Achieving a Learning Health System

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The vision
A continuously learning health care system

In the learning health care system, science, informatics, incentives, and culture are aligned for continuous improvement and innovation—with best practices seamlessly embedded in the delivery process and new knowledge captured as an integral by-product of the delivery experience.
BEST CARE AT LOWER COST

The Path to Continuously Learning Health Care in America

INSTITUTE OF MEDICINE
OF THE NATIONAL ACADEMIES
Imagine

• **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, 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 others’ activities.
• **Prices and costs transparent** to all participants.
• **Payment incentives** reward outcomes and value, not volume.
• **Errors** promptly identified, reported, and corrected.
• **Continuous improvement** based on real-time practices and outcome monitoring.
New tools and levers

Capacity changes since 2000

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

- Systems/process improvement strategies spreading with increasing success

- Patient-clinician culture change strategies in play

- Policy levers for incentives, transparency, accountability, engagement
Committee recommendations

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.
Priorities for progress
Priority needs in moving to continuous learning health care

• **Informatics**
  - Seamless patient & family electronic portals
  - Real-time access to updated best practices
  - Digital capture, storage, and analysis of the care experience

• **Science**
  - Alternative study designs tailored to observational data and large simple trials
  - New science of mega-database structure and analysis
  - Regulatory science reform: real-time tools and phased introduction protocols
  - Strategy moving from registries and distributed data to global clinical data trust

• **Incentives**
  - Core quality, cost, health metrics at HCO, city, regional levels
  - Advances in transparency (reliable reporting on care, costs, outcomes)
  - Incentives aligned for improving effectiveness/efficiency

• **Culture**
  - Democratization of care decisions, value, care improvement
  - Leadership-instilled culture of continuous learning
  - Supportive training and system competencies
National Academy of Medicine

Facilitative priorities

1. Foster a continuously learning health system
2. Steward Innovation Collaboratives
3. Link stakeholders in networks
4. Sharpen the assessment focus
"Care that is important is often not delivered. Care that is delivered is often not important. Improving the return on our healthcare investment is a vital imperative that will require quickening our efforts to position evidence development and application as natural outgrowths of clinical care—to foster health care that learns." (Consortium Charter, 2005)
Making a Difference ... in mapping progress

We seek the development of a learning health system in which science, informatics, incentives, and culture are aligned for continuous improvement and innovation, with best practices seamlessly embedded in the delivery process and new knowledge captured as an integral by product of the delivery experience.

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Foundation Stones for Transformation

Care Innovation
Caregiver Culture
Patient Engagement
Evidence Standards
Financial Incentives
Information Technology
Clinical Research
Clinical Data

Vision

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Motivating Challenges

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OUTCOMES
Lives saved • Health gained • People satisfied

VALUE

COSTS
Right care • Right price • Efficiently delivered

Science-Driven Healthcare

“By 2020, ninety percent of clinical decisions will be supported by accurate, timely, and up-to-date clinical information and will reflect the best available evidence and informed personal preference.” (Leadership Consortium Charter)

Collaborative Action

Value Incentives & Systems Innovation Collaborative

Care Culture and Decision-Making Innovation Collaborative

Clinical Effectiveness Research Innovation Collaborative

Digital Learning Collaborative

Issue Assessment Publications

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Where are we now?

- Digital technology acceleration (*marginal interoperability*)
- New research paradigms (*limited infrastructure*)
- Lean processing advances (*culture & incentive limits*)
- Focus shift from volume to value (*blurring in blueprint*)
- Strong measurement capacity (*duplicative and unfocused*)
- Democratized access to knowledge (*uncertain quality*)
- Patient & family readiness (*diffuse receptor sites*)
Leadership Consortium:
a Value & Science-Driven Health System

Sectors working together to transform effectiveness and efficiency

- Patients and the public
- Clinicians
- Health care delivery systems
- Insurance
- Research
- Product innovators (pharmaceuticals, devices, biologics)
- Regulators
- Information technology
- Public health
- Employers
Leadership Consortium
Collaborative action to reduce barriers and facilitate progress

• **Science**
  - Clinical Effectiveness Research Innovation Collaborative
  - Digital Learning Collaborative

• **Value**
  - Value Incentives Learning Collaborative
  - Systems Approaches for Health Innovation Collaborative

• **Culture**
  - Care Culture & Decision-making Innovation Collaborative

• **Cross-cutting change agents**
  - Patient & Family Leadership Network
  - Health System Executive Leadership Network
Leadership Consortium
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Example projects

- **Science**
  - Open science
  - Purchasing specs for interoperability
  - Patient demand for better evidence

- **Value**
  - Models of Care for High Need Patients
  - *Vital Signs*: Core measures for health and heal care

- **Culture**
  - Shared decision-making
  - Evidence compendium for patient & family engagement

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VA research benefits from....

- Digital technology progress acceleration
- Accelerated, more generalizable research
- Lean processing advances
- More streamlined, reliable measurement capacity
- Synergy among health system leaders
- Patient & family readiness participation
VA research contributions to...

- Success models for digital integration
- Lessons from new research paradigms
- CERIC working group participation
- Pilot application of patient/family compendium
- Pilot participation on Vital Signs
- Advances in bidirectional patient portals
VITAL SIGNS
Core Metrics for Health and Health Care Progress