Health System Engagement:
A Key Feature for Research to Benefit Patient Care

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# The "learning health system" concept

Vision from the National Academy of Medicine (formerly IOM):

- Research happens closer to clinical practice than in traditional university settings.

- Scientists, clinicians, and administrators work together.

- Studies occur in everyday practice settings.

- Electronic medical records are linked and mined for research.

- Recognition that clinical and health system data exist for the public good.

Summary: Evidence informs practice and practice informs evidence.

- "Crossing the Quality Chasm": Are learning health systems the key?

Our previous conceptualization of the LHS
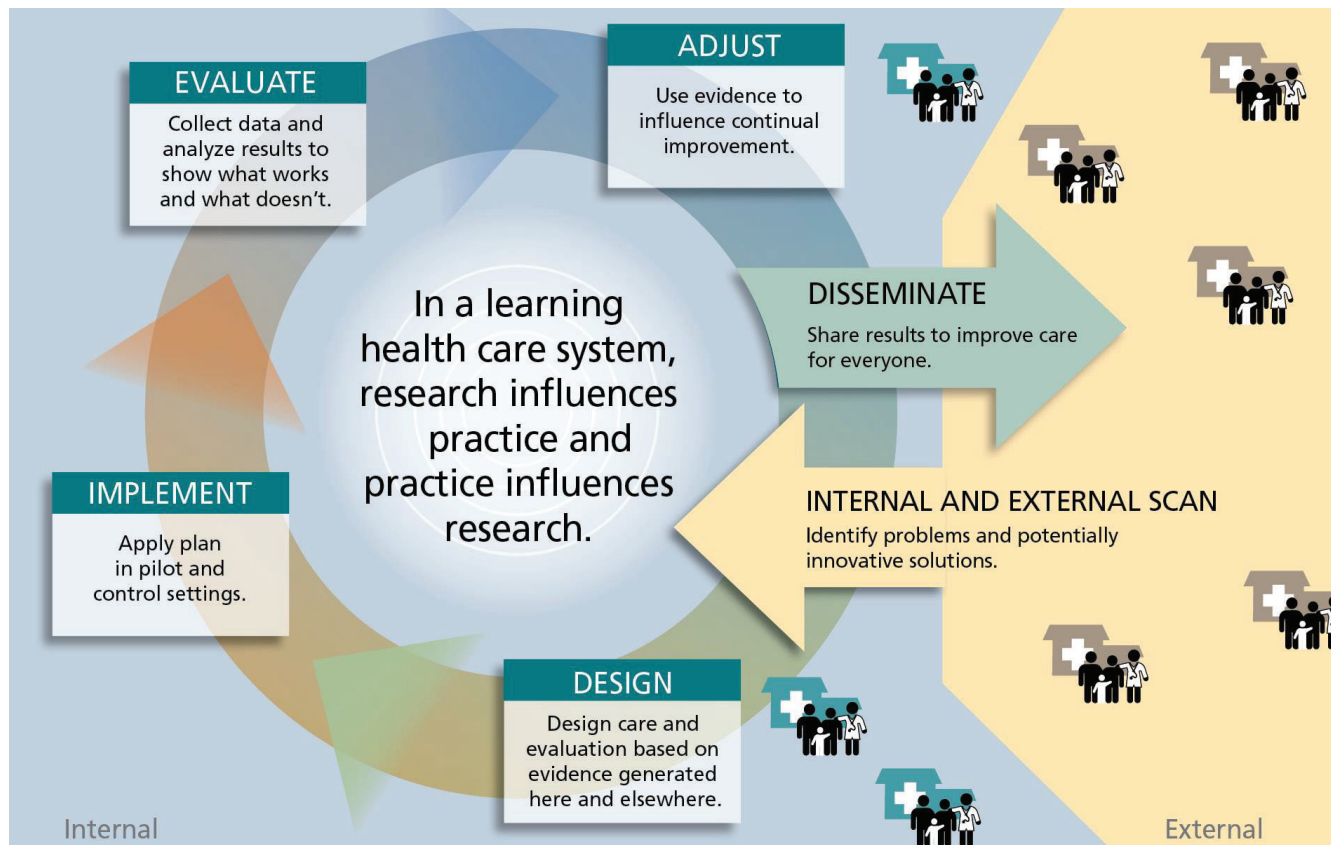
Remember the "patient-centered medical home" model of care?

That experience informed this model, which was probably insufficient.

What have we learned to support engagement between research teams and system partners?

- Continuously evaluate, document, and track so learning can be adapted and replicated.

- Establish relationships early and nurture trust. Understand each other's goals and priorities.

- Develop solutions and sustainable resources together.

"The purpose of the health care system is not to do research, but to provide good health care. Researchers have a wagging-the-dog problem. We assume if we think something is a good idea the health care system will, too. We need to remember that we're the tail and the system is the dog."

--Greg Simon, MD, MPH
(SPOT suicide prevention trial)

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What key strategies promote implementation within learning health systems?

We asked 9 NIH Collaboratory pragmatic clinical trials:

"For trials where designed outcomes were achieved, how did you design and roll out your trials in ways that would lead to successful implementation of results?"

Summarized in Tuzzio, L, Healthcare, https://doi.org/10.1016/j.hjdsi.2018.12.003

5 building blocks emerged:

Plan for dissemination and implementation.

Build (or strengthen) relationships & nurturing, trusting partnerships.
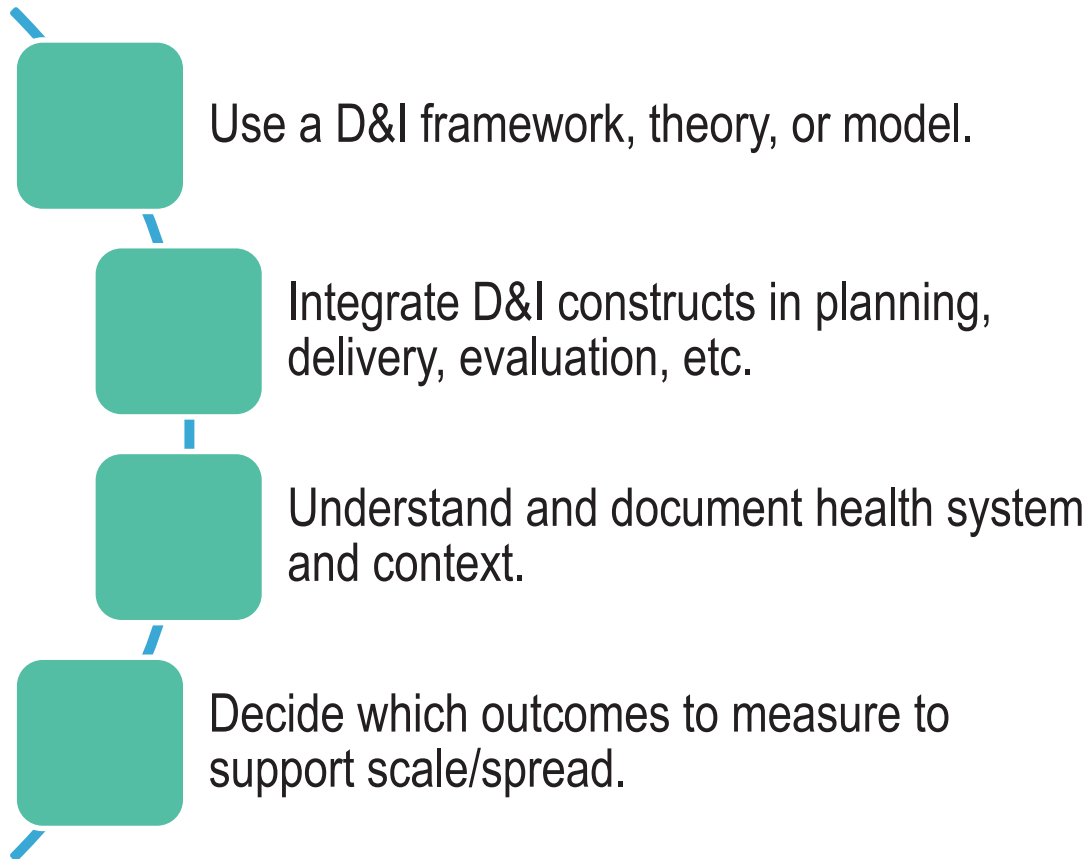
Collaborate and co-design.

Pilot test, evaluate, & continuously improve.

Build sustainable infrastructure and resources.

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Plan for dissemination and implementation

Use a D&I framework, theory, or model.

Integrate D&I constructs in planning, delivery, evaluation, etc.

Understand and document health system and context.

Decide which outcomes to measure to support scale/spread.

"In addition to studying health outcomes, it is especially important in pragmatic trials to also study implementation outcomes since acceptability, feasibility, and appropriateness predict adoption."

Bev Green, MD, MPH, Kaiser Permanente Washington

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Build (or strengthen) relationships and nurture trusting partnerships

Set expectations to work collaboratively.

Include multiple disciplines and areas of expertise.

Expect roadblocks and be flexible.

Maintain communication.

"Build relationships with health systems early. It's like dating; you need to date before you get engaged."

--Jerry Jarvik, MD, MPH
Univ. of Washington

"There can be incredible delay and waste if people don't trust each other. It's inevitable there will be challenges, even if you assume the best intentions."

--Doug Zatzick, MD,
Univ. of Washington

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Collaborate and co-design

- Ask how the pragmatic trial can add value to the health system.

- Learn about each other's goals, priorities, needs, and motivations.

- Understand what a "win" looks like on both sides.

- Anticipate potential pain points and competing priorities.

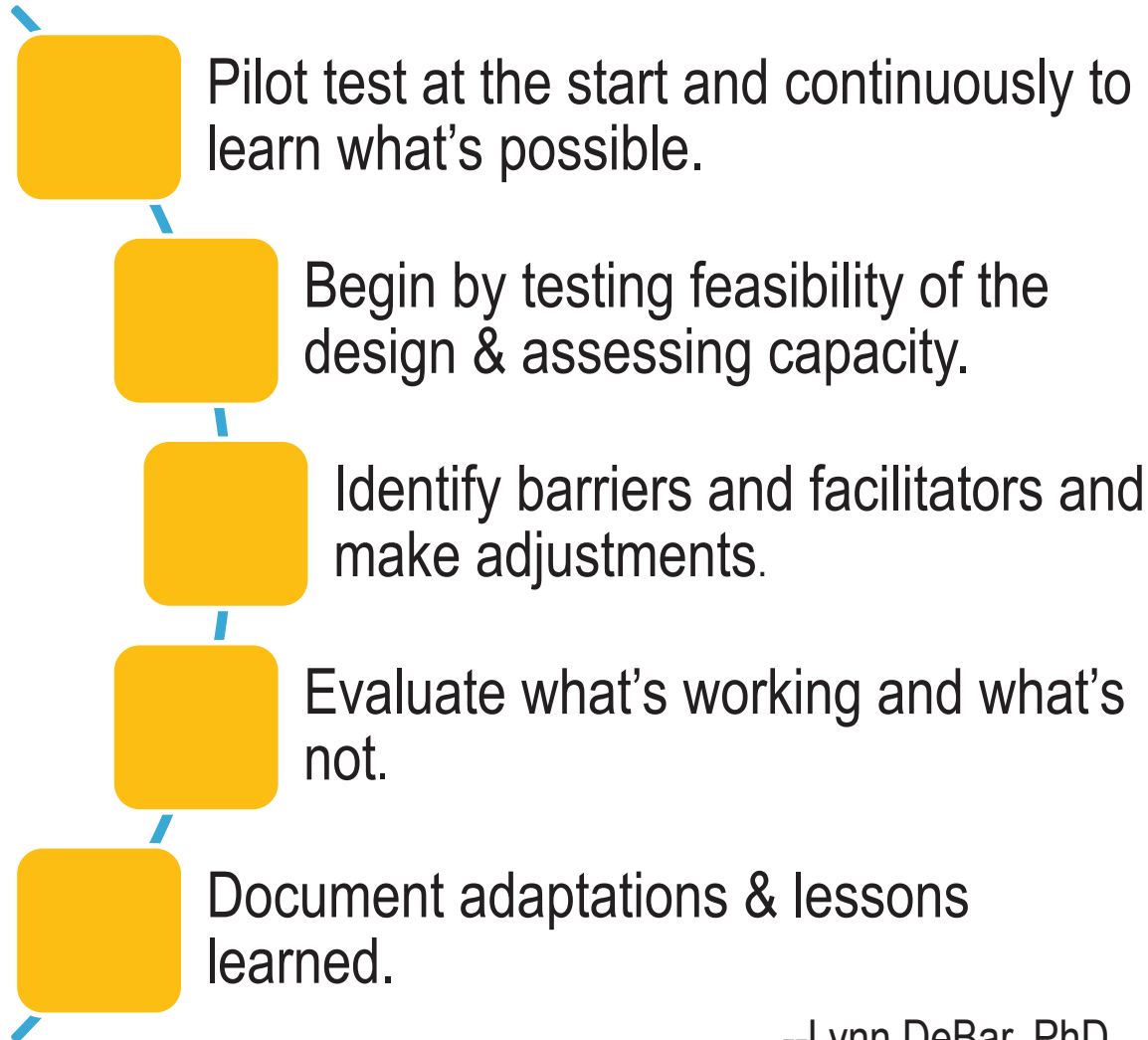- Co-design study materials, workflows, and processes.

Miguel Vazquez, MD, Univ. of Texas

"Our trial is guided by Van de Ven's concept of 'engaged scholarship' where Knowledge is co-created via continuous collaboration."

--Greg Simon, MD, MPH, Kaiser Permanente Washington

"Each system is going to implement the trial in a slightly different way that works best for them and their workflows."

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Pilot test, evaluate, and continuously improve

Pilot test at the start and continuously to learn what's possible.

Begin by testing feasibility of the design & assessing capacity.

Identify barriers and facilitators and make adjustments.

Evaluate what's working and what's not.

Document adaptations & lessons learned.

"A pilot study helps set the groundwork for conversations and understanding the context."

--Jerry Jarvik, MD, MPH, Univ. of Washington

"Different from a randomized controlled trial, PCTs use an iterative process and include a lot of refinement."

--Lynn DeBar, PhD, Kaiser Permanente Washington

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Build sustainable infrastructure and resources

Collaboratively build infrastructure for continued use.

Integrate with existing processes to optimize design and rollout of study protocol.

Increase capacity to learn, grow, adapt, and sustain.

"Give the clinicians and staff the opportunity to have a positive learning experience with research by giving them the tools they need. If a trial is successful, we can create a generalizable toolkit for sharing with other health care facilities and systems for broader dissemination and implementation."

--Edward Septimus, MD
HCA

"The more complicated the intervention is to existing workflow, the more difficult it is to get compliance."

--Vincent Mor, PhD
Brown University

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Fields now converging to support health system learning

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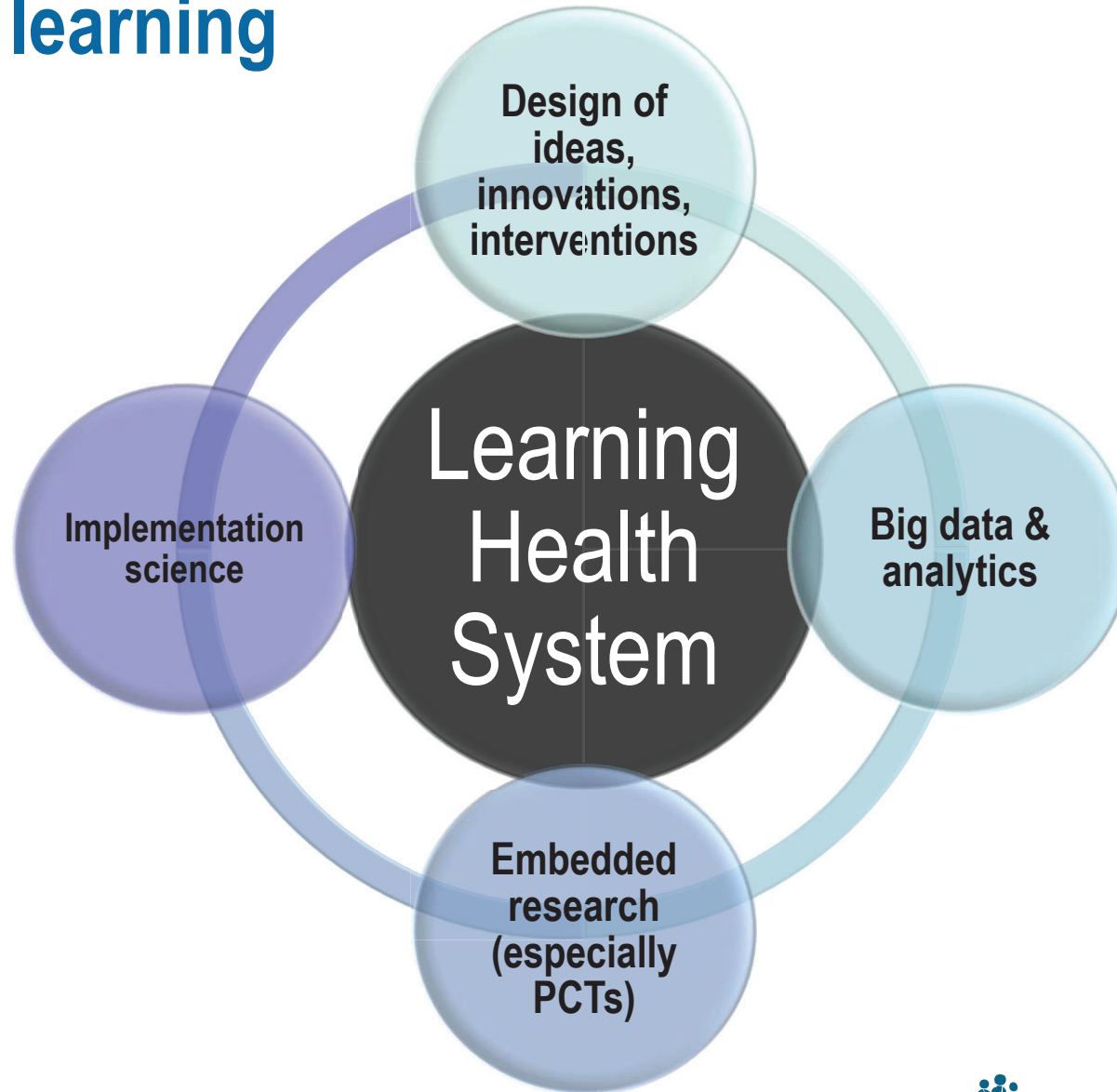
Closing the implementation gap

- When clinical trials are developed in pragmatic ways—based on good relationships between providers and researchers--the chances of solid implementation are much higher.

- Pragmatic clinical trials will close the gap.

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