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Making It Work: Health Care Provider Perspectives on Strategies to Increase Colorectal Cancer Screening in Federally Qualified Health Centers

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Abstract

Objective—Colorectal cancer screening (CRCS) rates are low among men and women who seek health care at federally qualified health centers (FQHCs). This study explores health care providers' perspectives about their patient's motivators and impediments to CRCS and receptivity to preparatory education.

Methods—A mixed methods design consisting of in-depth interviews, focus groups, and a short survey. *Setting*: FQHCs in the Tampa Bay area. *Participants*: Seventeen health care providers practicing in FQHCs.

Results—Test-specific patient impediments and motivations were identified including fear of abnormal findings; importance of offering less invasive fecal occult blood tests; and need for patient-centered test-specific educational materials in clinics. Opportunities to improve provider practices were identified including providers' reliance on patients' report of symptoms as a cue to recommend CRCS and overemphasis of clinic-based guaiac stool tests.

Conclusions—This study adds to the literature on CRCS test-specific motivators and impediments. Providers offered unique approaches for motivating patients to follow through with recommended CRCS and were receptive to in-clinic patient education and. Findings are readily inform the design of educational materials and interventions to increase CRCS in FQHCs.

Keywords

colorectal cancer; screening; health care providers; communication strategies; medically underserved

Introduction

Colorectal cancer (CRC) is the third most commonly diagnosed cancer and the third leading cause of cancer death among men and women in the United States [1]. Routine colorectal cancer screening (CRCS) for average-risk asymptomatic adults beginning at age 50 [1, 2] is recommended. However despite proven effectiveness and widespread availability of various CRCS modalities, screening rates remain low. As a result, only 40% of CRC cases are diagnosed at an early stage [1].

Factors that may contribute to low screening include patient psychosocial issues, patient comorbidities, patient difficulty following the CRCS process, prior patient refusal of screening, negative experiences of others, high cost of screening, difficulty addressing prevention during acute-care visits, lack of time, low patient awareness and knowledge education about CRCS, lack of CRCS reminder and tracking systems, and patients' lack of seeking preventive [3-5].

Patient, provider, and/or the health care system impediments to CRCS are well documented. However, it is not clear how these factors influence and affect care obtained in a federally qualified health center (FQHC). FQHCs are community-based safety-net clinics that provide primary health care services to populations with limited access to health care (e.g., those who are medically underserved, recent immigrants, underinsured, uninsured, or recent immigrants) [6, 7]. CRCS tests are underutilized among many individuals seeking care at FQHCs. For example, the proportion of FQHC patients who are up to date on CRCS ranges from about 7% to 12%, primarily utilizing fecal occult blood test (FOBTs) [8, 9]. Among the various CRCS modalities, FOBT has the strongest evidence of clinical effectiveness from randomized controlled trials [10]. FOBT leads to a 30% reduction in CRC mortality and a 20% reduction in CRC incidence [11, 12] with acceptable cost-effectiveness [10, 13].

Among impediments to CRCS, even less is known about informational and communication-related in FQHC settings that may influence CRCS [8, 9, 14]. Given that CRCS was added as part of the recent changes to uniform data system (UDS) prevention measures in primary care for 2012, FQHCs have additional motivation to increase their communications about CRCS uptake. Under this change, FQHCs have are required to report the "percentage of adults 50 to 75 years of age who had appropriate screening for CRC (includes colonoscopy

10 years, flexible sigmoidoscopy 5 years, or annual FOBT) [15]. As such, this study provides a timely opportunity to examine provider perspectives on factors that both impede and motivate patient utilization of CRCS in FQHCs. A better understanding of these motivations may help researchers develop more effective interventions to increase provider discussion and recommendation of CRCS in FQHCs. Ultimately, such patient education interventions might also assist with adherence and quality of reporting of UDS measures for CRCS in FQHCs.

The purpose of this article is to report health care providers' perspectives of patient factors associated with CRCS, patient receptivity to clinic preparatory education, and strategies that could encourage patient follow through with CRCS recommendations in FQHCs. In addition, we sought to assess providers' test-specific recommendations in average-risk asymptomatic patients and perceptions of patient factors that influence CRCS recommendations.

Methods

This study was conceptualized, designed, and implemented within the context of a larger ongoing community-based participatory research initiative, the Tampa Bay Community Cancer Network (TBCCN). The primary goal of TBCCN is to reduce cancer disparities

among medically underserved populations in selected areas of western central Florida [16, 17]. A mixed-methods qualitative approach that utilized focus groups, individual interviews, and quantitative survey questions was implemented as the first phase of a larger scale intervention trial. Qualitative methods applied in this study are intended to elicit a broad range of opinions and experiences regarding the topic(s) and not do not aim for statistical significance or generalizability [18]. As such we sought to include a broad range of providers in order to capture the various perspectives on the breadth and scope of themes related to recommendation of colorectal cancer screening in FQHCs. Hence small samples will provide rich perspectives on a topic when saturation is reached (no new themes emerge) [18]. The goal was to garner information to be used in development of patient education materials and screening strategies acceptable to providers in FQHCs. The study was approved by the University of South Florida Institutional Review Board.

Recruitment

Researchers recruited health care providers via informational flyers posted in FQHCs located in western central Florida. FQHC directors also advertised the study in staff meetings and sent notices of upcoming onsite focus groups or interviews. Eligible providers included primary care physicians, nurse practitioners, physician assistants, nurses, and medical assistants whose usual role included identification of individuals eligible for CRCS and/or actual recommendation and patient education for CRCS.

Data Collection

The interview guide for the qualitative data collection was developed by the research team, based on published literature, [4, 19-21] and in collaboration with community partners, including representatives from FQHCs. The guide assessed providers' perspectives on the following content areas: (1) CRC information needs of patients, (2) factors that prevent or facilitate patient-provider discussion of CRCS, (3) strategies to enhance the efficacy of educational materials to increase CRCS, (4) patient factors that prevent or motivate uptake of CRCS, and (5) communication strategies and resources to enhance follow-up with CRCS recommendations.

Focus groups and interviews were held in clinic conference rooms or private offices and were conducted by at least two members of an experienced research team with training in public health, psychology, and nursing. Two focus groups and interviews were conducted with 17 providers. Thirteen providers participated in two focus groups that lasted approximately 60 to 70 minutes. Four providers who were unable to participate in focus groups were interviewed individually, and each interview lasted approximately 25 to 30 minutes. Informed consent was obtained from participants at the start of each interview or focus group session. At the end of the session, participants received a \$25 gift card for remuneration.

Along with the information collected via focus groups and individual interviews, providers were asked to complete two questions. The first question asked providers to rate the importance of ten patient-related criteria that might influence their CRCS recommendations and practices [22]. Response options included the following: not at all important, somewhat important, moderately important, and very important. Health care providers were also asked how often they routinely recommend six CRCS modalities to their average-risk asymptomatic patients [21]. Response options included the following: most of the time, some of the time, and never. For descriptive purposes, selected demographic and background information was obtained for each provider (age, race, ethnicity, discipline/training, years working at FQHC, personal CRCS preferences, and cancer history).

Data Analysis

All focus groups and interviews were audiotaped and transcribed verbatim by a professional transcriptionist. The transcripts were analyzed individually by three trained team members, using content analysis and constant comparison to first identify a priori codes based on the interview guides and then emergent themes within and across the interviews [18]. Differences between coders were resolved through consultation of an experienced member of the team. Frequencies, proportions, means, and correlations were computed from demographic and quantitative descriptive items as indicated. Bivariate analysis using Student's *t* test were conducted to examine differences in screening recommendation by provider demographics. Alpha (*P* value) was set at 0.05 for interpretation of significance. All statistical analyses were performed using SPSS, version 19 (Armonk, NY).

Results

Characteristics of Participants

Participants were from diverse racial/ethnic backgrounds and health care professions. Participants included 16 women and 1 man, with an average age of 41 years (SD = 10.8). Nine participants were Caucasian, four were African-American, one was mixed race, one was Asian, and two were Hispanic. Seven participants were physicians, two were physician assistants, six were nurse practitioners, and two were medical assistants. On average, they had worked at FQHCs for three years. Five of the providers had previously been screened for CRC, and two had a previous cancer diagnosis.

Qualitative Findings

The themes and strategies described by providers fell into four broad categories: (1) receptivity to preparatory patient education prior to an office visit, (2) factors that impact patient follow-up with screening recommendation, (3) communication strategies used by providers to motivate CRCs in their patients, and (4) system-wide resources needed within clinic to help providers.

Receptivity to preparatory patient education—Providers were asked their opinions about the ideal time to provide CRC education to enhance CRC discussions during office visits. Most felt patients would benefit from viewing educational materials prior to their office visit. *“I think it would prompt conversation and peak their interest and maybe remove the fear of having it done because most people I think are afraid of the colonoscopy.”*

The majority of respondents noted that giving media tools to patients to view at home would be ideal; however, some providers expressed concerns about their patients' ability to use a computer and their desire to watch a CRCs DVD/video at home: *“to go online and do research, that's something you and I would do but I don't think our patients [would]...some of them will but I think the majority won't; a lot of them don't even have computers...”*

There was consensus among most providers that playing an educational DVD in the patient waiting room was the best approach to presenting CRCs education to patients. Providers believed this was a “teachable moment” because patients were “stuck” in the waiting room, and they would be compelled to watch and listen to a DVD. An additional perceived benefit of playing the DVD in the waiting room was the opportunity for accompanying family members to receive CRCs information that may facilitate discussion with the patient. Providers also felt that in-clinic patient education would prompt patients to request screening tests or initiate discussions with providers.

While many providers endorsed the idea of playing a CRCS DVD in the waiting room, they were concerned that the content would not be appropriate for all patients. Providers were also concerned about the quality of the message in terms of engaging and entertaining the patients. In addition, they expressed concern about the technical issues involved in setting up a DVD player and television for patients.

Factors that impact patient follow-up with screening recommendation—

Providers were asked to recall typical situations in which patients may not follow CRCS recommendations. All providers felt the primary factor was related to the cost of screening, which sometimes was more of a factor than patient willingness. One provider noted, *“Lack of funds is a huge one; I mean, when you don't have money for gas, you're not likely to come back just for the sake of bringing in your kit.”* Providers also stressed that cost is a particular concern for patients who lack health insurance coverage and/or are unemployed. Additional patient related reasons mentioned by some providers included lack of time, problems with transportation, low literacy, and cultural beliefs.

Another commonly identified concern was fear. All providers perceived that fear and misconceptions/lack of knowledge were relevant barriers to cancer screening. *“They know cancer is a bad thing. Some patients equate cancer with death.”*

Providers believed patients would often not consider any CRCS because patients knew they would not be able to seek follow-up with a positive test (ie, see a surgeon or a gastroenterologist). Even among insured patients, fear of the screening procedure or of receiving abnormal results often causes patients to decline CRCS.

“It's the same reason...[that] some people don't do mammograms or Pap smears... the fear of knowing a bad outcome might prevent you from actually getting the test done. I think fear is a big factor, and how do you remove fear? I mean, gosh, that's huge.”

Providers believed some patients may not screen due to embarrassment related to the invasive nature of anal/rectal procedures. One physician reported, *“The whole anal thing, the whole rectum thing is a place of ‘don't go there.’ It's embarrassing, it's uncomfortable, and there are all kinds of stigma associated with it.”*

Thus providers supported a two-step strategy that emphasized the simpler, less expensive and convenient (can be mailed back) FOBT as an initial screening strategy for those who were uninsured or for whom cost or transportation was a strong impediment. In this strategy providers felt patients would be more likely to follow-up with a colonoscopy recommendation if the FOBT was abnormal.

Communication strategies to motivate CRCS in patients—When asked how they responded to patients who demonstrated disinterest in screening, all providers stated it was necessary to take time to explain not only the purpose of the procedure, but also its importance on a personal level. Providers mentioned using real-life examples, such as other patients who developed problems due to delayed CRCS. Many providers stated they would sometimes speak bluntly to patients (especially those in a high-risk group) and provide statistics to motivate patients to accept CRCS.

“Communication. First of all, communication and really explaining to them what is the purpose of doing it, talking to them about statistics...talking to them about how easy it is to just go forward...to go home whenever, follow these instructions in terms of your diet, and then go ahead and take it [FOBT].”

Many providers stated they gave their patients time to go home and process the information before making a decision. They also stated it was necessary to hold the patient accountable and discuss screening again with the patient at the next visit.

“I'm giving them time to sit down and read it, and the next time I see them...if it's a patient I see on a regular basis...then I get to say, 'Did you read the information? Do you have any questions?'”

One provider noted that patients are more likely to accept an FOBT after first discussing a colonoscopy. They will get an FOBT because they don't want to go through the steps necessary for a colonoscopy.

“Sometimes I discuss colonoscopy and they say, 'No, I don't have the money, or no, I can't do that'...and I say, 'Well, why don't you just do the Fecal Occult Blood and they'll be like, ok, that's much easier,' so it's easier to sell the Fecal Occult Blood once you have the conversation about colonoscopy.”

Resources needed—Providers were asked if any resources could be added to their clinic practices to ensure eligible patients received CRCS. The main issue identified by providers was the lack of a “system flag” in the electronic medical record indicating when a patient was eligible for testing, particularly for asymptomatic patients aged 50-75 years or those with risk factors.

“...colorectal [cancer screening] needs to absolutely be done when that patient says happy birthday...when you kiss 49 goodbye, you need to be in my little alert system that says, hey, when this patient comes in, we have to do this...‘as part of your 50th birthday party.’”

Other desired resources included a form to monitor which patients were offered screening and who received screening, attractive posters/pamphlets with education that promotes CRCS, and resources for follow-up care, especially for the uninsured. Many providers agreed that the availability of captivating educational materials written in plain language toward a low-literacy population and in a variety of languages beyond English (eg, Spanish) could be a major help to their CRCS promotion. Some providers had to print from the Internet or type out their own materials because none were available. Interestingly, all providers believed it was ultimately a patient's responsibility to follow through with CRCS.

Quantitative Items

Factors influencing provider decision to recommend CRCS—Respondents were asked to rate the importance of factors that may influence their decision to recommend CRCS to a patient. Results are summarized in Table 1. All providers (100%) stated that a family history of CRC, a patient's request for tests, published national guidelines and patient age between 50 and 75 years were moderately or very important factors. Twelve providers (71%) felt their professional organization's CRCS policy was moderately or very important to their CRCS recommendations. Only 9 providers (53%) believed it was moderately or very important to recommend CRCS if patients did not report CRC symptoms.

Bivariate analysis showed significant differences in factors influencing a provider's decision to recommend CRCS. Those who felt a patient's lack of report of CRC symptoms was not important or only somewhat important to the decision to recommend CRCS tended to be younger ($M = 32.8$ years, $SD = 5.8$) compared with providers who viewed patient report of CRC symptoms as somewhat/moderately important ($M = 49.0$ years, $SD = 8.1$) ($t(14) = -4.62$, $P = 0.000$). No differences were found by gender and discipline (physicians versus other providers) regarding factors that influence provider decision to recommend CRCS.

Provider recommendation of CRCS test to asymptomatic patients—Providers were also asked how often they recommended specific CRCS tests to average-risk asymptomatic patients aged 50 to 75 years. Provider preferences for routine screening are listed in Table 2. Providers overwhelmingly preferred to recommend colonoscopy 100% of the time, followed by clinic-based stool guaiac tests 88% of the time, and home-based FOBT 82% of the time. The least recommended CRCS tests were double-contrast barium enema and virtual colonoscopy. Bivariate analysis revealed significant differences in how often specific CRCS procedures were recommended for average-risk asymptomatic patients. Providers who recommended flexible sigmoidoscopy some or most of the time tended to be older ($M = 55$ years, $SD = 0.7$) than providers who never or rarely recommended flexible sigmoidoscopy ($M = 37$ years, $SD = 9.8$) ($t(14) = -2.32$, $P = 0.035$). Providers who recommended iFOBT some or most of the time tended to be younger ($M = 38$ years, $SD = 10.2$) than providers who never or rarely recommended iFOBT ($M = 52$ years, $SD = 5.1$) ($t(14) = 2.14$, $P = 0.051$). No differences were found by gender and discipline (physicians versus other providers) regarding recommendation of CRCS test to asymptomatic patients.

Discussion

Providers' perceptions of patient impediments to receiving CRCS in FQHCs are consistent with the traditional patient, provider, and organization/health system barriers widely documented in the literature. [4, 20, 21] In our study, the most frequently cited barrier to getting CRCS was fear — specifically, fear of a cancer diagnosis and fear of the colonoscopy procedure. The majority of providers perceived that for many patients, it was easier to simply avoid CRCS to delay facing and dealing with their fear. Providing strategies to address patients' fear of the CRCS procedure, of possible abnormal findings, and of their concerns over invasiveness of tests is one of the keys to increasing CRCS testing. Based on our results, these fears can be addressed via clinic-based patient education. Providers welcomed the idea of playing an educational CRCS DVD in their clinic waiting rooms to educate patients and prompt discussion, especially if the DVD is targeted to low-literacy populations. A clinic-based patient education tool to empower patients with the information, skills, and motivation to discuss and request appropriate CRCS tests would lead to an informed patient and may increase CRCS rates in this population [23, 24].

Providers who participated in our study described screening recommendations and strategies to increase CRCS as consistent with those of other qualitative studies [3, 5]. They illustrated multiple ways to encourage patients to get CRCS, with particular emphasis on personalizing the information by describing statistics, real life examples, and improved quality of life. Providers reported using patient-centered approaches in their communication, message repetition, building on their relationship with the patient, and patients' report of symptoms to tailor their CRCS messages. These findings are consistent with other literature suggesting providers tailor messages based on gender, education, and language but not on race/ethnicity [20]. The results of this study suggest that providers are motivated to develop strategies to increase CRCS uptake, a goal that would help improve the UDS reporting the FQHCs.

Provider responses to survey questions highlighted an over-reliance on patient-reported symptoms as a cue to recommend CRCS tests. Most providers believed it was moderately to very important to recommend screening when patients reported CRC symptoms, whereas only half of the providers felt the same when patients did not report CRC symptoms. This finding is contrary to the spirit of asymptomatic screening. A provider's busy schedule and competing demands may contribute to these findings. Providers' suggestions of including a “system flag” to increase CRCS in this population, tap into strategies that have shown promise in improving CRCS in other health care settings [25].

The most recommended CRCS modality within this group of health care providers was colonoscopy, followed by the clinic-based stool guaiac test. Other quantitative studies have shown similar trends in colonoscopy recommendation preference [6, 25]. These findings suggest several challenges and reflect a growing norm within the medical profession that views colonoscopy as the CRCS modality of choice despite patient-reported preferences as well as clinical effectiveness associated with the FOBT [5]. Access to colonoscopy screening is limited in FQHCs, and clinic-based guaiac tests are no longer recommended for CRCS [1, 2]. Therefore, more accessible alternatives, such as FOBT, should be promoted [11]. This is important in increasing accessibility of newer high sensitivity and specificity of single sample tests such as the fecal immunochemical test (FIT) [13]. The CRCS recommendation patterns in our study may be related to an organization's policies, which can enable or hinder provider behaviors. Providers reported feeling frustrated that patients were not following CRCS recommendations. However, it was not clear whether providers were discussing and recommending multiple or alternative screening tests. An area for further study is the investigation into the CRCS practices in this population, specifically asking providers to report why they prefer colonoscopy and clinic-based stool guaiac tests over the home-based FOBT/FIT. Most FQHCs are served by a mix of providers from several disciplines, thus our findings based on a diverse sample of providers may resonate with providers in this setting. Although we did not find any differences between physicians and other providers, it's possible that recommendations made by physicians may be more readily adopted than those made by other providers. Findings from this study corroborate and support the need for easily accessible patient-centered educational materials as well as other multi-level interventions to arm providers with sustained opportunities for increasing CRCS.

Results from our study must be tempered by its limitations. Although the sample size was small, it is consistent with expected samples in qualitative research (22). In addition, provider perceptions of patient CRC experiences are limited to those who responded and are not generalizable to other provider populations or geographic areas. These findings also reflect providers' self-reported recall of their CRCS recommendations and practices. The data were not validated with sources such as medical records or claims data. Quantitative items may not reflect the contextual realities of how the providers make actual decisions and recommendations for asymptomatic screening. Despite these limitations, the results of this study support the need for pragmatic educational approaches to increasing CRCS uptake and maintenance in medically underserved settings.

Although not the first of its kind, this study yielded important findings that will inform a follow-up study assessing the development and efficacy of clinic-based patient-focused CRC educational materials. The data identified important insights for content of educational materials, with special emphasis on motivating patients to discuss and request screening tests based on their age and in the absence of symptoms. These findings also identify an important potentially “teachable” moment for patients to receive CRCS education in the clinic while they wait for their provider appointment. This provides a contextually appropriate opportunity to “prime” the patient with salient test-specific information that could enhance capability to engage in meaningful discussions with providers about CRCS. Other literature has suggested benefits related to activating the patient through small-media interventions, but few have explored the context of and receptivity to clinic-based education while patients wait for their provider visit [23].

Colonoscopy screening is considered the “gold standard” of CRCS. Until it becomes more affordable to patients without insurance coverage, a focus on greater acceptance of home FOBT/FIT by providers and increased use [12] by patients can help to reduce the burden of CRC among the medically underserved population. In the meantime, a patient-centered

communication approach combining FOBT/FIT and low-literacy education in FQHCs and similar primary care clinics may be a plausible strategy. The current findings directly contribute to a growing body of literature suggesting the need for multi-level interventions that could help FQHCs meet UDS reporting requirements for CRCS, [15] and contribute highly to increased patient participation in preventive health screenings.

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Table 1
Patient characteristics that influence health care provider's recommendation of colorectal cancer screening by health care providers (N = 17)

Which of the following factors influence your decision to recommend colorectal cancer screening to a patient?		
	Not/Somewhat Important n (%)	Moderately/Very Important n (%)
Patient age between 50 to 75 years	0 (0)	17 (100)
Patient age 75 years and older	4 (24)	13 (76)
Health status generally good	7 (41)	10 (59)
Health insurance status *	9 (56)	7 (44)
Patient-reported symptoms	1 (6)	16 (94)
No patient-reported symptoms	8 (47)	9 (53)
Family history or other risk factors for colorectal cancer	0 (0)	17 (100)
Patient request for colorectal cancer testing	0 (0)	17 (100)
Organizational policy	5 (29)	12 (71)
Published national professional guidelines	0 (0)	17 (100)

*
N=16

Table 2
Provider preference recommendations of colorectal cancer screening tests for average-risk asymptomatic patients (N = 17)

For each of the following colorectal cancer screening procedures, indicate how often you recommend the procedure to average-risk asymptomatic patients age 50 to 75 years.		
	Never/Rarely n (%)	Some/Most of the time n (%)
Flexible sigmoidoscopy	14 (82)	3 (18)
Stool guaiac test in clinic	2 (12)	15 (88)
Home-based fecal occult blood test (FOBT)	3 (18)	14 (82)
Double-contrast barium enema	15 (88)	2 (12)
Colonoscopy	0 (0)	17 (100)
CT colonography (virtual colonoscopy)	15 (88)	2 (12)