

Patient Perspectives and Consultation Preferences for In-Hospital Blood Testing

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Abstract

Purpose

Patient consultation preferences regarding prescribing of blood tests and shared decision-making are not well-understood. This study directs to understand hospitalized General Internal Medicine (GIM) patient perspectives related to blood tests.

Method

A patient and family advisory group was consulted to discuss hospital blood test prescribing and shared decision-making. A questionnaire was developed and administered to 45 GIM patients

Results

Identified themes suggested that patients trust physicians order about what is required, prefer comprehensive communication, and value shared decision-making. Questionnaire findings corroborated the themes and indicated that patient preferences vary. Joint findings proposed that patient consultation preferences included a daily, physician-led, structured, bedside blood test conversation, using nonclinical language to encourage shared decision-making. Furthermore, some patients were concerned about over-ordering of blood tests.

Conclusions

An intervention is required that provides a practical approach for clinicians to discuss that blood testing is aligned with the “Choosing Wisely Canada” campaign, and encourages shared decision-making, supporting patient’s involvement in their care.

Résumé

Objectif

Les préférences de consultation des patients concernant la prescription d’analyses sanguines et la prise de décision partagée ne sont pas bien comprises. Cette étude vise à comprendre les

points de vue des patients hospitalisés en médecine interne générale (MIG) concernant les analyses sanguines.

Méthodologie

Un groupe consultatif de patients et de représentants de familles a été consulté pour discuter de la prescription des analyses sanguines et de la prise de décision partagée en milieu hospitalier. Un questionnaire a été élaboré et soumis à 45 patients en MIG.

Résultats

D'après les thèmes cernés, les patients font confiance aux médecins pour prescrire ce qui est nécessaire, préfèrent une communication générale et accordent de l'importance à la prise de décision partagée. Les résultats du questionnaire corroborent ces thèmes et indiquent que les préférences des patients varient. Les résultats conjoints proposent que les préférences de consultation des patients soient une conversation sur les analyses sanguines quotidienne, structurée et menée par le médecin au chevet du patient, en utilisant un langage non clinique pour encourager la prise de décision partagée. En outre, certains patients s'inquiètent d'une prescription excessive d'analyses sanguines.

Conclusions

Une intervention est nécessaire pour fournir aux cliniciens une approche pratique pour discuter du fait que les analyses sanguines cadrent bien avec la campagne « Choisir avec soin » et pour encourager la prise de décision partagée, appuyant ainsi la participation des patients à leurs soins.

Laboratory blood testing is an integral component of hospital care, and inappropriate testing is a significant health system issue. Both overuse (testing that is prescribed but not necessary clinically) and underuse (testing that is necessary clinically but not prescribed) of laboratory blood testing can cause undue harm to patients (from painful sampling to increased morbidity) as well as increase their length of stay and costs to the system without benefits.^{1,2} Clinicians suggest that limited conversation time during clinical encounters, as well as limited patient health literacy and testing expectations, is the main cause of inappropriate use of health resources.^{2,3} The “Choosing Wisely Canada” (CWC) campaign was launched in 2014 to encourage clinicians to take on leadership roles to champion the reduction of overuse of health resources.² The CWC campaign uses a wide range of strategies and approaches, although approaches that include improving patient health literacy and public engagement are defined less clearly.² Research shows that when patients are appropriately informed about the risks and benefits of blood testing, they often choose less, not more.^{4,5} This is because physician- or health care provider-led education/engagement strategies potentially minimize the health literacy gap, improve patient's understanding on blood tests, and allow

patients to self-determine whether they want blood tests to be done.

Shared decision-making is a communication process between clinician and patient to make healthy choices together, where the patient expresses their preferences and values.^{6,7} However, little is evidenced that patients find shared decision-making beneficial,^{6,7} and their desire to participate in the decision-making aspects of medical consultation varies.⁸

The intent of this cross-sectional mixed methods study was to understand hospitalized patient perspectives about blood testing and to determine their consultation preferences by surveying patients of five General Internal Medicine (GIM) units at the University of Alberta Hospital, an academic tertiary teaching hospital in Edmonton, Alberta, Canada. The patient perspectives are not well-understood, and a limited published literature on the subject is available. Our research questions used were as follows: (1) What are hospitalized patients' preferences for consultation regarding blood testing? and (2) Do hospitalized patients perceive hyper-ordering of blood tests as a health system concern? Aim of our study was to determine a practical patient-centered intervention using patient feedback that supports in-hospital shared decision-making along with a reduction in hyper-ordering of blood tests.

Methods

Settings

This study was completed in a provincial health organization (Alberta Health Services) in Western Canada, with a dedicated department to support the engagement of patients and family members. Our study team included a patient advisor, physician, resident, medical student, patient experience consultant, and quality improvement specialist. With a pragmatic viewpoint, where constructed knowledge was applied,⁹ we used a cross-sectional exploratory sequential mixed method research design. Ethical approval was obtained from the University of Alberta Research Ethics Board (Pro00099203).

We enlisted the assistance of a Patient and Family Advisory Group (PFAG), a formalized group of patients and family members who at request provide consultation on policies, programs, and practices to a health organization. An in-person focus group consultation with PFAG was completed in June 2019. The first qualitative phase of this study explored the patient and family perspectives and consultation preferences. From this initial exploration, the qualitative findings guided the development of a brief questionnaire, which was used to collect quantitative data from hospitalized patients admitted to five GIM units.

Participants and recruitment

The qualitative focus group discussion was attended by 16 PFAG members, and, for the quantitative phase, a list of all patients who met the inclusion criteria from each unit was provided by managers of GIM units on survey days. Each patient was provided information regarding the study and offered the opportunity to participate in the study. The inclusion criteria for patient recruitment were as follows: English-speaking patients aged 18 years or older, with no cognitive impairment, had blood testing, were able to provide verbal consent, and whose unit discharge was within 48 hours. The rationale for ensuring that patients were nearing unit discharge was to allow them to reflect on their experiences of hospitalization. No identifiable patient or PFAG member information was collected. Further, we did not focus on one specific blood test, as we deliberately wanted to understand the general perspective of blood testing while staying in hospital.

Data collection and analysis

We utilized a structured facilitation technique of “Think, Pair, Share”¹⁰ to stimulate discussion at a 2-hour focus group session. We developed a paper tracking document for PFAG members to document their comments to the following five open-ended questions: (1) Do hospitalized patients and families want to be involved in blood test prescribing decisions? (2) What

do patients and families want or need to know about blood testing during their hospital stay? (3) What is the best way for clinicians to approach and encourage patients and families that is respectful to patient choice regarding blood testing? (4) How could information be presented to patients and families regarding blood testing? and (5) How could we further understand this issue with hospitalized patients and families—what more could be done? Participants were asked to answer the questions individually, then in a group of four, and finally to participate in a large group discussion where the same questions were repeated. Comments were documented on flip charts by one study member (KB) during group discussions. The session was audio-recorded by the PFAG administrative support and an anonymized transcript was provided to our study team.

The textual data collected from paper tracking documents, transcript, and flip charts were entered into Microsoft Excel, version 2013, to facilitate data review, comparison, coding, and retrieval of coded quotations for our thematic analysis.¹¹ Initially, four researchers (MD, PM, CC, and KB) independently coded all textual data and jointly reviewed and discussed the codes to develop a preliminary code book. The same team of researchers recoded, discussed areas of agreement and disagreement, and used consensus to resolve any discrepancies. After completion of coding, the initial themes were discussed and revisions resulted in key themes and representative quotes.

From these key themes, a 10-item questionnaire with scaled prompts was designed to elicit a wide range of patient experiences, including patient involvement in prescribing of blood tests, information they wanted to be conveyed, and how and when they wanted to receive this information. The initial questionnaire was pilot-tested with five patients and revisions were made to clarify questions and scaled prompts. The questionnaire was consented verbally and delivered orally. Responses were entered into a Google Form by a medical student who collected the data at the time of survey delivery.

Patients were initially asked each question without scaled prompts to capture perceptions in an unbiased manner. If patients were unsure how to answer a question, the prompt options were provided. A verbal questionnaire was chosen to increase patients' ability to participate, eliminating the need for completing a paper document. A total of 45 GIM patients from five units were surveyed for over 2 months (October–November 2019). Data collection ended when no new information was received, which occurred with 42 patients. We then surveyed three additional patients to validate that no new insights were obtained. Aiding data analysis, the Google Form generated graphics, which were analyzed using descriptive

statistics.¹² All findings (qualitative and quantitative) were then jointly reviewed to propose a practical patient-centered consultation intervention that supported patient preference and resource stewardship.

Results

From a total of 16 PFAG members, we determined the following three key themes from the textual data: (1) comprehensive blood test communication—“we want to be knowledgeable and informed about our own care,” (2) inherent trust that blood tests were ordered purposefully—“we expect physicians to be ordering blood tests when needed and with clear purpose,” and (3) the need to shift away from paternalism to informed shared decision-making—“explain the rationale of tests to open the opportunity for dialogue.”

The questionnaire from 45 hospitalized GIM patients yielded the following results: Patients were divided on when they wanted to be involved in ordering the blood test, with nearly half (42%) of patients indicating all of the time, 31% indicating none of the time, and 18% indicating when there was a serious concern, a decision to be made, when presented with the opportunity, or that they were uncertain. Patients perceived the most important blood test information to be: results (68%), what the test was for (46%), and how often the test would be performed (33%). The majority of patients would like information to be communicated verbally (86%), while 14% preferred “honest” communication, which could include written, verbal, or a combination of both. More than half (55%) of the patients surveyed felt comfortable asking test-related questions and were most comfortable asking when they saw the doctor (48%), during daily rounds (20%), or after testing had already been done (12%). Patients reported that they preferred their blood test information to come from physicians (50%), nurses (13%), or both (8%), with 16% having no provider preference. Nearly half (49%) indicated that the number of blood tests were just correct, 41% felt there were too many, 6% felt not enough, and 4% were unsure. Patients expressed: “the doctors know more than me and I trust them,” reinforcing inherent trust in physician’s decision-making, but also stated, “give me more information to help me ask questions”, demonstrating the desire to be involved in the conversation.

The joint qualitative and quantitative results (Table 1) indicated that the quantitative findings corroborated the qualitative findings. Alignment between the themes, quotes, and questionnaire findings validated that while many patients wished to be involved in decision-making for performing blood tests during the in-hospital consultation, they often expressed that they do not have the necessary knowledge to participate

in this. With statements such as “I don’t think I’m qualified to ask questions or make decisions,” and “I don’t understand what to ask,” validated that physicians or nurses may need to initiate the testing conversation and communicate in a manner that supports and empowers patients to ask questions, and share their ideas and concerns regarding blood testing decisions. Furthermore, patient perceptions vary regarding both their desired level of involvement in blood tests decision-making and their perception of what constitutes hyper-ordering or prescribing inappropriate blood tests.

Discussion

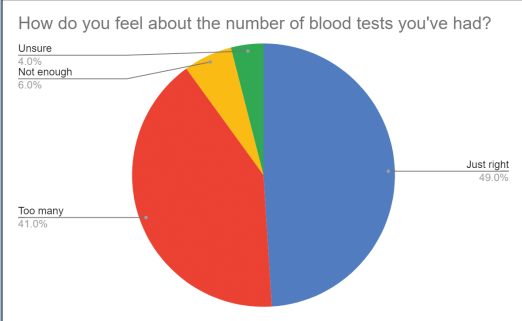
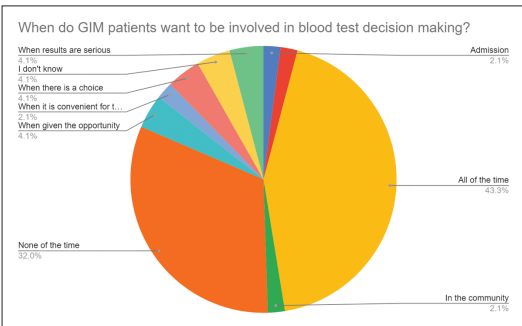
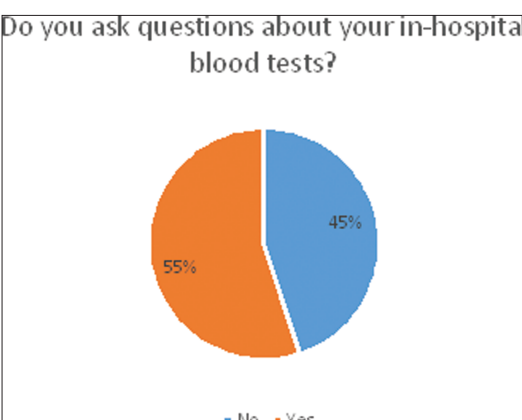
Results from this cross-sectional exploratory mixed methods approach expressed that differences existed in hospitalized patients’ medical knowledge, acute illness, interest in blood tests decision-making, and perception of overuse of blood tests. This variation in perception could be due to patients’ age, progression in illness/disease, educational level, expectations from blood tests, and socioeconomic status. This is an area of opportunity for the future research. Hospitalized patients trust that physicians prescribe what is required and is in their best interests and value comprehensive communication, that is, sharing what the test is, why it is needed, and how often the test will be conducted. Patients prefer physician-led, in-person communication about blood-testing that supports shared decision-making. Our findings align with the results of other studies that a large number of patients prefer physician-directed consultation approaches, and variations in patients’ desire for sharing in the decision-making part of the consultation.⁸ Lastly, almost half (47%) of the patients surveyed were concerned with inappropriate testing, with the majority (41%) realizing that hyper-ordering of in-hospital blood tests was of concern. Creating actionable interventions in this domain aligns with the goal of CWC campaign about decreasing inappropriate tests, particularly overuse of tests, by encouraging health care providers and patients to think critically about their treatment choices.² Despite being concerned with overuse, patients largely expressed trust in their care teams, often stating that there were “too many tests, but they are necessary.” This indicates that there was a foundation of trust to base these shared-decision-making conversations.

Based on our findings, the practical intervention determined is a physician-led daily structured diagnostic test conversation in simple language at patient’s bedside. It was suggested that the blood testing consultation discussion must begin after the first day of hospital admission, allowing the patient to settle into hospital unit, with the option to have

Table 1. Joint Result Display

Key Themes	Patient Quotes from Focus Group (n=16)	Questionnaire Responses and Quotes (n=45)
<p>(1) Comprehensive Blood Test Communication</p>	<p>"Explain the rationale for tests to open the opportunity for dialogue." "Relieve anxiety by sharing the results." "We need to understand to be able to ask informed questions." "During rounds the doctor should explain When and Why." "Why is the test ordered, what is the point, why is it repeated, when will it stop, what is the purpose." "Talk on admission", "Beside report is a good time-do not wake patient to talk" "Talk to me in a language I can understand" "Plain language with clear eye contact-like NOD-name, occupation, duty" "Conversation as a formal part of daily interactions" "Provide signage, somehow, informing patients that they can ask information"</p>	

(continued)

Key Themes	Patient Quotes from Focus Group (n=16)	Questionnaire Responses and Quotes (n=45)
<p>(2) Inherent Trust That Blood Tests Are Purposefully Ordered</p>	<p>"We expect physicians to be ordering blood tests when needed and with clear purpose." "Doctor knows best." "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"</p>	<p>How do you feel about the number of blood tests you've had?</p>  <p>Too many blood tests, but they're necessary." "The doctors know more than me and I trust them" "They wouldn't do it unless I needed it." "I'm not qualified to ask questions" "I just trust that they will tell me if there are any problems" "I trust them." "I just assume it's all necessary" "I don't understand what to ask" "I think the first few days in the hospital this much testing is OK but after that it is too much" "I don't think I'm qualified to ask questions or make decisions"</p>
<p>(3) Shift from Paternalism To Informed Shared Decision Making</p>	<p>"I want to be knowledgeable and informed about my own care." "Nothing about us without us." "Create an environment for shared decision making." "Discuss with patients/families so they understand their care plan and can voice any concerns." "Patients know their bodies" and "we are having our blood taken" "Just be direct, talk to me, with me" "I don't think I have ever been asked to be involved in blood test decisions" "Inform patients that they can ask questions"</p>	<p>When do GIM patients want to be involved in blood test decision making?</p>  <p>Do you ask questions about your in-hospital blood tests?</p>  <p>"Knowing it is okay to ask questions" "Give me more information to help me ask questions" "Having the opportunity to even ask questions" "Knowing someone has the time to talk" "If the medical team seems willing to explain"</p>

ordered test(s), written or electronically accessible to the patient and their family, if desired. Additionally, a hospital-wide campaigning that combines the CWC campaign² with the acronym ‘TESTing’ (T – Test name, E – Explain need and frequency, S – Support-shared decision-making, and T – Test results provided) may support the education of health care providers, patients, and families and inspire to both reduce blood test hyper-prescribing and increase shared decision-making.

Limitations

The limitations of this study include a small sample size, non-validated questionnaire, and subjective findings based on the experiential knowledge of patients and their families. It is recognized that the proposed intervention requires a significant time investment which may not always be practical, when providers participate in shared decision-making conversations. Additionally, the recommended physician-led intervention could be difficult in smaller hospital settings where patient care teams have a different structure with fewer medical learners and limited in-house attending physicians. Thus, a physician- and/or nurse-led blood test consultation may be required.

Conclusion

Hospitalized patients value a comprehensive, in-person, health care provider-led discussion about prescribing of blood tests. Patient expectations, health, and diagnostic literacy differ, which may impact in-hospital blood test consultation preferences. Based on this variation, it is difficult to develop a patient-initiated intervention and consultation approach. Thus, physician- or nurse-led and directed conversations on shared decision-making about in-hospital blood tests may be required. These conversations must be supportive in nature; creating an environment where patients are provided the knowledge and education necessary to feel empowered to participate in their care if they desire. As a next step, the future study would analyze an intervention supported by a robust evaluation plan to determine the actual effect on shared

decision-making, physician order behavior, and reduction in inappropriate prescribing of blood tests.

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Conflict of interest

The authors declare that there were no conflicts of interest.

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