A 'learning health system' moves from idea to action

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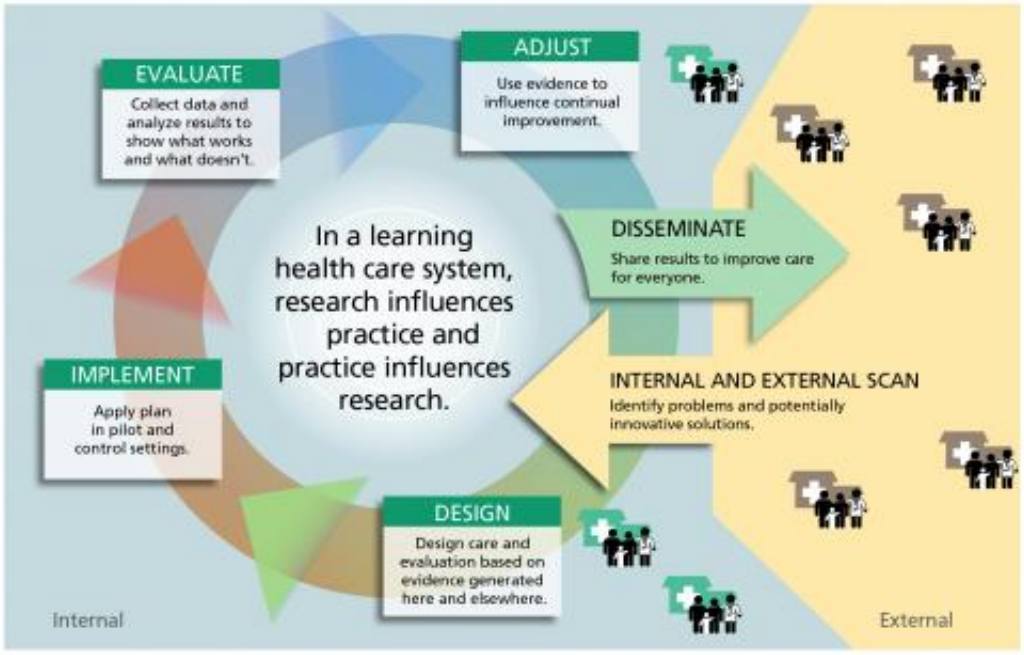

This information diagram shows how research and practice influence each other in a learning health system. Credit: Group Health Research Institute

In the United States, clinicians are struggling to provide better and more affordable health care to more people—while keeping up with new scientific developments. The idea of a "learning health system" is one proposed solution for rapidly applying the best available scientific evidence in real-time clinical practice. In the August 7 *Annals of Internal Medicine*, a Group Health Cooperative team describes the experience of

turning this intriguing concept into action.

"In a learning health system, evidence and practice come together in a virtuous cycle, influencing each other," first author Sarah M. Greene, MPH, said. "At Group Health, we strive to translate evidence into practice and policy quickly. At the same time, we try to align our research with the questions that clinicians and administrators need to answer ASAP."

Ms. Greene is a director of strategy and business development at Group Health, a nonprofit health system that provides care and coverage in Washington state. She is also an affiliate investigator at Group Health's research arm, Group Health Research Institute. Her coauthors were Robert J. Reid, MD, PhD; Group Health's associate medical director for research translation and an associate investigator at Group Health Research Institute; and Eric B. Larson, MD, MPH, Group Health's vice president for research and Group Health Research Institute's executive director.

"Researchers and clinicians are realizing that innovation is not enough to fix the nation's health care system," Dr. Larson said. "We need to move innovations immediately into real-world health care settings, and learning health systems are a way to do this."

Strong leadership support and a growing partnership between research and clinical operations have made it possible for Group Health to evolve as a learning health system, Ms. Greene explained. This partnership has fostered a culture and an infrastructure to facilitate rapid learning.

"Ongoing communication, engagement, and flexibility are essential," Dr. Reid said. "The learning system always asks, 'how can we keep improving?'"

This shared ongoing commitment to leverage scientific knowledge and evaluate changes in real time for rapid, point-of-care improvements has enabled Group Health to move various innovations forward in recent years:

- Patient-centered "medical home" primary care teams at each of its 25 medical centers
- More judicious prescribing of long-term opioids for chronic noncancer pain
- Shared decision making to ensure that treatments are more consistent with patients' values and preferences
- Studying high-end imaging (e.g., CT scans) throughout the organization, with the ultimate goal of performing these tests when really needed
- Value-based benefit design, using incentives and disincentives to steer patients toward the most effective, evidence-based services—and away from unproven ones

"Too often, researchers and clinicians operate in separate worlds, with different time horizons," Ms. Greene said. Although the pace of research is accelerating, she added, it is still far slower than the urgent time frame inherent in clinical care.

"Researchers who seek to improve care should reconsider spreading our findings only through journal articles and conference presentations," she said. "We need to think carefully about dissemination tools that really work well for reaching clinical leaders." Broader internal and external dissemination includes newsletters, trade publications, websites, reports in the media, and meetings with stakeholders including patients, clinicians, and administrators.

Like the other 18 members of the HMO Research Network, Group

Health is a care-delivery system that has its own research arm (Group Health Research Institute). Operating both clinical and research functions makes it easier for a health organization to become a learning health system, Ms. Greene said. So do recent developments in health information technology and a growing health data infrastructure to access and apply evidence in real time.

The Institute of Medicine (IOM) defines a learning health system as "one in which progress in science, informatics, and care culture align to generate new knowledge as an ongoing, natural byproduct of the care experience, and seamlessly refine and deliver best practices for continuous improvement in health and health care." Ms Greene and Dr Larson participated in proceedings at the IOM that ultimately developed these ideas.

"The nation's investment in medical research demands that we do more with the knowledge we generate," the authors conclude in their Annals article. "Rapid-learning health systems can ensure return on that investment."

Provided by Group Health Research Institute

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