



Innovating Education for Better Health

February 17, 2021
Virtual Talking Circle
Evidence to Practice Gap

Virtual Talking Circles to Date

**JOIN OUR
VIRTUAL TALKING CIRCLE**



a space for community dialogue on
creative ideas, novel experiments, and best practices in
health sciences education

Topics: *“Innovation in a Time of Crisis”, “Virtual Communities of Practice”, “Virtual Care”, “Learners as Co-producers”, “Anti-Racism as an Innovation”, “Intelligent Risk-Taking”, “Failure”, “Why Vision?”, “RISE Vision”, “Innovation Systems”*

Future: 3/18, 4/15

Share Your Thoughts on
Health Science Education
Innovation at Michigan
Medicine via our
Innovation Culture Survey.

RISE

Innovating Education for Better Health



PERSPECTIVE

Mind the Gap: Putting Evidence into Practice in the Era of Learning Health Systems

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Due to the increasing amount of available published evidence and the continual need to apply and update evidence in practice, we propose a shift in the way evidence generated by learning health systems can be integrated into more traditional evidence reviews. This paper discusses two main mechanisms to close the evidence-to-practice gap: (1) integrating Learning Health System (LHS) results with existing systematic review evidence and (2) providing this combined evidence in a standardized, computable data format. We believe these efforts will better inform practice, thereby improving individual and population health.

KEY WORDS: health care delivery; evidence-based medicine; implementation research; systematic reviews; health information technology

standardized computable forms so it can be efficiently and effectively assimilated to inform practice.

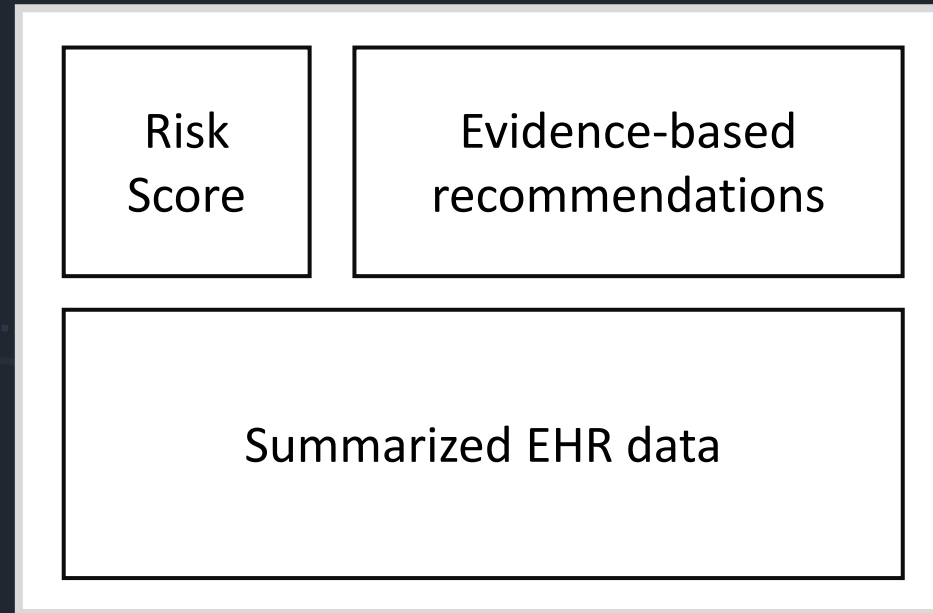
The Learning Health System (LHS), first envisioned by the Institute of Medicine in *Crossing the Quality Chasm* (2001) and re-expressed in 2007,² described the generation of evidence as a by-product of care delivery and application of that evidence to support continuous improvement, evidence-based care delivery, and population management. As such, the LHS concept requires that evidence generation not be an end in itself; efforts to generate evidence must be accompanied by equally emphasized efforts to apply it to improve health. Currently, there are no pathways for harvesting new evidence, produced by LHSs or any other methods, besides publication

Evidence-to-Practice Gap: Detecting Heart Failure in Preoperative Care

Hyeon Joo, PhD Student

Department of Learning Health Sciences

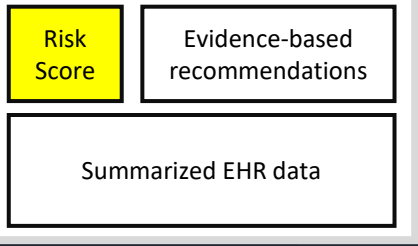
Conceptual Clinical Decision Support Tool



1. AI-based Predicted Risk Scores (Prediction)
2. Evidence-based Recommendations (Computable Knowledge)
3. Risk Indicators from synthesized EHR data (Summarization)



Knowledge Implementation Gap



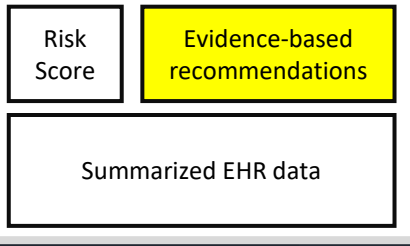
- Knowledge may/may not exist, but not adopted in clinical practice
- E.g., Revised Cardiac Risk Index (RCRI)

Table 4. Heart Failure (HF) Evaluation Definitions of the Different Cardiac Risk Indices

	Original ¹³	Modified ¹⁵	Revised ¹⁶
Preoperative history	Not indicated	Respiratory distress relieved by diuretics	History of HF, pulmonary edema, or PND
Preoperative physical signs	S3 gallop JVD: elevation >12 cm above the fourth intercostal space in midaxillary line	S3 gallop JVD: >3-cm vertical distance above the sternal angle with patient at 45° angle	S3 gallop Bilateral rales
Preoperative studies	CXR with pulmonary venous congestion	CXR with pulmonary edema	CXR with pulmonary vascular redistribution
Postoperative diagnosis of HF	Pulmonary edema with classic CXR changes or respiratory distress and rales at least three hours after surgery way up the lung fields that improved promptly with diuretic therapy 1977	New or worsened HF, new respiratory distress, S3 gallop, JVD, and CXR with pulmonary edema or redistribution 1986	Pulmonary edema on CXR in a plausible clinical setting 1999

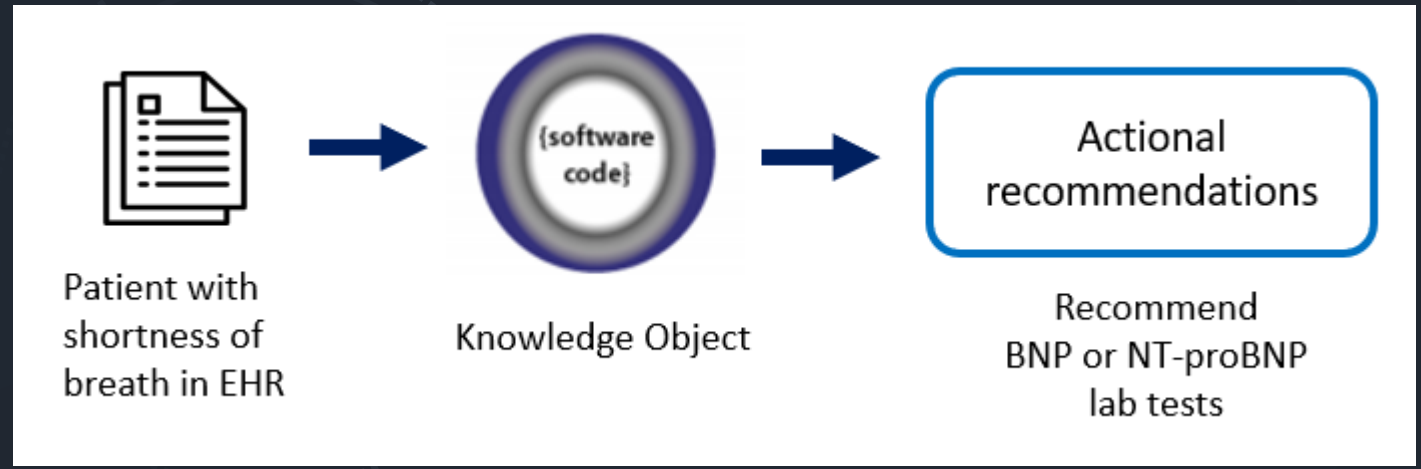
> 20 years gap

- My focus is on applying data-driven approaches (AI/ML) to detect patients with HF or at high risk, and integrating them into the CDS tool



✓ Evidence-Based Practice Gap

- Aware of HF guideline and adopted, but *adherence* to the guideline is not clear
- E.g., BNP or NT pro-BNT Lab




- My focus is on developing **computable knowledge** to suggest HF recommendations, and integrating them into the CDS tool



THANK YOU

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ADOLESCENT HEALTH INITIATIVE **M** | MICHIGAN MEDICINE

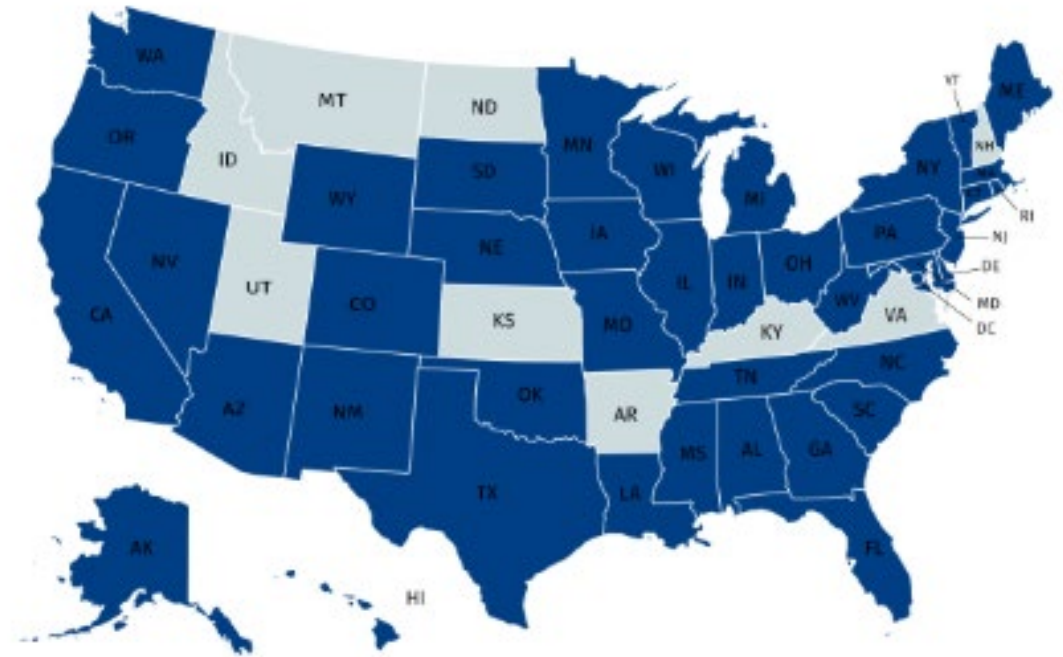
Jenni Lane, Senior Program Manager (she/her/hers)

MISSION

To advance innovative adolescent-centered health care through practice improvement, education, research, and youth and community engagement.

VISION

To transform the health care landscape to optimize adolescent and young adult health and well-being.



WHAT WE KNOW



WHAT WE DO

- USPSTF and other national guidelines
- *Results of a National Text Message Poll of Youth: Perspectives on Primary Care*

- **Feedback** from site partners, adolescent patients
- **Input** from subject matter experts, medical directors, youth council, other stakeholders

Implement best practices for program development in our design

- *Switch: How to Change Things When Change Is Hard* (Heath)
- Knowles's adult learning theory; active learning; MI
- Plan/Do/Study/Act

Design intervention format to fit intensity and audience

- **High intensity:** Adolescent Champion teams form communities of practice; PDSA + coaching
- **Mid-low intensity:** Actionable toolkits, MOC-IV projects, CME professional development modules, replicable 15-minute Spark trainings for all staff + providers
- Annual Conference on Adolescent Health

Power Meeting: Low intensity w/elements from high intensity EBIs

- Web-based module is structure for one-hour meeting (LOW)
- Interdisciplinary team
- "Peer provider" and youth video vignettes
- Personalized SMART action steps -> work plan

What our partners do:

