February 17, 2021
Virtual Talking Circle
Evidence to Practice Gap
Virtual Talking Circles to Date


Future: 3/18, 4/15
Share Your Thoughts on Health Science Education Innovation at Michigan Medicine via our Innovation Culture Survey.
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,\textsuperscript{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
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>
<thead>
<tr>
<th>Year</th>
<th>Original Risk Score</th>
<th>Modified Risk Score</th>
<th>Revised Risk Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1977</td>
<td>S3 gallop</td>
<td>Respiratory distress relieved by diuretics</td>
<td>History of HF, pulmonary edema, or PND</td>
</tr>
<tr>
<td>1986</td>
<td>JVD: elevation &gt;12 cm above the fourth intercostal space in midclavicular line</td>
<td>S3 gallop, JVD: &gt;3-cm vertical distance above the sternal angle with patient at 45° angle</td>
<td>S3 gallop, Bilateral rales</td>
</tr>
<tr>
<td>1999</td>
<td>CXR with pulmonary venous congestion</td>
<td>CXR with pulmonary edema</td>
<td>CXR with pulmonary vascular redistribution</td>
</tr>
</tbody>
</table>

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-BNP 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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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

- 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

WHAT WE DO

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