Best Care at Lower Cost
The Path to Continuously Learning Health Care in America

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Best care at lower cost
The path to continuous learning health care in America

• **Challenge context** – irrationality, quality, costs, complexity

• **Why now?** – costs, complexity, computing, CQI, culture, policy

• **The vision** – a continuously learning health system

• **The path** – digital infrastructure, care improvement tools, supportive policy

• **CCC leadership** – networks, tools, people, policy

• **IOM synergy** – leadership Roundtable, Innovation Collaborative projects
Imagine

These sectors operating like health care

- **Banking** – ATM transactions slowed by misplaced records

- **Home building** – carpenters, electricians, and plumbers all working independently and with different blueprints

- **Retail stores** – no product prices posted, and charges varying widely by method of payment

- **Auto manufacturing** – no warranties for defects or product line quality assessment

- **Airline travel** – pilots all designing their own pre-flight safety checks
Imagine

Health care operating with best sector practices

- **Records** immediately updated and available for use by patients.
- **Care delivered** proven reliable at the core and tailored at the margins.
- **Patient and family needs** and preferences a central part of the decision process.
- **Team members** all fully informed in real time about each other’s activities.
- **Prices and costs transparent** to all participants.
- **Payment incentives** structured to reward outcomes and value, not volume.
- **Errors** promptly identified, reported, and corrected.
- **Continuous improvement** based on real-time practices and outcome monitoring.
Challenge context

• Quality
• Costs
• Complexity
Challenge context

• **Quality** – *persistent shortfalls*
Quality

• **Patient harm** – One-fifth to one-third of hospital patients harmed during their stay, largely preventable.

• **Recommended care** – Only about half of recommended preventive, acute, and chronic care actually delivered.

• **Outcome shortfalls** – If care quality matched highest statewide performance, there would have been 75,000 fewer deaths nationally.
Challenge context

• **Costs:** unsustainable levels, waste
Costs

Absolute, relative, wasted, opportunity

- **Absolute expenditures** – $2.6 trillion 18% GDP
- **Relative expenditures** – 76% increase health costs in past 10 years, overwhelming the 30% gain in personal income
- **Wasted expenditures** – $750 billion (2009)
- **Opportunity costs** – e.g. total waste could pay salaries of all first response personnel for 12 years – and fund a great deal of biomedical research.
Challenge context

• **Complexity**: exponentially increasing
Complexity
Increasing information

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Complexity

Diagnostic factors in play per person

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Complexity

Treatment factors in play per person

- More conditions – e.g. 79 year old patient with 19 meds per day for osteoporosis, diabetes, hypertension, and COPD

- More clinicians – e.g. over 200 other doctors are also providing treatment to the Medicare patients of an average primary care doctor

- More choices – e.g. for prostate cancer: watchful waiting, laparoscopic or robotic assisted surgery, brachytherapy, IMRT, proton beam therapy, cryotherapy, androgen deprivation therapy

- More activities – e.g. ICU clinicians with 180 activities per person, per day
An all-too-typical experience

Representative timeline of a patient’s experiences in the U.S. health care system

Less than 50% of elderly patients are up to date on clinical preventive services

Elderly patients with co-morbidities require up to 19 medication doses daily

Every year the average elderly patient sees 7 doctors across 4 practices

Nurses
Doctors
Allied Health

Average surgery patient is seen by 27 different health care providers

1 out of 5 elderly patients are readmitted within 30 days

Less than half of non-surgical patients follow-up with their primary care provider after discharge

Preventive  Self Management  Outpatient Care  Hospital  Follow-Up

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Why now?

New Tools

• Computing
  • Better connectivity to information and among participants
  • Stronger processing capacity for new knowledge

• System performance improvement tools

• Patient-clinician culture change strategies in play

• Policy levers for incentives, transparency, accountability, engagement
The vision
A continuously learning health care system

• **Science and informatics**
  - Real-time access to knowledge
  - Digital capture of the care experience

• **Patient-clinician partnerships**
  - Engaged, empowered patients

• **Incentives**
  - Incentives aligned for value
  - Full transparency

• **Culture**
  - Leadership-instilled culture of learning
  - Supportive system competencies
The vision
Moving from the linear
The vision

Moving from the linear
The vision

Moving from the linear

Science → Evidence → Care
The vision

From missed opportunities, waste, and harm
The vision
To continuous learning, best care, lower cost
The path

- Foundational elements
- Care improvement targets
- Supportive policy environment
The path

Foundational elements

- **The digital infrastructure** – Improve the capacity to capture clinical, delivery process, and financial data for better care, system improvement, and creating new knowledge.

- **The data utility** – Streamline and revise research regulations to improve care, promote the capture of clinical data, and generate knowledge.
The path

Care improvement targets

- **Clinical decision support** – Accelerate integration of the best clinical knowledge into care decisions.
- **Patient-centered care** – Involve patients and families in decisions regarding health and health care, tailored to fit individual preference.
- **Community links** – Promote community-clinical partnerships and services aimed at managing and improving health at the community level.
- **Care continuity** – Improve coordination and communication within and across organizations.
- **Optimized operations** – Continuously improve health care operations to reduce waste, streamline care delivery, and focus on activities that improve patient health.
The path

Supportive policy environment

- **Financial incentives** – Structure payment to reward continuous learning and improvement in the provision of better care at lower cost.

- **Performance transparency** – Increase transparency on health system performance.

- **Broad leadership** – Expand commitment to the goals of a continuously learning health care system.
CCC leadership

• Networks
• Tools
• People
• Policy
CCC leadership

Bringing transformational research to practice

• **Networks** – e.g. technical assistance in expanding distributed research networks and innovative research methods; development of virtual learning community for knowledge generation in ACO’s.

• **Tools** – e.g. development of “big data” mining tools and strategies through industry-HCO-payer-public partnerships (NIH, NSF, DARPA, Hughes, Google, Microsoft, IBM, Amazon, insurers, etc); models for computing-based care coordination.

• **People** – e.g. democratization of data-driven medicine through mobile computing and construct of user-friendly data access/interpretation Apps; models for clinic-community approaches for identification and treatment of high-risk resource-intensive patients.

• **Policy** – e.g. data quality/standards/interoperability strategies and testing; citizen-level support strategies for reducing barriers to building a cloud-based clinical data research trust; fostering “information donor” initiative; strategies to reward provider organizations generating reliable knowledge from routine clinical care; prominent emphasis on continuous learning as centerpiece of evolving clinical research paradigm.
IOM synergy

IOM Roundtable on Value & Science-Driven Health Care

- Health professionals – Best Practices Innovation Collaborative
- Evidence-messaging – Evidence Communication Innovation Collaborative
- Digital infrastructure – Digital Learning Collaborative
- Clinical research – Clinical Effectiveness Research Innovation Collaborative
- Value enhancement – Value Incentives Learning Collaborative
- System optimization – Systems Engineering for Health Innovation Collaborative
Learn more at…

iom.edu/bestcare