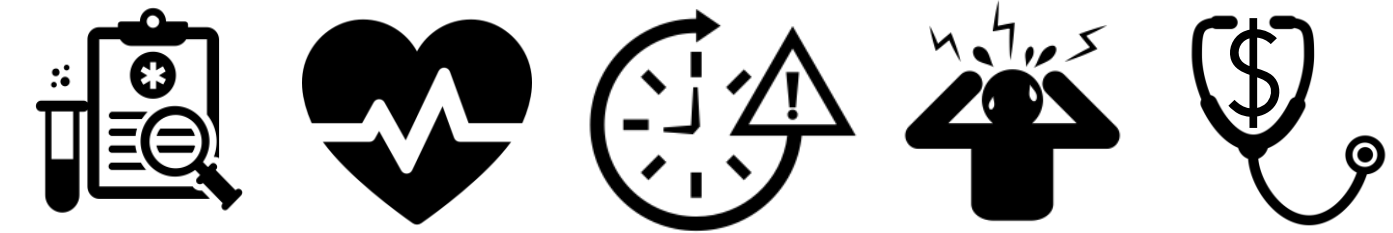


# Development of strategies to de-implement low-value pre-operative testing: the use of a research-practice partnership as a model to design & deliver high-value care

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## Background

- De-implementation of low-value care represents an opportunity to reduce patient burden, re-purpose limited clinician time, & increase healthcare system efficiency.
- This is particularly true in the pre-operative space, where testing is highly variable & often low-value, & can lead to burden, delays, & financial waste.
- Despite recommendations to avoid it, unnecessary testing remains common and de-implementation efforts have been limited.
- Research-practice partnerships present a unique opportunity to intervene & strategically address complex value-based topics.

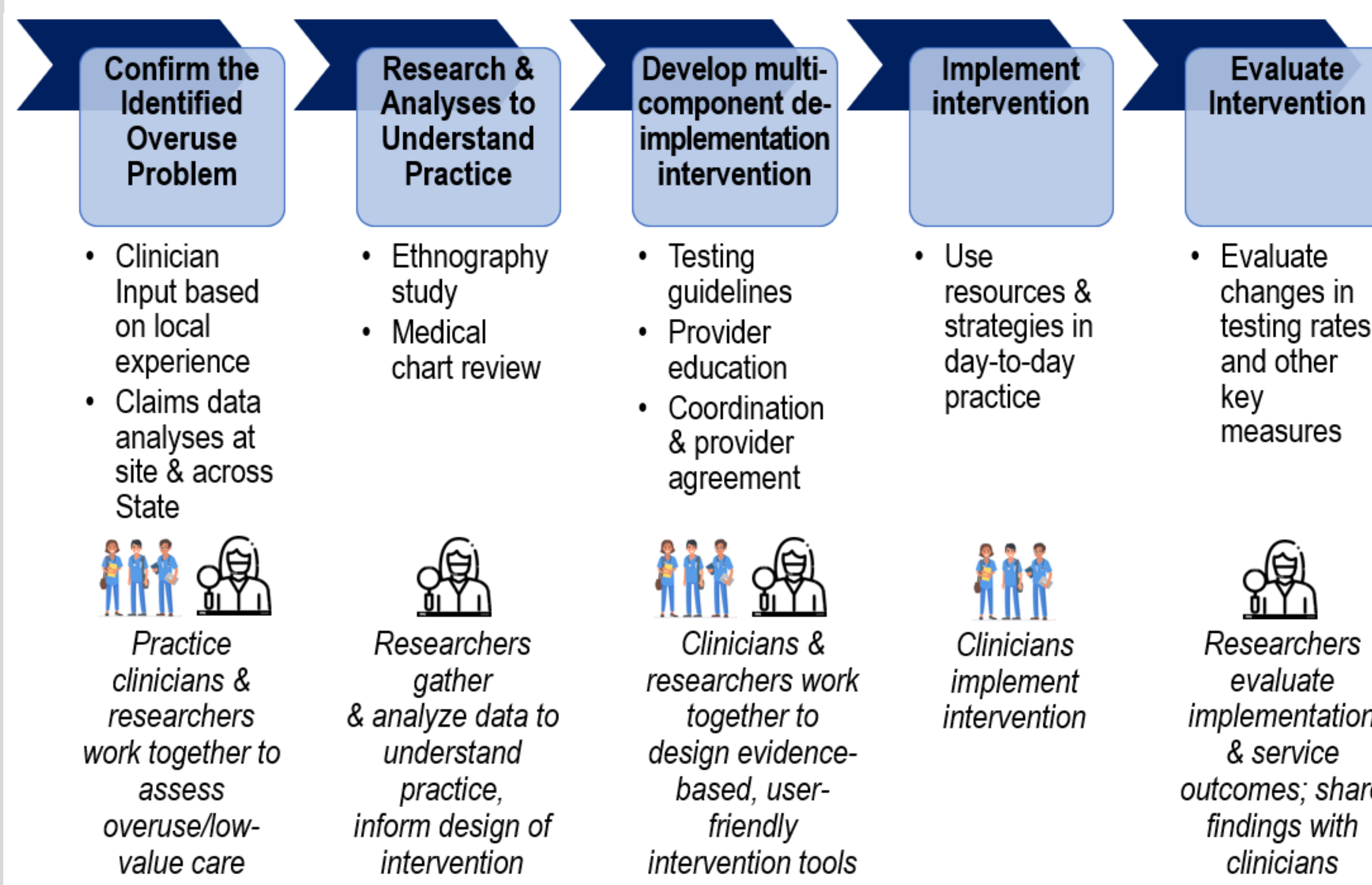


## Objective

- This research-practice partnership applied research methods to the development of a multi-component quality improvement intervention to de-implement low-value pre-operative tests.
- Three low-risk surgeries (lumpectomy, inguinal hernia repair, and laparoscopic cholecystectomy) were targeted.

## Methods

- This model employed multiple information gathering methods to inform the design a multi-component quality improvement intervention to de-implement low-value pre-operative testing. (Figure 1).
  - First, clinician input was gathered regarding current pre-operative testing practices.
  - Second, common pre-operative tests (CBCs, BMP/CMPs, EKGs) and low-risk surgeries (lumpectomy, inguinal hernia repair, laparoscopic cholecystectomy) were identified as candidates for intervention.
  - Third, statewide claims data was analyzed to assess testing utilization & variation.
  - Fourth, research methods were used to gain knowledge of practice patterns; methods included a medical chart review that assessed testing appropriateness & an ethnographic study that engaged 30 clinicians.
  - Fifth, the intervention was designed based on these learnings, available data, identification of Tailored Implementation in Chronic Diseases (TICD) factors, implementation mapping to align strategies with barriers, and the creation of tools & resources.



## Results

- These results summarize how activities led to development & implementation of a multi-component intervention.

Step	Activity: Method of Learning & Development	Research Practice Partnership	Results
Confirm Identified Overuse Problem	Anecdotal input from leading clinicians that overuse occurs and may be common practice	Practice	Surgeons and other clinicians confirmed that pre-operative tests are likely overused, potentially due to lack of clear recommendations or standardization
	Analysis of statewide claims data regarding pre-operative tests before 3 low-risk target surgeries	Research	Pre-Op testing rates for low-risk surgeries range from 8-85% across Michigan Testing before low-risk procedures is common, with >50% of patients undergoing at least 1 test
Research & Analyses to Understand Practice	Ethnographic study to identify determinants of low-value testing before low-risk surgery; this included interviews with 30 clinicians in surgery, anesthesia, and the pre-operative clinic	Research learning from Practice	Safety and evidence-based medicine are shared, prioritized values for clinicians Ethnography revealed three themes: 1) Shared Values (TICD Social, Political, and Legal Factors), 2) Gaps in Knowledge (TICD Individual Health Professional Factors, Guideline Factors), and 3) Communication Breakdown (TICD Professional Interactions, Incentives and Resources, Capacity for Organizational Change)
	Chart review to assess appropriateness of pre-operative testing for patients undergoing 3 low-risk target surgeries	Research learning about Practice	A large proportion of pre-operative tests were not in line with guideline recommendations: 69% of CBCs, 59% of BMP/CMPs, and 43% of EKGs were unnecessary The ordering providers vary across surgeons & pre-operative clinic clinicians
Develop multi-component intervention	Design strategic intervention based on learnings & data, conduct implementation mapping to align strategies with barriers, and create intervention tools & resources	Research & Practice working together	Intervention components Recommended testing guidelines Provider education Coordination of agreement & consistency across surgery, anesthesia, & the pre-operative clinic The potential for peer led audit & feedback regarding unnecessary testing outliers
Implement intervention	Implementation of the intervention is ongoing	Practice	Used designed intervention, resources, tools, and strategies in day-to-day practice
Evaluate Impact	Evaluation of the intervention is ongoing	Research (findings to be shared with Practice)	Planned evaluation components Pre-operative testing rates by clinician, surgery, and surgical division Adoption at onset Sustainability over time

## Conclusions

- Research-practice partnerships facilitate collaborative alignment of local quality improvement efforts with more robust analytical concepts & implementation science strategies.

## Clinical Implications

- Specifically, this intervention has can potentially reduce low-value pre-operative testing rates.
- Research-practice partnerships can maximize the impact of both small & large scope de-implementation interventions.
  - Locally: implementation science & research methods enhance quality improvement efforts through data analysis, enhanced learnings about practice patterns, & strategic application of interventions to barriers.
  - Broadly: the practice perspective provides local knowledge to help more efficiently adapt spread to other sites.

## Contacts & Disclosures

- There are no relevant conflicts of interest to disclose.
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