Physicians' Decisions About Continuing or Stopping Colon Cancer Screening in the Elderly: A Qualitative Study

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BACKGROUND: Experts suggest an individualized approach to colon cancer screening to take into account variation in older adults' life expectancies and potential to benefit from screening. However, little is known about how physicians make decisions about colon cancer screening in adults age 75 and older.

OBJECTIVE: To understand whether physicians employ individualized decision making for colon cancer screening in older adults, and, if so, to determine the individual factors they believed were important to consider in making such decisions.

DESIGN: Qualitative research using focus groups and individual interviews

PARTICIPANTS: Fifteen primary care physicians practicing in community settings participated in three focus groups and two interviews.

APPROACH: We used two clinical vignettes of 78-year-old women in fair and poor health states to stimulate discussions about clinical decision making for CRC screening in older adults.

RESULTS: Physicians considered a wide range of factors, including clinical factors, such as age, life expectancy, co-morbidities, and functional status, as well as individual factors, such as personality, previous screening behavior, family support, and the relationship with the patient. Physicians reported difficulty with these decisions because of their complexity and because they involve life expectancy estimates. Their approach and discussion with patients seemed to be dependent on the degree of certainty they perceived regarding their clinical assessment as to whether the patient had the potential to benefit from screening.

CONCLUSIONS: Colorectal cancer screening decision making is complex. Physicians reported using a range of clinical and individual factors to decide about colorectal cancer screening in older adults.

KEY WORDS: colon cancer screening; decision making; elderly.

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BACKGROUND

A blanket recommendation in favor of colon cancer screening is not appropriate for elderly patients. Instead, experts suggest an individualized approach to take into account variation in older adults' life expectancies and potential to benefit from screening^{1–4}. The mortality benefit from screening may be delayed up to 10 years because colon cancers are generally slow growing⁵. Yet, the potential risks of undergoing colonoscopy are immediate and significant; they include bleeding severe enough to require hospital admission, bowel perforation, and even death⁶. The challenge physicians face is deciding how best to weigh the immediate risks of screening against the likelihood of benefiting from screening, given the life expectancy of an older individual.

Most of the studies evaluating screening in older adults have been cross-sectional, observational assessments of the association between hypothesized factors affecting the decision and actual screening behavior^{7–10}. These studies show inconsistent associations among health status, age, and screening behavior. The cause of these inconsistencies is unclear, but may be due to the complex process required for individualized decision making. Few studies have directly evaluated physicians' decision making to determine whether physicians consider health status and life expectancy,^{11–13} and none to our knowledge have used qualitative methods to explore the process physicians use to decide whether screening older adults for colon cancer would be beneficial.

Our aims for this study were to learn whether physicians employ individualized decision making for colon cancer screening in older adults and to explore factors they believe are important to make these decisions. In addition, we were interested in learning whether physicians perceive this decision-making process to be difficult. Finally, we were interested in knowing more about how physicians perceive the role of older patients in the decision-making process and their approaches to discussions with elderly patients in regards to colon cancer screening.

METHODS

Interview Guide Development

We designed our interview guide based on a conceptual model of decision making for colon cancer screening in older adults that we developed based on existing literature regarding cancer screening in older adults^{2–4} and our clinical experience.

We used our conceptual model to develop questions related to the primary constructs of (1) the decision-making process, (2) difficulty with decision making, (3) the patient role in the decision-making process, and (4) patient provider communication about screening, particularly when discussions focused on stopping screening. Our interview guide is provided in Table 1.

We used two clinical vignettes of 78-year-old women in fair and poor states of health to stimulate and focus the discussion on clinical decision making in older adults. These vignettes were developed and refined in an iterative process with five health services researchers and seven practicing physicians who agreed that they were representative of fair and poor health states. In a previous study, resident physicians were able to accurately estimate life expectancy from these scenarios when compared to life table estimates, suggesting that these vignettes represent believable patient scenarios¹⁴.

Recruitment

To identify physician participants, we recruited primary care physicians in practices in North Carolina who also precept first and second year medical students in the Introduction to Clinical Medicine Course through the University of North Carolina School of Medicine. We chose to recruit from these physicians for two reasons: (1) it assured a level of quality in decision making that had been vetted by interactions with the course director and students, and (2) their ties to the course and course director provided an entrée for their recruitment.

We obtained a list of Family Medicine and General Internal Medicine preceptors for the course from the course director to serve as contacts for the practices. Due to resource constraints, we limited our recruitment to practices within a 2-h drive of our research office. From this list, we identified practices that had four or more providers either by calling the practices to ask them or searching the internet to identify the number of providers in the practice. We sent an introductory letter to the practice from the course director to the contact physician at these practices, and one of the MD investigators (CL) followed up with a telephone call. If a full practice was unable to participate in a focus group or had only one or two eligible physicians interested in participating, we invited those

individual physicians with interest to participate in individual interviews.

Focus Group/Interview Session

Focus groups or interviews were held in locations convenient to the participants, most often in their offices, but one was in a private room at a local restaurant. All focus groups and interviews were conducted by the same experienced lead moderator (JG) and physician co-moderator (CL). We obtained informed consent from each participant at the beginning of each session, and participants also completed a brief survey assessing basic demographic information, medical training, and number of years in practice. Each physician participant was provided with \$100.00 cash for participating, in addition to a meal. Our study was approved by the University of North Carolina Office of Human Research Ethics.

After introductions of the study staff, we defined the purpose of the session for participants with this opening statement "We have asked you to participate because you are a primary care physician who sees patients ages 75 and older. As you know, colon cancer is an important cause of morbidity and mortality for older patients. Because colon cancer screening in older patients is an area of clinical uncertainty, we are asking for your input. The information you provide will help us better understand how physicians approach this issue in clinical practice."

We opened each focus group and interview with an "ice breaker" question to help participants begin to consider their approaches to colon cancer screening in general, by asking them to think about things that made it easier or harder for people to get screened for colon cancer. In addition to serving as an ice breaker, the purpose of this exercise was to discuss potential logistical barriers to screening first, so that, for the rest of the session, participants could focus primarily on their decision-making processes. After this exercise, we told the participants to assume that for these elderly patients, all system and individual level barriers had been addressed, that those who wanted to be screened would be able to do so.

We then presented the first clinical vignette, a 78-year-old woman in fair health, as a means to stimulate discussion of

Table 1. Focus Group and Interview Questions Related to the Construct from the Conceptual Model

Construct	Key question	Probes
Decision-making process	<ul style="list-style-type: none"> ● What are your thoughts about colon cancer screening in Mrs. Perry? ● What factors would you consider in deciding about CRC screening in this patient or others like her? 	<ul style="list-style-type: none"> ● How would you go about deciding whether or not screening Mrs. Perry for colon cancer would be helpful to her? ● How do you assess if she could benefit from being screened? ● How do you weigh these factors to make a decision about screening?
Difficulty with decision making	<ul style="list-style-type: none"> ● Please describe the difficulty, if any, you faced when making colon cancer screening decisions in older adults. 	
Patient role in decision making	<ul style="list-style-type: none"> ● What do you see as the patient's role in this decision? 	<ul style="list-style-type: none"> ● How would you incorporate the desires and choices of the patient into the decision?
Physicians approach to patient	<ul style="list-style-type: none"> ● How would you address colon cancer screening with Mrs. Brandon? ● Would you discuss colon cancer screening with her? 	<ul style="list-style-type: none"> ● Under what circumstances would you not discuss stopping screening with older patients like Mrs. Brandon? ● What do you see as Mrs. Brandon's role in the decision?

Table 2. Clinical Vignettes

Mrs. Perry—fair health vignette
● 78-year-old woman
● Moderate COPD, well-controlled hypertension
● Severe osteoarthritis in both knees, limits her ability to walk outside her house
● Experiences shortness of breath with activities only when she does not take her inhalers
● Lives alone; has no trouble dressing or bathing herself; prepares her own meals; takes care of her finances without problems
● Her son drives her to the grocery store, but she is able to shop for groceries independently
● Her last mammogram was several years ago, she is not certain exactly when
● She has never been screened for colon cancer
Mrs. Brandon—poor health vignette
● 78-year-old woman
● Severe heart failure due to coronary heart disease
● Shortness of breath with exertion despite optimal medical management
● Re-vascularized 10 years ago, but is not a candidate for repeat CABG
● Able to perform her ADLs independently, but must perform them slowly due to shortness of breath
● Life expectancy according to life tables is most likely less than 2 years

clinical decision making for colon cancer screening in older adults (Table 2). The physicians were asked about the decision-making process that they would use for this patient and similar older patients. In addition, we asked whether they experienced any difficulties with making decisions about screening with patients like the one presented in the vignette. Participants were also asked how they perceived the patient role in the decision-making process. We then presented the second clinical vignette, a woman, aged 78 years, who was in poor health. As with the first vignette, physicians were asked about the decision-making process they would use for this scenario, the role of the patient in the decision-making process, and if (and how) they would approach screening for this patient. Each session closed with an opportunity for the physicians to reiterate earlier statements, provide clarifications, or share additional thoughts they believed relevant to the topic.

Thirteen physicians participated in three focus groups (two sessions with five participants and one session with four participants). These sessions lasted from 55 to 90 min. Two additional physicians were interviewed in person because they were unable to participate in focus groups with the other members of their practice. The individual interviews lasted approximately 20 to 25 min. In general, the content of the discussions was similar between the focus groups and the individual interviews. However, the focus groups tended to generate more informal discussions about particular patients, which led other participants to provide additional patient anecdotes. This interchange provided rich information that helped to clarify the decision-making process.

DATA ANALYSES

The data were transcribed by a professional transcriptionist and analyzed by two of the authors (CL and JG), using ATLAS.ti¹⁵. Each transcript was content analyzed to identify recurring themes, including of factors related to whether and when to

screen older adults for colon cancer. The codebook was developed using an iterative process, revising if needed after each focus group or interview. After independently coding the first interview transcript, the two coders met to further refine the codebook with new codes based on unanticipated topics that emerged, and consensus was obtained for each code's definition. The iterative process also allowed the interview guide to be modified to explore new areas of inquiry. As the analysis progressed, over-arching themes emerged. Differences in coding for sections of text were reviewed and resolved through discussion and consensus. Data collection was concluded when no new themes were identified and saturation had been reached¹⁶⁻¹⁸.

RESULTS

Our participants included five women and ten men with an average age of 43 and 11 years in practice, respectively; nine of the participants were internal medicine physicians, and six were family medicine physicians.

Overview of the Decision-making Process

We found that physicians considered a wide range of factors in making decisions about colon cancer screening in older adults. However, the interplay of these factors in the decision-making process depended on the physician's initial clinical assessment about whether they thought the patient could benefit from screening. They reported difficulty with these decisions because of the complexity and because they involve life expectancy estimates. Physicians made it clear that their decision making was limited by the uncertainty inherent in estimating whether a patient could potentially benefit from screening. Consequently, the decision-making process and their perception of the role of patients in the decision appeared to be influenced by the degree of uncertainty they felt about their initial clinical assessment of potential benefit from screening.

FACTORS IMPORTANT TO DECISION MAKING

Four primary categories of factors emerged from the discussion of the decision-making processes they would use to decide about screening patients in each clinical vignette as well as patients similar to those in the vignettes. These four groups of factors were clinical factors, individual patient factors, the likelihood of pursuing treatment if cancer is found, and how to weigh these factors to make a decision.

Clinical Factors

Physicians highlighted life expectancy, age, and functional status as important clinical factors in their decision making. In general, physicians perceived that the potential benefits of screening were delayed and that a life expectancy of 5 to 10 years was necessary to reap these benefits. One participant expressed their views regarding life expectancy with the following comments:

The whole thing with colon cancer screening is that you're trying to find something before and make a

difference 5-10 years down the road. If you don't have 5, 10 years then what's the point?

Physicians also indicated the interdependence of age and co-morbidities in their decision making as noted by the following comment from a participant:

I mean, to me, you could be 75, but you can have 0 life expectancy because of co-morbidities or you could be 85 and have a 10-year life expectancy.

When discussing their decision-making process, the physicians emphasized the importance of life expectancy and used co-morbidities, age, and functional status to estimate whether or not individual patients would live long enough to have the potential to benefit from screening. For patients in good health, the physician reported using average life expectancies of persons at that age as a basis for their decision-making process. When discussing patients in poorer health, the severity of the health conditions and the patient's functional status became the focus of the discussion. The underlying premise for the decision-making process for all patients was whether undergoing screening could extend the patient's life or would subject the patient to potential harms without a chance of benefiting.

Individual Patient Characteristics

In addition to clinical factors, physicians also considered patient characteristics. The range of individual patient characteristics that physicians reported as influencing their decision making was extremely wide. Factors, such as the living situation of the patient and their family support, the personality of the patient, their previous screening behavior, and the duration and type of relationship they have with the patient played a part in their decision making.

For example, physicians noted that if a patient had been aggressive about screening in the past or their personality tended towards being proactive about screening, those individual factors would be included in the decision-making process:

I mean, if she came in saying I want to do everything I possibly can to stay alive because I'm responsible, but if she was already seeming like, quality of life is not that great and look at her cardiovascular risk factors.

They not only considered factors related to the patient but also to their family members. One aspect was family support.

I might look at also their family support. Like if they have a husband who's going to help with the prep or if she lives alone.

Another aspect was the opinions of the family members about screening.

But, family and even their kids [are important]. I get older folks where their sons and daughters are the ones telling them they need a colonoscopy more than they're wanting to have one. I'm not saying that's something that makes sense, but it's something that gets considered.

In describing their decision-making process, clinical factors seemed to take precedence over individual factors. Individual factors came into play when they felt some degree of uncertainty about their initial clinical assessment of benefit, and then, specific individual factors could sway the decision

making. For example, if a patient has a family member available to help them with the preparation procedures for their colonoscopy, then the physician would be more inclined to recommend in favor of screening than if no family member was available to help.

Weighing Potential Benefits and Harms

The physicians also described a process of weighing the potential benefits against the potential harms of putting an older patient through screening, particularly a colonoscopy. Although physicians reported a number of factors they considered in the decision-making process, it was difficult for them to articulate how they put all these factors together to make an overall determination of net benefit. Instead of providing an explanation, some participants reported that the decision of whether or when to screen was based on more of gestalt than an actual process of weighing all of the factors. They seemed to base this on a feeling of knowing the patient and their medical problems and emphasized the importance of having a long-term relationship with the patient.

You know my gut feeling about this person is, you know, they wouldn't benefit from it.

The major concern in weighing the risks and benefits seemed to be the concern about causing harm when there was no chance that a patient could benefit and also about causing distress from a colonoscopy.

I mean, if someone is 80 and you recommend a colonoscopy and then their bowel got [perforated]. What was I thinking, 80 years old, doing this colonoscopy?

Likelihood of Pursuing Cancer Treatment

Physicians reported that they took into consideration what they would do with the information they got from a screening test and whether it would change their management of the patient in the future. If they were unlikely to pursue treatment for the patient, then they were less likely to recommend screening:

But she's not a candidate for any kind of surgery and what's the benefit of removing a polyp, you know?

Physician Difficulty with Decision Making

Some physicians reported that the decision-making process of whether to screen their older patients for colon cancer was difficult for them. The difficulty seemed to stem from two sources. First, the sheer number of factors that they had to weigh in the decision-making process.

Compared to younger adults, one participant reported:

That there are a lot more variations from one person to another. A lot more to consider. It's not just a matter of how old they are and what's their family history

Another physician provided an example of when other clinical issues take precedence over colon cancer screening.

I mean there are some people who come in and when you watch them walk down the hall and they're 300 pounds

and they've got the O2 strapped to their side and they've got diabetic foot ulcers and everything that you know and they're 68 years old. You just know they're not going to make it, and colon cancer is the last of their thought process and putting them through something like that is just, I just don't think it's a reasonable thing.

The other source of difficulty with the decision-making process was the underlying uncertainty of whether or not a patient would live long enough to benefit from screening.

You get into the gray area because nobody knows. We don't have a crystal ball. We don't know how long somebody is going to live for.

Physician Perception of the Patient and Physician Role in the Decision-Making Process

While discussing the fair health vignette, we asked the physicians about the role of the patient in the decision-making process. In this context the physician participants reported a highly autonomous role for the patient in the decision-making process as highlighted by the comments below.

I mean it's totally their decision. My role is just to remind them and to advise them.

Many participants emphasized that the physician's role was to provide information to help the patient understand the decision.

Our obligation is to give them the data. Give it to them in a way they can understand. If they don't have any problems understanding why we're talking about this and then let them make the decision themselves. It's not our decision to make. It's theirs.

Approach to Elderly Patients

When we asked how they would approach the patient in the fair health vignette, the general approach was consistent with shared decision making.

I would always, at least, talk about it and offer it if their life expectancy could be 10 years.

The first question I ask is "are you interested in doing this?"

However, when we asked how the physicians would approach the patient represented by the poor health vignette, physicians differed in their opinions about whether the topic of screening should be brought up at all. Some indicated that they would bring up the topic of screening themselves, but others stated that they would discuss it only if the patient asked about it.

Bringing it up is the reasonable thing, but then you have to be very, very honest with them and you have to say look it here's a situation what are you going to really do if they tell you there's there and we have to do something about it? Do you really want to know that?

Some pointed out that they would be thinking about other issues in a patient with that many health issues.

[I] Wouldn't even think about it.

Summary of Physicians' Decision-Making Processes for Colon Cancer Screening in Elderly Patients

When describing their decision-making process, physicians first made a clinical assessment of whether they thought the patient would likely benefit from screening. Based on this assessment and their certainty with this assessment, they then considered individual factors. These factors would either support their clinical assessment or sway them in the opposite direction. Their flexibility in the decision-making process and their approach and discussion with patients seemed to be dependent on their level of certainty about their initial clinical assessment.

DISCUSSION

Physicians that participated in our study generally described a decision-making process consistent with an individualized decision-making approach as described by Walter and Covinsky and others^{2,4}. They considered the potential benefits of screening in the context of the patient's life expectancy, as well as the potential harms given the patient's health state and functional status. Physicians reported difficulty with these types of decisions, commenting on the uncertainty involved in estimating life expectancy and worries about harms. Physicians endorsed a shared or informed decision-making model when asked directly about the patient's role in the decision. However, the approach seemed to depend on whether the physician thought the patient could potentially benefit from screening. When discussing their approach to the patient in fair health and those similar to her, physicians reported having discussions and considering the patient's preferences. For the patient in poor health and those similar to her, most participants described a more paternalistic approach, perhaps because they felt more confident that the patient was unlikely to benefit from the procedure.

Our study highlights the sheer complexity of the decision-making process in deciding whether or not to recommend colon cancer screening for elderly patients. This complexity could lead to inconsistent decisions among physicians. Lack of knowledge about the delay in benefit could also lead to over screening those least likely to benefit. We found that physicians appropriately considered the delay in benefit in the context of the patient's estimated life expectancy, citing 5 to 10 years as the time necessary to benefit.

The patient's role in the decision-making process described by the physicians was complex. On one hand, physicians generally endorsed the idea that the patient made the ultimate decision about screening. This belief was supported in their discussions about how they would approach the patient in fair health. However, in the context of a patient who most likely would not benefit from screening (poor health state vignette), physicians endorsed a much more directive approach. This behavior seems to contradict their previous assertions that the patient should make the decision. Perhaps physicians perceive that patients should participate in the decision only if they believe there is a potential to benefit. This thinking would be consistent with a major tenet of medicine of doing no harm.

There are several limitations to consider when interpreting our findings. First, our findings are self-reported in response to

clinical vignettes and may not reflect what physicians actually do in clinical practice. Although clinical vignettes have been shown to represent physicians' real practices adequately^{19,20}, some aspects of the decision making for colon cancer screening of older adults appeared to be influenced by the relationships physicians have with their patients. This would not be captured with our vignettes. Furthermore, this study addressed only the physician perspective on the decision-making process. Patients' perspectives are important in obtaining a more complete understanding of the decision-making process, and we plan in future studies to include their views. Additionally, we resorted to individual interviews when we were unable to recruit these physicians' practices for focus groups. Finally, as with all qualitative work, the sampling was purposeful so the findings may not be generalizable.

Physicians described an individualized decision-making process based on their clinical assessment and other individual patient factors. Physicians considered a wide range of factors, including clinical factors, such as age, life expectancy, co-morbidities, and functional status as well as individual factors, such as personality, previous screening behavior, family support, and the relationship with the patient. Physicians reported difficulty with these decisions because of their complexity and because they involve life expectancy estimates. Their approach and discussion with patients seemed to be dependent on the degree of certainty they perceived regarding their clinical assessment as to whether the patient had the potential to benefit from colon cancer screening. Further research is needed to examine whether variation in these clinical assessments could explain the inconsistencies seen in observational studies examining health state and cancer screening behavior.

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