Exploring the Patient Perspective of In-Hospital Blood Testing

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INTRODUCTION

Background:

- Canadian healthcare system: blood tests are by far the most common medical activity performed and 4% ($5.9 billion annually) of the total public healthcare budgets is spent on laboratory activities [1]
- AHS: Edmonton Zone blood tests have increased by 1.5 million tests in the last 5 years [2]
- Ordering a standard panel of blood tests at hospital admission has become the norm and this is not sustainable [3]
- 'Daily' blood tests ordered upon hospital admission increases: possibly unnecessary follow-up testing, length of hospital stay, rate of false-positive test results, rate of hospital-acquired anemia, patient discomfort, anxiety, stress, and bruising [4,5]

A literature review of the last 10 years identified a significant volume of research that has been completed in the area of decreasing lab test ordering overuse in hospitals. The studies that utilized multi-component interventions reported higher overall test ordering reductions - reducing both lab test ordering volume and frequency ('daily orders').

Within the literature, the common intervention/approaches align into 4 domains:

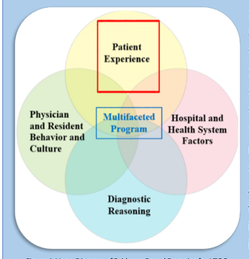


Figure 1. Venn Diagram of Evidence Based Domains for LTOO. A literature review of peer reviewed journals from the last 10 years (2009-2019) identified intervention strategies aligned to 4 domains: patient experience, physicians/ resident behavior, culture and diagnostic reasoning, and hospital/health system factors.

1. Physician and resident behavior: interventions targeting physician's internal motivation such as audit/feedback, education, hospital/ward campaign, incentives, cost displays, and cost pocket cards.

2. Diagnostic reasoning: interventions to support physicians and residents with critical clinical thinking related to laboratory test selection such as paper-based algorithms and computer-supported clinical decision tools.

3. System-focused: interventions related to policy updates, work flow/process changes (formal inclusion in ward rounding, progress note justifications), updating hospital-wide order sets, and unbundling laboratory test panels.

4. Patient experience: interventions such as measurements of the number of blood transfusions and tubes of blood collected. However, **no study** was found that formally included the perspective of patients to assist in the development of an intervention to improve the in-hospital patient experience of blood testing

- **The development of a patient experience approach is lacking and patient lab test ordering perspectives are not well understood.**
- A multifaceted intervention approach would consist of interventions from all 4 domains to support a reduction in lab test ordering overuse.

Research Question:

- What are Alberta patients' needs and preferences regarding consultation in the decision of blood testing while in hospital and what is the relationship between these needs and preferences?
- Sub-question: Do Alberta patients perceive LTOO as a health system concern?

Purpose Statement:

- Explore Alberta patients' perspectives related to in-hospital blood testing consultation and to determine patient experience intervention characteristics that may support a reduction in LTOO.

Methodology: *Grounded Theory*

- Develop a pragmatic understanding, based on patient reality, of blood testing in the hospital ward setting. To generate a substantive theory from textual data.

METHODS

Research Team: Patient Advisor, QI Consultant, Patient Experience Consultant, Resident, and Medical Student

Study Population: Purposive sampling of the Alberta Patient and Family Advisory Council (n=16)

- June 2019: Conducted a 2 hour semi-structured focus group using a structured facilitation technique (Think, Pair and Share)

Consultation Aim: When and how do patients and families want to be involved in shared decision-making related to blood testing during a hospital stay?

In-hospital Patient Survey: October - November 2019, conducted a patient survey (n=45) at the University of Alberta on 5 General Internal Medicine (GIM) wards

ARECCI Screening Tool Completed-**I am going to apply for an ethical waiver also**

Figure 2. Facilitation Technique-Think, Pair and Share.

Instructions:	Question	Think	Pair	Share
Please read the questions and then write your individual responses in the **Think** column. 2. With your partner, briefly discuss the questions and share ideas building upon each others ideas/thoughts Write your responses in the **Pair** column 3. Flip this sheet over, at your table discuss the different ideas/thoughts and come up with the top 5 to share with the larger group. Write down your responses in the **Share** column	Question 1: Do hospitalized patients and families want to be involved in blood test ordering decisions? When and why ?			
	Question 2: What do patients and families want to know or need to know during their hospital stay about blood testing?			
	Question 3: a. What is the best way for clinicians to approach patients and families that is respectful to patient choice regarding blood testing and when? b. What do you think would be the best way to support and encourage patients in asking questions about their in-hospital bloodwork?			
	Question 4: How should information be presented to patients and families regarding blood testing?			
	Question 5: How can we further understand this issue with hospitalized patients and Families-What should we do?			

Figure 3. Paper Tracking Document for think, pair and Share.

WHAT WAS HEARD

Thematic Analysis Inductive Approach:

1. Each researcher independently performed open coding of the respondents paper tracking tool, the focus group session flip charts (facilitator documented responses for each question during 'share') and a transcript (the session was audio-recorded and transcribed by an administration staff that supports the patient family advisory council)
2. Meeting held to review stage one coding - agreement was set at 80% and used consensus to solve disagreements
3. Research team finalized developed code book (code, categories, and definitions)
4. Independent recoding occurred and supportive quotes aligned
5. Themes determined

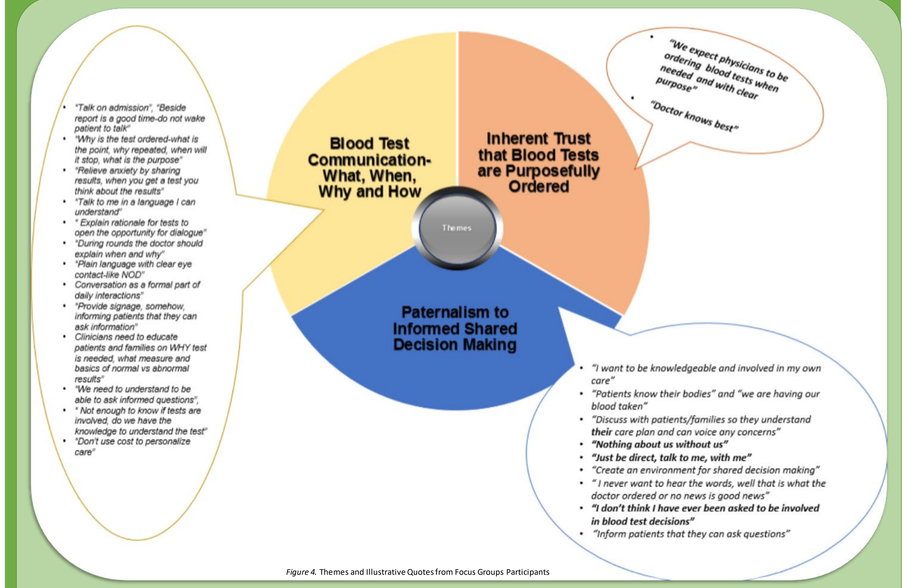


Figure 4. Themes and Illustrative Quotes from Focus Groups Participants

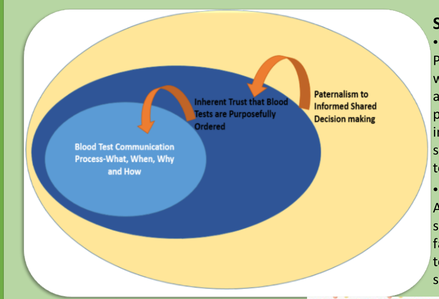


Figure 5. Grounded Theory Approach based on Themes

Substantive Theory:

- Current Approach Related to In-Hospital Blood Testing:

Paternalistic with assumed consent regarding in-hospital blood testing where "no news is good news". There is an inherent trust that blood tests are ordered with purpose to effect care/ treatment decisions and most patients lack clinical knowledge about diagnostic testing. Patients infrequently ask blood test questions, are unaware of hospital or health system resource issues, and may endure the negative effects of blood testing with minimal complaint.

- Future Approach Based on Patient Needs and Preferences:

A consistent in-person discussion which includes: informed consent, shared decision-making, simple plain language where patients and families feel safe to ask questions about blood testing (or all diagnostic tests), and a consistent process for sharing results (ex. verbal explanation supported by a computer screen or written).

Survey Development and Dissemination:

- Thematic analysis results guided the development of survey questions
- One medical student obtained patient verbal consent prior to questionnaire completion
- Patient population: randomized GIM patients
- Survey completed one or two days prior to patient discharge
- Survey until data saturation

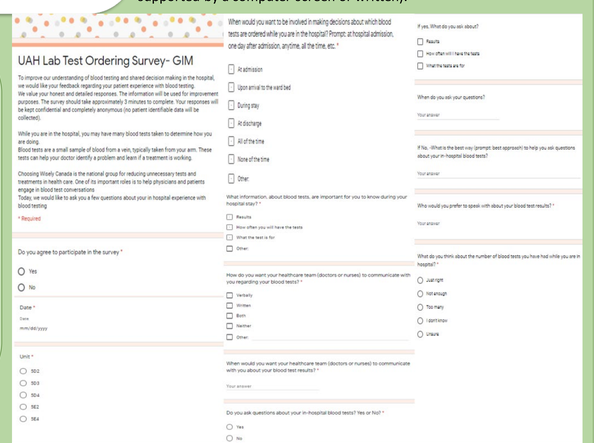
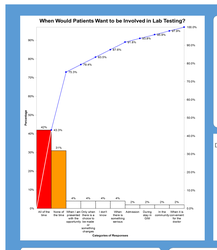
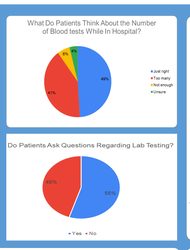
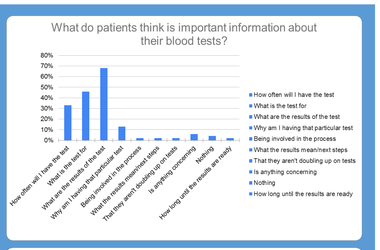


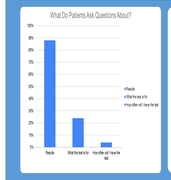
Figure 6. Patient Experience Lab Test Ordering Survey.

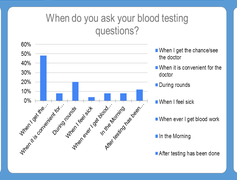
SURVEY RESULTS

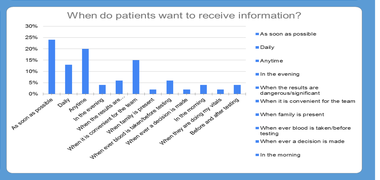


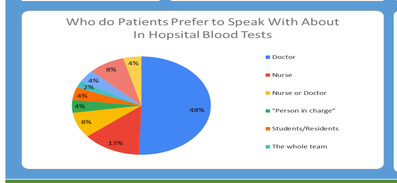


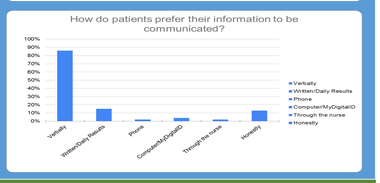












Recommended Action

The recommended intervention design based on all the findings:

- A daily, structured diagnostic test conversation that occurs with the physician at the bedside using simple language. The discussions should begin post hospital admission day 1 with the ordered test(s) written or electronically accessible to the patient and family.
- A hospital-wide campaign that combines Choosing Wisely (CW) – ASK ME WHY? With an acronym 'TESTing' to support the education of care providers, patients, and families using posters, CW buttons, patient pamphlets, and in-hospital patient room white boards. The intervention approach is aimed at increasing awareness of diagnostic/blood testing for both patients and providers by providing a structured platform for shared decision-making which may further support the multifaceted program to reduce LTOO.

***'TESTing* - Ask Me WHY?**

T- Test name
E- Explain need and frequency
S- Support shared decision-making
T- Test results provided

CONCLUSION

LESSONS LEARNED:

- Qualitative findings can identify patient and family preferences for, and perspectives on, desirable intervention characteristics and perceived needs which may led to a more targeted, effective intervention.
- It is difficult to develop a patient-initiated intervention and consultation approach; thus, a shared decision-making conversation about in-hospital blood testing is physician dependent.

Limitations:

- Patient and Family Advisory Council is well versed in hospital and health system issues; therefore, to improve validity, we surveyed 45 GIM patients which corroborated the focus group findings.
- Findings are subjective based on patient experiential knowledge and the research team were novice coders and new to qualitative analysis.
- Manual coding completed with an agreed upon code book developed.

ACKNOWLEDGEMENTS

- A special thank you to the AHS Patient and Family Advisory Council participants who saw the value in this inquiry and provided their voice
- Funded by Alberta Health Services Quality Improvement Innovation Fund

WHY THIS QUALITATIVE INQUIRY MATTERS!

…TO PATIENTS and PROVIDERS

Determining patients needs and preferences improves awareness, engagement, and shared decision-making regarding blood testing while in hospital

…TO ALBERTANS and THE HEALTHCARE SYSTEM

Patient involvement in lab test ordering decisions may reduce lab testing overuse

- **Reducing the cost delivery burden**
- **Allocating funds to other areas/programs supporting patient care.**

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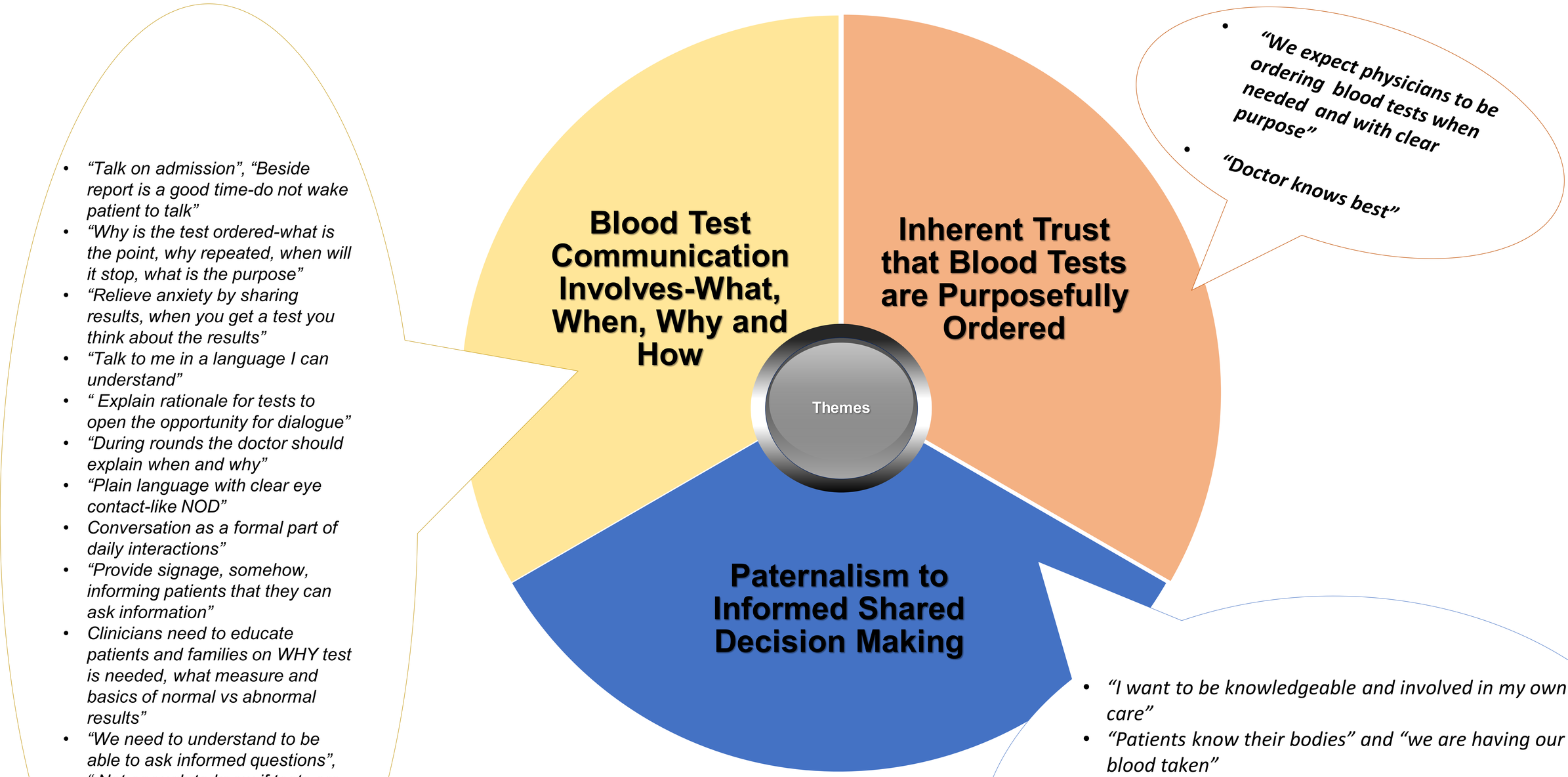
Blood Test Communication Involves-What, When, Why and How
Inherent Trust that Blood Tests are Purposefully Ordered
Themes
Paternalism to Informed Shared Decision Making
"We expect physicians to be ordering blood tests when needed and with clear purpose"
"Doctor knows best"
"Talk on admission", "Beside report is a good time-do not wake patient to talk"
"Why is the test ordered-what is the point, why repeated, when will it stop, what is the purpose"
"Relieve anxiety by sharing results, when you get a test you think about the results"
"Talk to me in a language I can understand"
" Explain rationale for tests to open the opportunity for dialogue"
"During rounds the doctor should explain when and why"
"Plain language with clear eye contact-like NOD"
Conversation as a formal part of daily interactions"
"Provide signage, somehow, informing patients that they can ask information"
Clinicians need to educate patients and families on WHY test is needed, what measure and basics of normal vs abnormal results"
"We need to understand to be able to ask informed questions",
" Not enough to know if tests are involved, do we have the knowledge to understand the test"
"Don't use cost to personalize care"
"I want to be knowledgeable and involved in my own care"
"Patients know their bodies" and "we are having our blood taken"
"Discuss with patients/families so they understand their care plan and can voice any concerns"
"Nothing about us without us"
"Just be direct, talk to me, with me"
"Create an environment for shared decision making"
" I never want to hear the words, well that is what the doctor ordered or no news is good news"
"I don't think I have ever been asked to be involved in blood test decisions"
"Inform patients that they can ask questions"