Learning Healthcare Systems as Natural Laboratories Overview
Learning Healthcare Systems as Natural Laboratories Action Group

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The Learning Health Care System

“A system designed to generate and apply the best evidence for the collaborative healthcare choices of each patient and provider; to drive the process of discovery as a natural outgrowth of patient care; and to ensure innovation, quality, safety, and value in health care”

Adapted from IOM
Key Characteristics of the LHCS

Science and informatics
- Real time access to knowledge
- Digital capture of the care experience
- Well-curated data infrastructure

Patient clinician relationships
- Engaged, empowered patients
- Large and well-characterized patient population

Incentives
- Incentives aligned for value
- Investment of institutional resources over long term

Culture
- Leadership-instilled culture of learning
- Supportive system competencies

Adapted from Simon et al 2020

Psek et al 2015
A Long Way to Go

- IOM (2010): “by 2020 90% of clinical decisions will be supported by accurate, timely, and up-to-date clinical information, and will reflect the best available evidence”
**Research**

Activity designed to test a hypothesis, permit conclusions to be drawn, and thereby to develop or contribute to generalizable knowledge.

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**Practice - Patient Care**

Interventions / activities designed to enhance the well being of an individual patients and populations and/or the performance of institutions.

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**Research vs. Practice OR Practice-Based Research**
Defining the Scope

• Defining the LHS as a natural laboratory
  • What must be in place for an effective and efficient natural laboratory?
  • How do we sustain partnerships/embeddedness?

• Facilitating the transformation of systems into LHS / Natural Laboratories
  • What is needed to continue towards the 2020 goal?
  • What is feasible and attainable in small steps? What big leaps may be required?

• Developing actionable steps to keep moving forward
  • What are some early wins that can facilitate change if disseminated?
  • How to disseminate that information?
Example Ideas

- Toolkit or guidance for engaging leaders and matching system level priorities with evidence-based practices

- Toolkit or guidance for engaging clinicians and matching interventions and projects with clinical priorities relevant to specific health conditions

- Develop metrics and dissemination avenues for learnings internally and externally

- Guidance on utilizing the LHS – education or engagement for clinicians and leaders to experience the LHS process and gain practical knowledge over time to sustain/maintain engagement and develop towards deeper principles knowledge
Learning Healthcare Systems as Natural Laboratories Recap
Learning Healthcare Systems as Natural Laboratories

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LHS as Natural Laboratories

• IOM 2020 goal - “by 2020 90% of clinical decisions will be supported by accurate, timely, and up-to-date clinical information, and will reflect the best available evidence”
  • Making progress but a long way to go - variation in application/progression
  • Barriers at external, system, clinician, and patient level

• Interdisciplinary / Team focus:
  • Infrastructure may exist but not meaningful operationalization of it
  • Not all systems are integrated – how can other organizations apply LHCS principles
  • Lack of shared language, goals, and priorities

• Resourcing and incentivizing a LHCS
  • Monetary investment and shift in organizational culture required
  • Shift in research culture and funding required
  • What is the business case for transforming to a LHCS and embedding research/learning in different contexts (integrated systems, FQHCs)?
Major Ideas from Discussion

• LHCS is a continuum; a process rather than destination

  • Defining key features of a LHCS, the process and progress of different organizations evolving toward the LHCS vision, describing examples, identifying challenges and solutions

  • Explore how the concept can be operationalized in non-integrated systems, low resource delivery systems, other settings

  • Synthesizing unintended consequences and identifying potential solutions LHCSs in action (e.g., too much data, strained resources)
Major Ideas from Discussion

• **Implementation Science offers tools to facilitate and operationalize LHCS activities**
  • Invite system leaders from “advanced” LHCSs for panel at ISC3 to discuss experience, understanding, process, and goals for LHCS transformation and application of embedded research to improve patient care/system performance

• Guidance for how IS can work in collaboration with QI, systems engineering and other approaches already integral to clinical care in delivery systems
  • “how to” for system leaders to use the tools IS offers
  • Guidance for how IS augments these other approaches rather than being just another variation or label for them

• **Guidance / Assistance using IS tools in organizational prioritization/strategic planning**
  • Tools from IS can provide strategies to prioritize clinical problems in context
  • Tools and learnings from IS can provide guidance on what is likely to work (or not) in the system to address priority problem
Major Ideas from Discussion

• Bidirectional communication and true partnerships

  • Develop training/program to facilitate engagement of clinicians and system leaders with researchers AND researchers with clinicians and system leaders

    • Two-way listening and learning, win-win situations

    • Examples of successful partnerships leading to both local innovation/care improvement and contributions to scientific knowledge
Additional Ideas to Explore in Day Two

• Dissemination of learnings
  • Locally: How can IS / researchers help LHCS get unstuck or out of the continuous pilot phase
    • Facilitating better evaluation and dissemination / scale up of successful ideas
    • Moving on / de-implementation of ideas that didn’t work
  • Broadly: Moving beyond the bookshelf (researchers) – tools for disseminating learnings (QI) to other organizations with own contexts and resources that other organizations can actually learn from and apply locally rather than starting anew

• Provide examples for importance of champions (clinical and operational) and how they contribute to research and move research to practice

• Building the business case for LHS and embedded researchers (whether employed by the system or in partnership with system)