Barriers to colorectal cancer screening in Hispanics in the United States: An integrative review

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ABSTRACT

Colorectal cancer (CRC) is one of the leading cancer killers in the U.S. despite the vast array of screening and detection methods available. The U.S. Hispanic population, in particular, reflects low rates of CRC screening. In order to get a comprehensive understanding of barriers to CRC screening in this population, an integrative review was performed in PubMed and CINAHL from 2002 to 2012; eight studies on various barriers to CRC screening among the U.S. Hispanic population were examined. Our findings recognized fear, cost, and lack of awareness as common barriers to CRC screening and more specific barriers applicable to the Hispanic population being low literacy/educational levels and lack of provider recommendations. Analysis indicated culturally-specific barriers to CRC screening among Hispanics, the largest being limited English proficiency. The review demonstrated a need for additional targeted approaches, awareness education, and provider training as ways to increase CRC screening in Hispanics.

1. Introduction

According to the CDC, of cancers affecting both men and women, colorectal cancer (CRC) is the second leading cancer killer in the United States. In the United States in 2007, 142,672 people were diagnosed with colorectal cancer, and 53,219 people died from it. Colorectal cancer affects men and women of all racial and ethnic groups, and is most often found in people aged 50 years or older. If everybody aged 50 or older had regular screening tests, as many as 60% of deaths from colorectal cancer could be prevented (CDC, 2010). CRC screening tests include those that are ordered for patients that are asymptomatic and designed to detect disease at an early stage, as opposed to diagnostic tests, which are ordered for patients presenting with signs or symptoms of disease (Getrich et al., 2012). Recommended screening tests for CRC include fecal occult blood test (FOBT), fecal immunochemical test (FIT), double-contrast barium enema, flexible sigmoidoscopy, and the gold-standard, colonoscopy (Rex et al., 2009). As one of the most preventable cancers, detection and removal of adenomatous polyps have been shown through randomized trials to reduce CRC incidence and mortality (Getrich et al., 2012).

Even though CRC screening is consistently recommended by clinical practice guidelines and has demonstrated decreased CRC incidence, adherence to these recommendations in Hispanics is lower than that of other races, and the majority of Hispanics do not get screened for CRC (American Cancer Society, 2011, 2012). A low 31.9% of Hispanics of eligible age report having had a CRC screening test, which may contribute to a later stage of disease at presentation and poorer prognosis than non-Hispanic Whites. Interestingly, the rates of CRC screening among Hispanics are low in contrast to their rates of screening for other cancers, such as breast and cervical (Natale-Pereira, Marks, Vega, & Mouzon, 2008). Data suggest that the low rates of CRC screening for Hispanics may not stem from a lack of access to care or from a general tendency to forgo cancer screening, but that there seems to be specific barriers related to CRC screening among this specific population. Some of these include: low health literacy, influence of their social groups, including family and friends, decreased confidence in healthcare providers, fatalism, and acculturation in immigrants of Hispanic origin and others (Shelton, Jandorf, Ellison, Villagra, & DuHamel, 2011). It is very important to understand these culture-specific barriers, and then develop targeted interventions to increase CRC screening among this population. The purpose of this paper is to synthesize the published research.
on barriers to colorectal cancer screening practices in the Hispanic population in the United States.

2. Background

About nine out of every 10 people whose colorectal cancer is found early and treated are still alive 5 years later (American Cancer Society, 2008). While screening rates have definitely increased in the U.S. over the past several years, not enough people are getting screened for colorectal cancer; as of 2008, 62.9% of adults aged 50–75 years were screened as recommended. In 2002, only 51.9% of Americans were screened as recommended. And while screening rates continue to rise in the U.S., 22 million people are still not up-to-date with colorectal cancer screening (Plescia, Richardson, & Rim, 2010).

The risk of developing CRC increases with advancing age, and more than 90% of cases of CRC occur in people aged 50 or older (CDC, 2010). The current CRC screening recommendations by the American College of Gastroenterology (ACG) are: “Colonoscopy every 10 years, beginning at age 50, remains the preferred CRC screening strategy. It is recognized that colonoscopy is not available in every clinical setting because of economic limitations. It is also realized that not all eligible persons are willing to undergo colonoscopy for screening purposes. In these cases, patients should be offered an alternative CRC prevention test (flexible sigmoidoscopy every 5–10 years, or a computed tomography (CT) colonography every 5 years) or a cancer detection test (fecal immunochemical test for blood, FIT ((recommended)) or fecal occult blood test, FOBT)” (Rex et al., 2009). The ACG points out that age 50 applies to both genders and those patients with average risk (i.e. no family history of colorectal neoplasia), and that African Americans should start screening at age 45. Other CRC risk factors that must be accounted for when assessing the target population for CRC screening are personal or family history of colorectal cancer or polyps, inflammatory bowel disease, genetic syndromes such as familial adenomatous polyposis (FAP) or Lynch Syndrome, and extreme lifestyle habits such as heavy tobacco use or obesity (Centers for Disease Control & Prevention, 2010).

Hispanics/Latinos represent the fastest-growing ethnic groups in the United States. There were 35.3 million Latinos living in the U.S. in 2000, comprising 12.5% of the total population. By 2050, it is expected for the numbers to grow to 102.6 million, or 25% of the population (Natalie-Pereira et al., 2008). Like other minorities, Latinos tend to experience poor health outcomes, are disproportionately affected by disparities in access to health care for multiple reasons, and tend to be diagnosed at later disease stages (Getrich et al., 2012). In general, low rates of CRC screening are a complex problem that involves multiple elements, including families, communities, and health care systems (Jandorf, 2010). Although barriers to CRC screening among adults and other minorities such as African Americans in the United States have been widely reported, few studies have examined barriers and reported an understanding of why there are such high rates of nonadherence specifically among Hispanics/Latinos (Garcia-Dominic, 2012). But research on other cancers has identified several barriers to cancer screening that are unique to the Latino population. Many have focused on the patient’s perspective and explored a wide spectrum of psychological and cultural factors that could play a role in willingness to undergo CRC screening, while others have examined system and healthcare access factors that could facilitate or present barriers to having CRC screening (Jibara, Jandorf, Foderia, & Duhamel, 2011). Unfortunately, the opportunity for CRC prevention is often missed because screening participation remains low among Hispanics, despite relatively favorable statistics regarding lower incidence and mortality from CRC among Hispanics in the U.S. (Zhou et al., 2011). Interestingly, CRC incidence among Hispanics is reported to increase with increasing time spent in the states. With early detection, CRC can be treated successfully, with survival for localized, regional, and distant stages at 90%, 68%, and 10%, respectively (American Cancer Society, 2008). An estimated 70% to 80% of all colorectal cancers occur among those with no personal or family history of the disease, so lack of family history should not be a deciding factor for CRC screening (Coronado, Golovaty, Longton, Levy, & Jimenez, 2011). Therefore, addressing barriers and interventions to increase screening rates in this rapidly increasing minority group are urgently needed.

According to the 2006 CDC Behavioral Risk Factor and Surveillance Survey (BRFSS), only 15.1% of Hispanics had received an FOBT in the past 2 years as compared to 24.5% of non-Hispanic Whites. Also, lifetime screening colonoscopy or sigmoidoscopy participation was less among Hispanics than non-Hispanic Whites (46.6% vs. 59.1%, respectively). Other studies suggest that failure to receive colorectal cancer screening is more common among foreign-born Hispanics as compared to U.S. born Hispanics and among the uninsured (Coronado et al., 2011). There have been programs designed and launched to help increase CRC screening rates, such as the national Screen for Life campaign specific for promoting CRC screening, regional educational/research programs, and state cancer control programs, many of which included educational materials in Spanish as well as English (Zhou et al., 2011). These have helped raised awareness of screening in the general population, but important gaps still remain in reaching certain groups, specifically the Hispanic population. There still remains a lack of quality research designed to provide specific and culturally appropriate interventions to increase CRC screening rates specifically in Hispanics (Green, 2008). Programs aimed at increasing CRC awareness and screening in this group will only be successful if the specific barriers and health beliefs of this population are fully recognized and addressed.

The health belief model was used to guide our inquiry to understand patients’ perceived barriers to receiving colonoscopy screening as recommended (Rosenstock, Strecher, & Becker, 1988). In the Hispanic population, some of the perceived barriers include: the fear of death and pain associated with cancer, specific Hispanic cultural factors such as embarrassment and machismo, and the cost of screening, lack of medical insurance, and lack of transportation availability (Fernandez et al., 2008). Education about colorectal cancer is also deficient, with studies showing that some in the Hispanic population have not even heard of colorectal cancer and sometimes confused it with other cancers like prostate (Fernandez et al., 2008). Fatalism and health literacy may also play a role in sub-optimal colorectal cancer screening (Shelton et al., 2011). The purpose of this review is focused on comprehensively describing the perceived barriers to colorectal screening in Hispanics. By becoming knowledgeable about perceived barriers, nurses can identify these barriers and help patients overcome them.

3. Research methods

The plan for searching the literature included a comprehensive examination of articles pertaining to the barriers of colorectal screening among the Hispanic population. The databases that were searched included CINAHL and PubMed. The Cochrane library was initially examined to verify that there were no other synthesis studies available on this specific topic.

Specific search words that were utilized in CINAHL were: colorectal neoplasms, cancer screening, and Hispanics. Health beliefs was initially used as a search criterion, along with colorectal neoplasms, cancer screening, and Hispanics, but was unlikely to generate adequate studies. The broader search of colorectal neoplasms, cancer screening, and Hispanics was then used and narrowed down based on search inclusion criteria. Specific search words that were utilized in PubMed were: colorectal neoplasms/or colonoscopy, Hispanic Americans, culture, attitude, and barriers. Inclusion criteria incorporated studies that were specific to the Hispanic population, screening of colorectal cancer only, and barriers to screening. The studies were included regardless if the study primarily focused on women or men.
Studies were deemed relevant if they were within the years of 2002 through 2012 (Figure 1). Exclusion criteria were studies that based research of colorectal cancer screening on the general population or classified participants as minorities but did not group into distinct classes such as Hispanics, Asians, or African Americans. African Americans, Asians, Native Americans and other minority groups were excluded from the research findings. Excluded also were studies on general cancer screening, which were not specifically based on colorectal cancer. All studies that researched interventions were excluded because focus of this synthesis was comprehensively focused on describing the perceived barriers in colorectal cancer screening among the Hispanic population (Figure 1). Evaluation of the quality of the studies was performed by using general research evaluation guidelines. A precise research question that was designed for open-minded research as opposed to a question that leads the researcher to a definite conclusion was essential. Type of study, whether quantitative or qualitative, was ascertained. Design type was evaluated and scrutinized to ensure that the particular article used ideal and appropriate design. The theoretical framework of the study was obtained and documented. Data sources were considered in the evaluation of quality of the study. Data and analysis of the studies were designed in an order that the reader could effortlessly understand the information. Sample size, method, and sample characteristics were analyzed. Results, conclusions, and implications were documented well, and limitations of the study were included (Polit & Beck, 2008).

Fig. 1. Flow diagram of literature search.
### Table 1
Characteristics of studies that examined perceived barriers to CRC screening in the Hispanic population.

<table>
<thead>
<tr>
<th>Author(s)/Date</th>
<th>Purpose of study</th>
<th>Study design, sample, setting</th>
<th>Findings</th>
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</table>
| A. Natale-Periera et al., 2008 | To identify both the barriers and facilitators of CRC screening among Latinos, specifically as they relate to knowledge, level of awareness, culture and health beliefs. This is a needs assessment (Phase I) of an intervention study to increase CRC screening rates among Latinos | Descriptive qualitative  
N = 36  
Age range: 23–67  
Women (77.8%)  
Male (22.2%)  
Latino staff members from five community-based organizations  
Mean years living in the U.S.: 25.1  
Community-based organization in Newark, New Jersey | Patients' perceived barriers to CRC screening measured in verbal focus groups to determine themes and conclusions  
Language, lack of health insurance, undocumented status, and little knowledge of CRC were mentioned in all five focus groups  
Individuals in three of the focus groups identified additional barriers: the idea that people do not talk about CRC, the low-perceived risk of CRC, the low priority for CRC screening, other health concerns, fear, unclear instructions, use of alternative healthcare |
| O. Garcia-Dominic et al., 2012 | To describe knowledge of and barriers to CRC screening by sex and geography among Latino adults in Pennsylvania | Descriptive qualitative  
N = 82  
Age: ≥50 years lived in Pennsylvania for at least 6 months  
Male (40%)  
Female (51%)  
Urban (54%)  
Rural (46%)  
Country of origin, education income, insurance and preference of language included  
Average years of residency in US: 9  
Community-based in two counties in Pennsylvania. Dauphin (urban) and Juniata (rural) | Patients' perceived barriers to CRC screening measured in survey that discussed health behaviors, verbal on 1 on 1 scripted interviews, and focus group discussions  
Categories: Physical environment—Location Structural barriers—Availability, literacy, affordability, relational fear  
Individual level Barriers—Economic status, educational status, stigma  
Issues Physician-related barriers—Lack of communication, identity gaps, communicator style issues |
| A. Varela, Jandorf, & Duhamel, 2012 | To gain better understanding of factors (both barriers and facilitators) that affect the decision, by Hispanics, to have (or not have) screening colonoscopies | Descriptive qualitative  
N = 23  
Female (12)  
Screened:Female (61.3%)Male (62.2%)  
Not screened:Female (59.8%)Male (70.3%)  
Three healthcare centers in East Harlem neighborhood in Manhattan, New York | Patients' perceived barriers to colorectal cancer screening measured in verbal focus groups with outlines used to guide discussion  
Categories:Ignorance Cancer in security  
Mistrust Machismo Fear of the exam Time Embarrassment No symptoms Means Inaccessible Myths |
| C. Getrich et al., 2012 | To determine barriers to CRC screening for New Mexico Hispanics being seen in primary care clinics and to explore the influence of machismo as one component of the broader examination of CRC barriers | Exploratory qualitative  
N = 52  
Hispanic or Mexican  
Age range: 50–79 years  
Men (50%)  
Women (50%)  
High school or less (60%)  
College or more (40%)  
Years in the US 0–20 years (63%)20+ years (37%)  
6 primary care clinics in New Mexico (whose providers were members of the Research Involving Outpatient Settings Network) | Patients' perceived barriers to CRC screening measured in verbal 1-on-1 scripted interviews  
Categories:Lack of insurance Lack of funding and referral sources for colonoscopy Difficulty making appointments Undocumented legal status  
Lack of provider recommendation Low levels of CRC knowledge and awareness Low health literacy Lack of understanding of screening test procedures/medical jargon Embarrassment Fear Machismo/Shame |
| M. Fernandez et al., 2008 | To explore the use of preventive services among Hispanics on the border, identify important barriers to CRC screening, and explore the relative strength and cultural context of facilitators and barriers to screening | Descriptive qualitative study  
N = 92  
Age range: ≥50 years  
Men (37.5%)  
Women (62.5%)  
Other: Hispanic or Latino | Patients' perceived barriers to CRC screening measured in verbal 1-on-1 scripted interviews  
Categories: Healthcare utilization Health behaviors CRC screening behaviors  
Internal factors influencing CRC screening: Knowledge Attitudes Beliefs about cancer and screening  
External factors influencing CRC screening: System level barriers Patients' perceived barriers to CRC screening measured in responses to the Centers for Disease Control's 2006 Behavioral Risk Factor Surveillance System (BRFSS) survey |
| J. Diaz, Roberts, & Goldman, 2012 | To examine the relationship between language and receipt of CRC screening tests among Latinos and non-Latinos using a geographically diverse, population-based sample | No prior or current cancer diagnosis (other than non-melanoma skin cancer)  
Education level= 5 (43%);6–12 + (57%)  
Insurance:Yes (68%);None (32%)  
In local clinics or community centers of 3 counties along the Texas–Mexico border (El Paso, Cameron, & Webb Counties)  
Cross-sectional quantitative study  
N = 99,895  
Age range: ≥50 years  
Male (44–45%)  
Female (54–55%) | | |
| L. Jandorf et al., 2010 | To examine barriers and facilitators associated with colonoscopy screening among average risk, low income primarily immigrant Hispanics. | 23 states within US | Categories: Limited English proficiency Presence Lack of insurance and health care provider Lower educational and income level |
4. Results

As can be seen in Table 1, eight studies were included in this synthesis (Diaz et al., 2008; Garcia-Dominic et al., 2012; Getrich et al., 2012; Goldman et al., 2009; Fernandez et al., 2008; Jandorf et al., 2010; Natale-Pereira et al., 2008; Varela et al., 2010). The purpose of these articles was to identify the barriers to colorectal cancer screening among the Hispanic population. Four articles explored general barriers in the Hispanic population (Fernandez et al., 2008; Goldman et al., 2009; Jandorf et al., 2010; Varela et al., 2010), while the other four articles examined specific barriers such as language, the influence of machismo, knowledge of CRC, level of awareness of CRC, the Hispanic culture, health beliefs, gender, and/or geography (Diaz et al., 2008; Garcia-Dominic et al., 2012; Getrich et al., 2012; Natale-Pereira et al., 2008).

Five of the studies were descriptive qualitative studies (Garcia-Dominic et al., 2012; Fernandez et al., 2008; Jandorf et al., 2010; Natale-Pereira et al., 2008; Varela et al., 2010), one was explanatory qualitative study (Goldman et al., 2009), one was exploratory qualitative study (Getrich et al., 2012), and one was a cross-sectional quantitative study (Diaz et al., 2008). Sample sizes varied from 35 to 400 in the qualitative studies; the quantitative study sampled 99,895. Six of the eight studies’ participants were aged 50 or older (Diaz et al., 2008; Garcia-Dominic et al., 2012; Getrich et al., 2012; Fernandez et al., 2008; Jandorf et al., 2009; Varela et al., 2010), which is the recommended age to start colorectal cancer screening for average risk adults by the American Cancer Society (2012). One study sampled participants who were age 40 and above (Goldman et al., 2009), and one study Natale-Pereira et al. (2008) sampled Latino staff members on what they perceived were barriers of Hispanics, age range 23–67. All of the studies stratified the participants based on their gender with four of the studies having close to 50/50 gender distribution (Diaz et al., 2008; Garcia-Dominic et al., 2012; Getrich et al., 2012; Goldman et al., 2009). Four studies’ sampled participants included significantly more women than men (Fernandez et al., 2008; Jandorf et al., 2009; Natale-Pereira et al., 2008; Varela et al., 2010). Educational level was only discussed in two studies; in one study 60% of participants had a high school education or less (Garcia-Dominic et al., 2012), and the other study 43% had 5 years of education or less (Getrich et al., 2012). Average years of residency was discussed in four studies: in Natale-Pereira et al. (2008), mean years was 25.1; in Garcia-Dominic et al. (2012), average years was 9; in Goldman et al. (2009), approximately 40% of each gender were living in US between 5–15 years; and in Fernandez et al. (2008), 51% of study participants have been living in the US for greater than 20 years. Years of residency are important because studies have shown that Hispanic people who are more acculturated are more likely to receive screening for colon cancer (Johnson-Kozlow, 2010).

Six of the articles’ samples were collected from community-based clinics (Garcia-Dominic et al., 2012; Getrich et al., 2012; Fernandez et al., 2008; Jandorf et al., 2009; Natale-Pereira et al., 2008; Varela et al., 2010) or other community settings such as supermarkets or Spanish-language radio (Goldman et al., 2009), and one was a survey of 23 states (Diaz et al., 2008). Five of the qualitative studies settings were based in the northeastern area of the United States (Garcia-Dominic et al., 2012; Goldman et al., 2009; Jandorf et al., 2009; Natale-Pereira et al., 2008; Varela et al., 2010), and two of the studies were based in the south/southwestern part of the United States (Fernandez et al., 2008; Getrich et al., 2012). The quantitative study (Diaz et al., 2008) surveyed 23 states within the United States.

Table 2 demonstrates the common barriers that Hispanics perceive are decreasing their colorectal cancer screening rates. One overall theme that was consistent in all of the studies was fear; fear of the screening procedure or fear of cancer diagnosis. Other widespread barriers that were overwhelmingly repeated in many of the studies include: language barriers (Diaz et al., 2008; Garcia-Dominic et al., 2012; Fernandez et al., 2008; Jandorf et al., 2009; Natale-Pereira et al., 2008), lack of health insurance/affordability of screening (Diaz et al., 2008; Garcia-Dominic et al., 2012; Getrich et al., 2012; Goldman et al., 2009; Fernandez et al., 2008; Jandorf et al., 2009; Natale-Pereira et al., 2008; Varela et al., 2010), accessibility of screening (Garcia-Dominic et al., 2012; Varela et al., 2010), low or lack of knowledge of CRC screening recommendations (Fernandez et al., 2008; Garcia-Dominic et al., 2012; Getrich et al., 2012; Natale-Pereira et al., 2008; Varela et al., 2010), and low educational status (Diaz et al., 2008; Garcia-Dominic et al., 2012). Common emotional perceived barriers included machismo that men does not want to know that they are sick (Garcia-Dominic et al., 2012; Getrich et al., 2012; Goldman et al., 2009; Varela et al., 2010), mistrust of the healthcare system (Garcia-Dominic et al., 2012; Jandorf et al., 2009;
5. Conclusions

The results of this research synthesis demonstrate that there are indeed many commonly perceived culture-specific barriers to CRC screening specific to and among the Hispanic population and also supports the notion of limited English proficiency as possibly the largest marker for decreased access to healthcare, lower health literacy, and lower acculturation. Fear is another frequently discussed theme among these studies. Results are consistent with past research that identifies fear, cost, and lack of awareness as common barriers to CRC screening among all racial/ethnic groups, with emerging additional themes of low literacy and educational levels, stigma associated with colonoscopy, and lack of provider recommendation for the Hispanic population (Fernandez et al., 2008). These findings are valid and relevant as the Hispanic population continues to be the fastest growing population in the United States, yet the rates of recommended CRC screening continue to be less than half of those among other races (American Cancer Society, 2008). With CRC being the second most commonly diagnosed type of cancer in Hispanics, it is of the utmost importance that these specific barriers to screening be recognized by healthcare providers and addressed appropriately.

The results of the research were consistent with past research and also extend to further percieved barriers of CRC screening which is the strength of this investigation. However, there are some limitations in this review. In all of the studies that employed focus groups, the generalizability of the findings was limited. Also in focus groups, socially desirable responses may be rewarded, so this may have led to some inaccuracy of result reporting by the participants. Seven of the eight studies reviewed included populations from 6 states, while one study included telephone survey information from 23 states. Findings from these studies cannot necessarily be generalized to the entire Hispanic population of the states the studies were conducted in or to the United States, or also to Hispanic subpopulations of Mexicans, Hispanics, and Latinos. The one-on-one interviews could introduce bias based on the interviewer’s style and emphasis or de-emphasis of particular topics, and the telephone survey only represented households with landline telephones, which may not be representative of the U.S. population. Three of the studies had significantly more women than men in their sample, which may skew the generalizability of the studies to both genders. In addition, one study sampled Hispanics who were older than 40. As mentioned previously, the recommended age for screening for CRC is age 50 or greater; surveying people who are below this recommendation may alter the results because the people age 40–49 should not be recommended to have screening unless they are at increased risk. This review was guided by the health belief model to focus on perceived barriers to CRC screening at all stages of human behavior change; transtheoretical model of human behavior change can provide us further information on differences in patient perceived barriers at different stages of behavior change.

This review has significant nursing implications. Educating patients on the importance of CRC screening and the various screening options can help overcome many, if not most, of the perceived barriers to screening. Provider training to improve culturally competent care is highly implicated. Having culturally appropriate and sensitive health educational materials available in the preferred language of the patient and using appropriate terminology was also important. The communities are diverse, and the educational material and methods should be tailored to meet the diverse needs of the clients. Navigator systems may prove useful as they can play a pivotal and motivational role in helping patients follow through with screening. Some common themes emerged regarding facilitators for CRC screening, the most recurring one including receiving recommendations from health care providers, which shows the importance of a solid provider–patient relationship to help promote and facilitate screening particularly this population.

More research is implicated to expand our educative communication style towards the Hispanic population and to further understand their ethno-medical ideas about cancer causation, prevention, cancer treatment, and health and disease in general. And more research is needed to evaluate the effectiveness of cancer control intervention programs for Hispanics. Those Hispanic individuals who have had CRC screening should be studied to learn about their motivation and reasons for action. Further research is indicated to develop public awareness campaigns and individual counseling strategies that address the perceived barriers to screening in Hispanics, as well as programs that address high screening out-of-pocket costs and limited or no insurance coverage issues for low-income Hispanics. Most studies reviewed for this synthesis were qualitative studies to explore cultural factors, and more quantitative studies need to be followed in the future to confirm the findings. The end goal would be to gain a better understanding of the barriers to help implement system changes for increased CRC screening.

References


