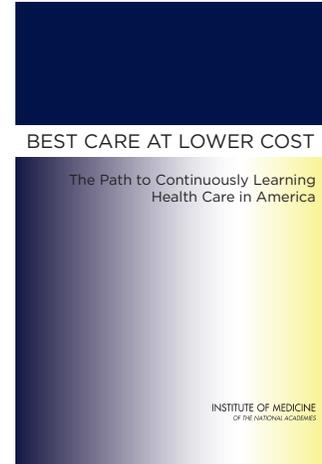


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Best Care at Lower Cost

The Path to Continuously Learning Health Care in America



Health care in America has experienced an explosion in knowledge, innovation, and capacity to manage previously fatal conditions. Yet, paradoxically, it falls short on such fundamentals as quality, outcomes, cost, and equity. Each action that could improve quality—developing knowledge, translating new information into medical evidence, applying the new evidence to patient care—is marred by significant shortcomings and inefficiencies that result in missed opportunities, waste, and harm to patients.

The full extent of these shortcomings is visible when considering how other industries routinely operate compared with many aspects of health care. Builders rely on blueprints to coordinate the work of carpenters, electricians, and plumbers. Banks offer customers financial records that are updated in real time. Automobile manufacturers produce thousands of vehicles that are standardized at their core, while tailored at the margins. While health care must accommodate many competing priorities and human factors unlike those in other industries, the health care system could learn from these industries how to better meet specific needs, expand choices, and shave costs. Americans would be better served by a more nimble health care system that is consistently reliable and that constantly, systematically, and seamlessly improves. In short, the country needs health care that learns by avoiding past mistakes and adopting newfound successes.

In response to widespread demand for an improved health care system, the Institute of Medicine (IOM) convened a committee to explore health care challenges and to recommend ways to create a continuously learning health care system. Its work was supported by the Robert Wood Johnson Foundation, the Blue Shield of California Foundation, and the Charina Endowment Fund, and it builds on landmark IOM reports published in the past two decades, including *To Err Is Human: Building a Safer Health System*, *Crossing the Qual-*

Americans would be better served by a more nimble health care system that is consistently reliable and that constantly, systematically, and seamlessly improves.

ity Chasm: A New Health System for the 21st century, and *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*. The IOM offers its recommendations in *Best Care at Lower Cost: The Path to Continuously Learning Health Care in America*.

Building an Adaptive System

Because health care is complex and constantly changing, the committee set out to chart a transition to a system that learns, in real time and with new tools, how to better manage problems. Indeed, such opportunities now exist that were not available just a decade ago. Vast computational power is increasingly affordable, and connectivity allows information to be accessed in real time. Human and organizational capabilities offer expanded ways to improve the reliability and efficiency of health care. And health care organizations and providers recognize that effective care must be delivered by collaborative teams of clinicians, each member playing a vital role. Yet simply acknowledging such opportunities does not necessarily result in putting them to good use.

The responsibility for building a continuously learning health care system rests on many shoulders because the stakes are high. As the IOM committee reports, every missed opportunity for improving health care results in unnecessary suffering. By one estimate, almost 75,000 needless deaths could have been averted in 2005 if every state had delivered care on par with the best performing state. Current waste diverts resources; the committee estimates \$750 billion in unnecessary health spending in 2009 alone.

Data generated in health care delivery—whether clinical, delivery process, or financial—should be collected in digital formats, compiled, and protected as resources for managing care, capturing results, improving processes, strengthening public health, and generating knowledge.

The Department of Health and Human Services (HHS) can encourage not only this digital capacity, but also the development of distributed

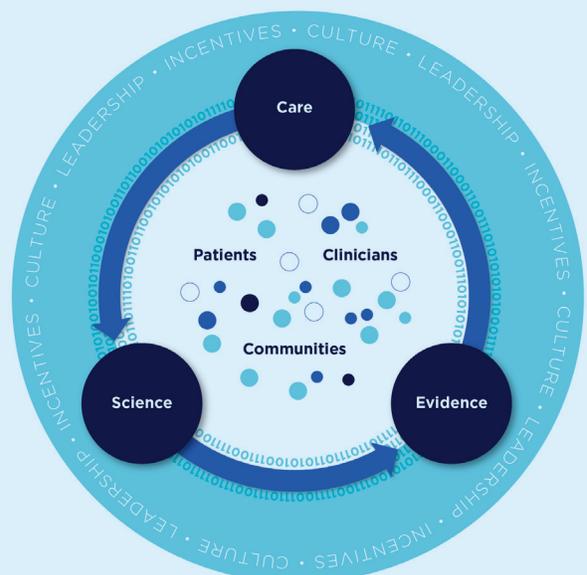
data research networks and expanded access to health data resources to improve care, lower costs, and enhance public health. Payers and medical product companies also should contribute more data to research groups to generate new insights. Patients should participate in developing robust data utility; use new tools, such as personal portals, to better manage their own care; and be involved in building new knowledge, such as through patient-reported outcomes.

Delivering Reliable Clinical Knowledge to Patients

Improving the data infrastructure and data utility would require revising and streamlining research regulations to improve care, promote capture of clinical data, and generate knowledge. Regulators can clarify and improve rules governing the collection and use of clinical data to safeguard patient privacy while promoting the seamless use of such data for better care coordination and management, improved care, and enhanced knowledge.

Decision support tools and knowledge management systems can be included routinely in health care delivery to ensure that decisions are informed by the best evidence.

FIGURE: A Continuously Learning Health Care System



Current waste diverts resources; the committee estimates \$750 billion in unnecessary health spending in 2009 alone.

Among possible actions, clinicians and health care organizations can adopt tools that deliver reliable clinical knowledge to patients. Research organizations, advocacy organizations, professional specialty societies, and care delivery organizations can facilitate the development, accessibility, and use of evidence-based and harmonized clinical practice guidelines. Also, education programs should evolve so that health professionals learn new methods for accessing, managing, and applying evidence, with an emphasis on engaging in lifelong learning; understanding human behavior and social science; and delivering safe care in an interdisciplinary environment. Agencies and organizations that fund research should support investigations into improving the usefulness and accessibility of patient outcome data and scientific evidence for clinicians and patients.

Health providers should place a higher premium on fully involving patients in their own health care to the extent that patients choose. Clinicians should employ high-quality, reliable tools and skills for sharing decision making with patients, tailored to clinical needs, patient goals, social circumstances, and the degree of control that patients prefer. Health care delivery organizations should monitor and assess patients' perspectives and use those insights to improve care; establish patient portals to facilitate data sharing among clinicians, patients, and families; and make high-quality tools available for shared decision making with patients.

In addition, the federal Agency for Healthcare Research and Quality, partnering with the Centers for Medicare & Medicaid Services (CMS), other payers, and stakeholders, should support

developing and testing a reliable set of measures of patient-centeredness for consistent use across the health care system. CMS and other payers should promote and measure patient-centered care through payment models, contracting policies, and public reporting programs. And digital technology developers and health product innovators should develop tools to assist individuals in managing their health and health care.

Improving the Policy Environment

The culture of health care is central to promoting learning at every level. The prevailing approach to paying for health care, based predominantly on individual services and products, encourages wasteful and ineffective care. Instead, payments should reward desired care outcomes and movement toward providing the best care at lower cost. Payers should adopt outcome- and value-oriented payment models, contracting policies, and benefit design to reward and support high-quality, team-based care focused on patients' needs.

Health care delivery organizations, clinicians, and payers should increase the availability of information about the quality, price, and outcomes of care, and professional specialty societies should encourage transparency in the information provided by their members. Likewise, payers should promote transparency to help their members make better decisions. And consumer and patient organizations should disseminate this information to spur conversations and promote informed decision making.

The adoption of a learning health care sys-



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tem will require broad participation by patients, families, clinicians, care leaders, and those who support their work. Health care delivery organizations should develop organizational cultures that encourage continuous improvement by incorporating best practices, transparency, open communication, staff empowerment, coordination, teamwork, and mutual respect, and that align incentives accordingly. Also, specialty societies, education programs, specialty boards, licensing boards, and accreditation organizations should incorporate basic concepts and specialized applications of continuous learning and improvement into health professionals' education, licensing, certification, and accreditation requirements.

Conclusion

The entrenched challenges of the U.S. health care system demand a transformed approach. Left unchanged, health care will continue to underperform; cause unnecessary harm; and strain national, state, and family budgets. The actions required to reverse this trend will be notable, substantial, sometimes disruptive—and absolutely necessary.

The imperatives are clear, but the changes are possible—and they offer the prospect for best care at lower cost for all Americans. 

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The Institute of Medicine serves as adviser to the nation to improve health.

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Best Care at Lower Cost

The Path to Continuously Learning Health Care in America

The *Best Care at Lower Cost: The Path to Continuously Learning Health Care in America* report offers findings, conclusions, and recommendations for implementation by key stakeholders to achieve a health care system that is consistently reliable and that constantly, systematically, and seamlessly improves.

TABLE: Characteristics of a Continuously Learning Health Care System

Science and Informatics
<ul style="list-style-type: none"> • Real-time access to knowledge—A learning health care system continuously and reliably captures, curates, and delivers the best available evidence to guide, support, tailor, and improve clinical decision making and care safety and quality. • Digital capture of the care experience—A learning health care system captures the care experience on digital platforms for real-time generation and application of knowledge for care improvement.
Patient-Clinician Relationships
<ul style="list-style-type: none"> • Engaged, empowered patients—A learning health care system is anchored on patient needs and perspectives and promotes the inclusion of patients, families, and other caregivers as vital members of the continuously learning care team.
Incentives
<ul style="list-style-type: none"> • Incentives aligned for value—In a learning health care system, incentives are actively aligned to encourage continuous improvement, identify and reduce waste, and reward high-value care. • Full transparency—A learning health care system systematically monitors the safety, quality, processes, prices, costs, and outcomes of care, and makes information available for care improvement and informed choices and decision making by clinicians, patients, and their families.
Culture
<ul style="list-style-type: none"> • Leadership-instilled culture of learning—A learning health care system is stewarded by leadership committed to a culture of teamwork, collaboration, and adaptability in support of continuous learning as a core aim. • Supportive system competencies—In a learning health care system, complex care operations and processes are constantly refined through ongoing team training and skill building, systems analysis and information development, and creation of the feedback loops for continuous learning and system improvement.