Physician–Patient Communication about Colorectal Cancer Screening

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BACKGROUND: Despite the documented benefits of colorectal cancer screening, patient participation rates remain low. Physician recommendation has been identified as a significant predictor of screening completion.

OBJECTIVE: The aim of this study is to investigate how primary care physicians perceive colorectal cancer screening communication tasks, as well as to explore the form and content of actual screening discussions.

DESIGN: The research design includes a mailed physician survey and a separate observational study in a sample of videotaped medical encounters.

PARTICIPANTS AND DATA SOURCES: The participants were 270 primary care physicians who completed a mailed questionnaire (57.9% response rate) and 18 physician–patient encounters that included discussions of colorectal cancer screening.

MEASUREMENT: The questionnaire focused on perceived importance and accomplishment of communication tasks relevant to colorectal cancer screening. Two of the authors reviewed transcripts of videotaped physician encounters to determine whether the same communication tasks assessed in the survey were accomplished. Interrater reliability was high across all of the mutually exclusive coding categories (Kappa >.90).

RESULTS: Physicians rated colonoscopy as the most important screening option to discuss; self-reports indicate that colonoscopy (84.8%) is more frequently mentioned than fecal occult blood test (FOBT; 49.4%), flexible sigmoidoscopy (34.1%), or computed tomography (CT) imaging (18.1%). Explaining benefits and risks, describing test procedure and frequency, eliciting patient preferences, and making a plan for screening were all viewed as very important. Self-reported accomplishment of these communication tasks was considerably higher than that observed in our separate videotape sample.

CONCLUSION: Most physicians recognize and espouse the importance of recommending colorectal cancer screening to eligible patients. However, findings from both the physician survey and observational study suggest that physicians tend to overestimate the extent of discussions about screening. Interventions may be warranted to improve clinical practice.

KEY WORDS: physician–patient communication; physician attitudes; colorectal cancer; screening.
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Colorectal cancer is the second leading cause of cancer death for American men and women. In 2006, approximately 148,600 U.S. adults were diagnosed with colorectal cancer, and an estimated 55,200 will die as a result of the disease.[1] It is ideally suited for early detection strategies, as precancerous adenomas precede the development of malignancies.[1,2] The U.S. Preventive Services Task Force and American Cancer Society currently recommend routine colorectal cancer screening for persons ages 50 and older.[3–5] Recommended screening tests include fecal occult blood test (FOBT), fecal immunochemical test (FIT), flexible sigmoidoscopy, colonoscopy, and double-contrast barium enema.[6]

Despite convincing evidence and clinical guidelines supporting each of these procedures, it is estimated that only half of the 90 million Americans considered at-risk by age or family history have been screened for colorectal cancer.[7–10] Whereas patient knowledge and socioeconomic barriers have often been cited as factors that impede screening participation,[11–15] physician failure to recommend colorectal cancer screening may be the major barrier to early detection and prevention efforts.[16–21] A recent study by Klabunde and colleagues revealed that only 10% of average-risk adults who were not current with colorectal cancer screening reported receiving a recommendation during their doctor visit.[21] Moreover, little is known about how physicians and patients talk about colorectal cancer and related screening options when the topic is discussed.

In this paper, we report on 2 complementary studies conducted in the context of primary care. To determine physicians' standard-of-care for discussing colon cancer screening, we conducted a survey that examined perceived importance of communication about various colorectal cancer screening topics as well as perceived rates of discussing these topics. Previous studies have shown that physicians' self-reports of communication with patients tend to overestimate their actual performance.[22] Therefore, we explored the extent to which this standard-of-care is

accomplished in everyday clinical practice by evaluating actual communication about colorectal cancer screening within an existing sample of videotaped medical encounters. To our knowledge, this is the first study to provide a detailed picture of physician–patient communication about colorectal cancer screening.

METHODS

Physician Survey

In 2005, we mailed a survey packet to 466 primary-care physicians across approximately 100 clinical practices affiliated with Northwestern University Feinberg School of Medicine. The clinical practices were clustered within 2 health care systems; 1 was urban (group U), the other relatively suburban (group S). The mailing included a cover letter signed by the physicians' department chair or division chief, a 3-page survey entitled "Physician Perspectives on Colorectal Cancer Screening," a $2 bill as incentive, and a postage-paid envelope for returning the survey. Ten business days after the initial mailing, a follow-up postcard was sent to all study physicians, with text that thanked physicians who returned the survey and served as a reminder for those who had not. Twelve business days after the postcard mailing, a reminder message was sent to physicians who had not yet responded, this time via e-mail. The same message was sent by fax if a study physician's e-mail address did not work or was missing from the database.

The survey gauged physician perceptions regarding the standard-of-care for communication about colorectal cancer screening, focusing on the 7 general and 11 test-specific communication tasks detailed in Tables 1 and 2. Physicians were first asked to rate the importance of accomplishing relevant communication tasks on a scale of 1 to 10, with labels at 1 (not at all important), 2.5 (slightly important), 5 (moderately important), 7.5 (very important), and 10 (absolutely essential). They were then asked to estimate the percentage of encounters in which they accomplish each task. One item asked physicians to specify the number of minutes required to do a good job of explaining colorectal cancer and relevant screening options. The survey also collected information about physician age, gender, years in practice, academic appointment, practice environment, and previous training in communication skills.

Table 1. Physician Perception of General Communication Tasks Relevant to Colorectal Cancer Screening

Communication Task	Physician Survey (n=270)	
	Importance[a] mean (SD)	Accomplish[b] (%)
Talk with patients ages 50–80 about screening	9.5 (0.9)	84.4
Explain how screening can detect and prevent cancer	9.4 (1.1)	82.3
Offer more than one screening option	6.4 (2.6)	54.0
Present FOBT as an option	5.0 (3.0)	49.4
Present flexible sigmoidoscopy as an option	4.3 (3.0)	34.1
Present colonoscopy as an option	9.2 (1.1)	84.8
Present CT imaging as an option	3.1 (2.5)	18.1

[a]*Physician ratings are on a 0 to 10 scale; 0=not important at all, 10= absolutely essential.*
[b]*Physician estimates are a percentage of screening-eligible patients with whom they discuss CRC screening.*

Table 2. Physician Perception of Test-Specific Communication Tasks

Communication Task	Physician Survey (n=270)	
	Importance[a] mean (SD)	Accomplish[b] (%)
Describe the screening test procedure	8.4 (1.9)	71.1
Describe advance preparation	7.8 (2.3)	65.4
Explain frequency of screening test	8.4 (1.8)	75.3
Provide information about comfort	7.9 (2.0)	66.1
Explain test benefits	9.0 (1.3)	79.3
Explain test risks	8.1 (2.0)	63.0
Provide information about screening costs	5.4 (2.7)	34.7
Check for patient understanding of screening	7.7 (2.2)	58.8
Elicit patient views/preferences for screening	8.0 (2.0)	65.7
Suggest the best test for patients	8.6 (1.8)	77.7
Make a plan during visit for screening	8.8 (1.5)	76.5

[a]*Physician ratings are on a 0 to 10 scale; 0=not important at all, 10= absolutely essential.*
[b]*Physician estimates are a percentage of screening-eligible patients with whom they discuss CRC screening.*

Observational Study

We drew from an existing dataset of videotaped primary care encounters at academically affiliated practices in Chicago, Illinois, and Burlington, Vermont, to explore the extent to which the standard-of-care is evident in everyday clinical practice. The study was approved by Institutional Review Boards at both sites, and all participants provided informed consent. For the current analysis, we focused on the 271 visits with patients between the ages of 49 and 80, as it is reasonable to discuss screening as patients approach age 50. We reviewed the dataset and identified 38 encounters that had been indexed as including some discussion of colorectal cancer screening. Twenty of these encounters addressed results from a prior screening, established that screening was up-to-date, or involved a previously scheduled screening test. Thus, the sample of interest consisted of 18 primary care visits in which the physician and patient discussed colorectal cancer screening for the first time. This sample represents 12 different physicians.

These 18 colorectal cancer screening discussions were transcribed using an established set of rules that preserves the structure of interactions.[23] Two of the authors reviewed each transcript to determine whether test-specific communication tasks addressed in the physician survey were accomplished (see Table 2) and whether a screening decision was made. Consistent with our previous observational studies,[22] we used a low threshold for coding a task: Rather than making judgments of discussion quality or quantity, we coded for any mention of the relevant topic. Interrater reliability was high across all of the mutually exclusive coding categories (Kappa>.90); the few disagreements were resolved through discussion. Length of the physician–patient discussion related

to colorectal cancer and screening, number of tasks accomplished, outcome (exam now, schedule now, schedule later, no plan for screening), and total visit length were also recorded for each encounter.

Statistical Analysis

In addition to examining descriptive statistics for physician survey data, we assessed the extent to which physician perceptions varied with system (i.e., group U, group S) because system-level policies, standards, and expectations might influence physician attitudes, perceptions, and practices regarding specific screening tests. In addition, we explored the relationship between self-reports and individual physician characteristics (i.e., years in practice, gender, academic appointment, prior training in communication skills). Frequencies and percentages were calculated for observed communication behaviors. All data analyses were performed using the Statistical Package for the Social Sciences (SPSS) statistical software program.

RESULTS

Physician Survey

A total of 270 completed surveys were received within 8 weeks of the initial mailing: 132 (55.5%) from the relatively urban group U and 138 (60.5%) from the relatively suburban group S. The overall response rate was 57.9%. All 270 survey respondents were practicing primary care physicians who had completed postgraduate training. Their mean age was 44.0 years (SD=10.5; range, 28–77), they were 17.9 years out of medical school (SD=10.7; range, 4–53), and most (61.8%) were male. In terms of academic appointments, one third (33.1%) were full-time academic physicians, 16.5% were part-time, and 50.4% were volunteer clinical faculty (i.e., private physicians with faculty affiliations). About half (51.1%) of the physicians had received some prior communication skills training. Physicians in group S were, on average, 4.5 years older and had been in practice 4 years longer than those in group U.

Overall, physicians reported that it takes about 4 minutes to do a good job of explaining colorectal cancer and relevant screening options (M=4.1, SD=1.4). Table 1 presents physician perceptions regarding the importance of general communication tasks relevant to colorectal cancer screening, as well as self-reported rates of accomplishing these tasks with screening-eligible patients. Using the 10-point scale, almost all physicians rated discussing colorectal cancer screening as essential (M=9.5, SD=.9). However, attitudes varied about the importance of discussing the different screening options: Discussing colonoscopy was seen as essential (M=9.2, SD=1.1), but FOBT (M=5.0, SD=3.0), flexible sigmoidoscopy (M=4.3, SD=3.0), and computed tomography (CT) imaging (M=3.1, SD=2.5) were considered slightly to moderately important. Offering more than 1 screening option to patients was not deemed very important (M=6.4, SD=2.6). Physicians' estimated percentages of accomplishing communication tasks tended to parallel the importance ratings (i.e., self-reports suggested that highly valued tasks were accomplished with a greater proportion of patients). For instance, physicians estimated that they discuss colonoscopy with approximately 85% of screening eligible patients, but bring up other screening options far less frequently.

Physician perceptions regarding test-specific communication tasks are illustrated in Table 2. On average, explaining the benefits of screening (M=9.0, SD=1.3), making a plan during the visit for screening (M=8.8, SD=1.5), suggesting the best test for patients (M=8.6, SD=1.8), describing the test procedure itself (M=8.4, SD=1.9), discussing test frequency (M=8.4, SD=1.8), explaining risks (M=8.1, SD=2.0), eliciting patient preferences (M=8.0, SD=2.0), providing information about test comfort (M=7.9, SD=2.0), describing advance preparation (M=7.8, SD=2.3), and checking if patients understand the information about colorectal cancer (CRC) screening (M=7.7, SD=2.2) were all viewed as very important by respondents. Providing information about screening costs was viewed as moderately important (M=5.4, SD=2.7). Self-reported accomplishment of these tasks was roughly parallel to the importance ratings; Pearson r correlation coefficients ranged from .47 for describing test procedure to .63 for providing information about comfort.

Discussing the cost of screening options was the only communication task that varied significantly with individual physician characteristics. Volunteer clinical faculty rated the importance of providing cost information more highly than did physicians with part-time or full-time academic appointments [M=5.8 (SD=2.8) versus M=4.9 (SD=2.5), P<.05]; they also reported providing cost information to a greater proportion of screening-eligible patients [M=3.9 (SD=3.0) versus M=3.0 (SD=2.8), P<.05]. Likewise, physicians with more years of practice rated providing cost information as more important than did those in practice for less time (r=.25, P<.001); they reported higher levels of accomplishing this task as well (r=.22, P=.001). These relationships persisted when we controlled for site.

We reasoned that system-level policies, standards, and expectations might influence physician attitudes, perceptions, and practices regarding specific screening tests. Indeed, the 2 groups of physicians viewed some communication tasks differently. Whereas physicians in both the urban and suburban groups viewed colonoscopy as the most important screening option, physicians in group S rated the importance of discussing this option slightly higher than did those in group U [M=9.4 (SD=.0.9) versus M=9.0 (SD=1.3), P<.005]. More striking differences were evident in terms of other options. Physicians in group S rated discussing flexible sigmoidoscopy as less important than did those in group U [M=3.4 (SD=2.8) versus M=5.2 (SD=2.9), P<.001]. Conversely, group S rated discussing CT imaging as more important than did group U [M=3.9 (SD=2.6) versus M=2.2 (SD=2.2), P<.001). Self-reported rates of accomplishment reflected the same patterns. There was virtually no change in group means or differences when we ran multivariate analyses to control for years in practice.

Observational Study

The videotapes offer a "snapshot" of actual communication about colorectal cancer in physician–patient interactions. The 18 encounters were diverse, including both well and acute visits with lengths ranging from 4 minutes:40 seconds to 92 minutes:5 seconds (M=36:49, SD=24:32). Patient age ranged from 49.1 to 74.5 years (M=62.0, SD=9.4).

Table 3. Video Observation of Test-Specific Communication Tasks

Communication Task	Video (n=18) observed[a] (%)
Describe the screening test procedure	28
Describe advance preparation	39
Explain frequency of screening test	44
Provide information about comfort	39
Explain test benefits	28
Explain test risks	0
Provide information about screening costs	11
Check for patient understanding of screening	11
Elicit patient views/preferences for screening	28
Suggest the best test for patients	39
Make a plan during visit for screening	72

[a]*Video coders looked for any mention relevant to tasks in encounters with patients age 49–80 in which some discussion of colorectal cancer screening occurred; they did not judge quality or quantity.*

Table 3 displays the extent to which communication tasks relevant to colorectal cancer screening were actually accomplished within the 18 videotaped encounters. We documented low rates of performing the communication tasks that physicians in the survey said were important to discuss. For example, physicians identified describing the screening procedure as very important (M=8.4, SD=1.9) and, on average, estimated they accomplished this communication task with 71.1% of their screening-eligible patients. However, we observed physicians describing the screening test procedure in only 28% of the videotaped encounters. Explaining test benefits and risks were both viewed as very important (M=9.0, SD=1.3; M=8.1, SD=2.0, respectively), and physicians estimated they accomplished this with the majority of their patients (79.3 and 63.0%, respectively). However, benefits were discussed in only 28% of the physician–patient encounters; risks were not mentioned at all. Interestingly, physician estimates of the extent to which they provide more than 1 screening option were reflected in our videotape sample: Survey responses suggested that physicians offer more than 1 option to 54.0% of screening-eligible patients; we observed mention of more than 1 option in 61% of the videos.

Similarly, physicians responding to the survey reported that 76.5% of visits with screening-eligible patients resulted in a screening plan. Physician–patient encounters in the videotape sample were categorized as either resulting in a decision (schedule now, schedule later) or no plan for screening. Nearly three quarters (72%) of the videotaped discussions about colorectal cancer screening resulted in a plan for action. These discussions covered 2 more communication tasks (M=5.3, SD=3.5) than did those with no resolution (M=3.2, SD=2.5) and, accordingly, took more time (95.5 seconds versus 51.2 seconds). Screening discussions with no resolution tended to be brief and were usually embedded in more general health discussions. For instance, a discussion during the head and neck exam (see Box 1) did not result in a decision to schedule screening. In contrast, for many of the encounters in which a resolution for screening was achieved, the physician's recommendation was more explicit and the determination to achieve a plan for action more evident. An example of such a discussion is provided in Box 2. As noted above, the mean length of discussions leading to a plan was approximately 1.6 minutes; the longest was 3.9 minutes.

DISCUSSION

Physicians in our study clearly recognized the importance of discussing colorectal cancer screening with patients, but placed only moderate value on discussing more than 1 option. Physicians in both the urban and suburban groups viewed colonoscopy as the most important screening option and had

Box 1. Sample discussion with no resolution

MD: Did Dr. L. do flexible sigmoidoscopy exams?

PT: Uh, I don't know about the flexible. I don't know what you mean.

MD: Did he do exams?

PT: He did a sigmoidoscopy long ago.

MD: Long ago?

PT: Yeah.

MD: More than five years?

PT: Probably, probably.

MD: Five years is how often. You can put your glasses on if you like. I would avoid it if you would have had one within five years by anyone. But if you hadn't, then it's worth checking once. At least. But we're generally recommending five years for right now.

PT: Mm hmm.

MD: Okay, good job. And tongue up to the top of your mouth. Good. Next are your arteries in your neck.

Box 2. Sample discussion resulting in decision to schedule screening

MD: And then the other thing is, which I'm sure you're not going to love to hear, is screening for colorectal cancer. You're at that age now where that actually is an issue as well. And it's been getting a lot of press lately, so people are aware of that. But colon cancer starts in a polyp and if you detect in a polyp, it's removable and curable. But if you let it go, and that polyp grows, then often it goes to a stage where it is no longer curable. So, I do recommend yearly stool cards which I'll send you home with.

PT: Okay.

MD: Okay? And a flexible sigmoidoscopy, which is a tube put in through the rectum to take a look. That should be done every five years, not every year.

PT: Okay, I've never had that done.

MD: Right –

PT: I've never really sought it out.

MD: Well most people haven't.

PT: Um, tell me a little bit about the test.

MD: Okay, I absolutely will. Hang on a second. I'll just get these stool cards while I'm thinking of it. Here they are. You do two enemas usually at home the morning of the procedure or a couple hours before the procedure. Just Fleet enemas you buy in a drug store. That's the only kind of prep you need to do. Sometimes they'll make you do clear liquids for a few hours before hand, but nothing else. Then they insert a tube into the rectum; a well-lubricated, thin tube into the rectum and they push air into it, blow air into the sigmoid colon, which is the lower half of the colon, and look. And they push the tube up through the colon and look for polyps. They look at the lining of the colon. If they see polyps, they will stop it. They'll biopsy them and if they're fine, a benign polyp, then they don't do much more. Sometimes they will say, "Okay, we need to do the whole colonoscopy to be sure there aren't polyps elsewhere". And then that's done – that's not done right then and there. That's done after a prep and you're sedated for a colonoscopy. But the flexible sigmoidoscopy you're not sedated for. I shouldn't say it is painless. It's often a little uncomfortable to have gas blown in there. But it's not bad. I can say that out of personal experience. The idea of it is worse than the actual test.

PT: Okay.

MD: Are you ready for that? You want to do that?

PT: I want to have a long life.

similar views regarding most communication tasks. However, we found marked group-related differences in perceived importance and accomplishment of both flexible sigmoidoscopy and CT imaging. It is possible that physician–patient communication is influenced by the availability of resources and perceived interests of the patient population. More specifically, physicians may focus their discussion on options they believe their patients are most likely to access. Accordingly, one might expect a very different picture to emerge if different health systems were studied. For instance, in Federally Qualified Health Centers (FQHCs) caring for underserved patients, FOBT may be seen as the primary, if not only, available option. A study by Wolf and colleagues found that among 31 FQHCs, 95% of patients who were compliant with screening had completed an FOBT. Colonoscopy was rarely recommended by these physicians.[16]

In most contexts, however, there is a good rationale for talking about more than 1 screening option. Indeed, in the absence of data supporting a particular colorectal cancer screening test, patient preference becomes an important determinant of which test should be used. Beyond being a hallmark of shared decision making,[24] offering options allows patients to identify the test that is most acceptable to them. For instance, some patients might have fears or concerns about colonoscopy, yet would consider completing a stool card test after discussing the benefits and risks associated with each option.[25,26] Whereas many physicians may view colonoscopy as the "practice standard," the value of other tests like the FOBT should not be discounted, as it is an equally viable screening option.[3,27] The importance of discussing more than 1 screening option takes on even greater salience in light of the finding by Denberg and colleagues that only half of patients referred for colonoscopy complete the procedure, primarily because of ineffective physician–patient communication and concerns about the test itself.[25] If physicians incorrectly perceive which factors (e.g., test accuracy) are important to patients, they might recommend colonoscopy, although some patients clearly see endoscopy as unacceptable.[28]

The physicians we surveyed generally reported rates of accomplishing general and test-specific communication tasks that parallel their perceived importance. However, the self-reported accomplishment of each test-specific task was vastly different than the rates observed in our sample of videotaped encounters. Whereas our videotape sample is small and does not directly represent the surveyed physicians, the difference between perceived and actual communication mirrors previous studies indicating that physicians may overestimate the scope of information actually discussed in practice.[22,29] In short, this study suggests that primary care physicians may not be meeting their own standards for discussing colorectal cancer screening.

The impact of omitting relevant communication tasks is highlighted by the finding that about 1 in 4 videotaped physician–patient discussions ended without any plan for screening action. This is especially problematic if physicians believe they have adequately discussed screening. Unless decision-relevant information is presented to the patient for consideration, the corresponding screening action is unlikely to occur.[16] Our observational analysis of medical encounters found that physician–patient discussions resulting in a screening plan took less than 45 seconds longer and covered more communication tasks than did those with no resolution. More specifically, a focused discussion of colorectal cancer screening required an average of about 95 seconds and was associated with explicit plans. It appears that physicians risk wasting time and effort if they engage in a fairly superficial discussion of colorectal cancer screening.

Our results suggest that physician communication about colorectal cancer screening could be significantly improved in practice. Some training modules and assessments already exist.[30,31] Ferreira and colleagues increased screening recommendation and completion rates among veterans by conducting a physician workshop on improving communication for colorectal cancer screening.[30] The intervention was part of a continuous quality improvement effort to provide physicians with feedback on their recommendations and patients' behaviors. Attention to the feedback loop is an important component, as physicians may be more likely to maintain a commitment to improving communication practices if they see a documented change in patient outcomes (e.g., increased completion of screening tests).[30] The use of innovative tools designed to provide patients with clear and consistent information as well as to support physician–patient discussions might also improve the frequency and quality of communication about colorectal cancer screening in medical encounters. Future research activities should be aimed at developing and testing the efficacy and effectiveness of such modalities.[32–36]

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