Examining the Feasibility of EHR-based Clinical Decision Support for Implementing Choosing Wisely® Guidelines: A Thematic Analysis

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#IS20
Disclosure

I have no relevant relationships with commercial interests to disclose.
Learning Objectives

After participating in this session the learner should be better able to:

• Recognize the utility of qualitative methods to explore implementation feasibility
• Better understand the barriers and facilitators to implement clinical practice guidelines (CPGs) with electronic health records (EHRs)
Measuring implementation feasibility of clinical decision support alerts for clinical practice recommendations.
Richesson RL, Staes CJ, Douthit BJ, Thoureen T, Hatch DJ, Kawamoto K, Del Fiol G.
PMID: 32027357

Objectives:
1. Describe key features of clinical concepts and data required to implement CPGs as clinical decision support (CDS)
2. Identify recommendation features that predict the feasibility of implementation

Methods:
• Semi-structured interviews with dyads (CDS implementer and clinical expert)
• Collaborative approach to determine two scores (1-5): Implementation feasibility and need for additional data collection
Why a Secondary Qualitative Analysis?

- Resulting discussions were rich
- Nuances were explored between the dyads
- Additional analysis would further explore concepts of feasibility when implementing CPGs as CDS
Methods

Thematic analysis with 5 steps:

1. Interview transcripts were unitized
2. Developed an initial codebook by iteratively working in dyads and through group consensus
3. Code the remaining transcripts in pairs, resolving conflicts by group consensus
4. Grouping codes into broad categories
5. Identification of salient themes
Results

Cohen’s Kappa = 0.41, or moderate agreement

Three main domains:

• Sociotechnical
• Knowledge
• Data
1. Alignment of expected CDS outcomes with pre-existing clinical strategy impacts implementation

“Yeah, from a workflow standpoint, this is not how this works… You might have ordered your antibiotics prior to that just on how things look like so, this one’s difficult from just a logistics workflow standpoint. You are probably [going to] drain the abscess before you have laboratory criteria back. And the latest literature suggests that the use of antibiotics empirically actually improves outcomes after abscesses, so this would not be very well received anyway.”
2. Individual level factors of end-users must be considered when selecting and implementing CDS tools

“A lot of times I think this is kind of provider dependent as well, because if you see a lot of kids… because ultrasound is limited by body habitus too and some kids are just… I know they’re not going to be able to find appendix, I’m going to order the CT scan [regardless].”
3. Customized strategies are needed to mitigate uncertainty when translating CPGs to an EHR-based CDS tool

“… is it recent trauma, is it trauma two weeks ago when you had your car accident and never got seen? So, I think this … guideline itself suffers from lack of specificity. We don’t know … which one they’re trying to address and the overall criteria in [the guidelines] are also vague, so … all require clinician input.”

“… we’re going to try to get ‘otherwise healthy’ logic factored in, I think that it would be much more difficult and time consuming if [we did not address it] … there’s two different ways to approach this… would we capture ‘otherwise healthy’ as [a new] question… or do you think it makes sense to have that automatically computed?”
4. Complex data quality concerns impact design and outcomes

“The problem is … a variable quality and it assumes that all their care has been within the system so I think that you would want to have that as a question in the [CT] order.”

“So I think when you go to order a CT and there’s an indication sometimes [it’s a] hard stop… I guess it depends on the institution and if they turn that on or not… but if it’s a hard stop you have to put something in… [if] the clinician is rushing to order a head CT and they don’t bother to put a reason, then it’s not going to trigger.”
5. The nature of the data that the CDS tool depends on is a primary factor for implementation feasibility

“Well, this is similar to the other imaging rules in that we don’t have structured data for diagnoses or physical exam findings or symptoms or history at a time when somebody would be placing this order. So, we basically have to fire an alert for every order for a CT of the abdomen and pelvis asking you for an indication and then asking you some additional questions to verify that it was appropriate.”
Challenges and Limitations

• **Drawbacks of Secondary Qualitative Analysis:**
  - Interviews were not conducted in a way that facilitated interviewer exploration
  - Focus was on 10 different guidelines, conversations were limited to a timeframe

• **Data Limitations**
  - Sample limited to 2 EHRs
  - 7 institutions
  - Uncertainty of thematic saturation
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