about IHI see www.ihi.org
- **About CVI.** To learn more about CVI and about Raigmore's experience implementing it, see the HBR article, "A Simple Way to Involve Frontline Clinicians in Managing Costs."

Kedar Mate, MD, Chief Innovation and Education Officer, Institute for Healthcare Improvement (IHI), oversees the development of innovative new systems designs to implement high-quality, low-cost health care both in the US and in international settings. An internal medicine physician, Mate is also an Assistant Professor of Medicine at Weill-Cornell Medical College and a Research Associate at Harvard Medical School's Division of Global Health Equity. His current research activities include improving population management, behavioral health integration, health equity, addressing complex needs patients, and ambulatory patient safety. Mate serves as a senior advisor to IHI's programs in the US, Asia, and the Middle East and he serves as an IHI principal investigator on multiple research awards. Previously he worked with Partners In Health, served as a special assistant to the Director of the HIV/AIDS Department at the World Health Organization, and led IHI's national program in South Africa. Mate has published numerous peer-reviewed articles, book chapters, and white papers and he has delivered keynote speeches in forums all over the world. He graduated from Brown University with a degree in American History and from Harvard Medical School with a medical degree.

Steve 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.

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 like-minded organizations in countries around the world to develop new arrangements so that we can be active participants in this transformation. To date, we are working within shared accountability arrangements 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 believe collaboration with like-minded organizations is key, and we would enjoy discussing value-based programs with you. 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.

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