



Published in final edited form as:

Health Promot Pract. 2026 January ; 27(1): 94–102. doi:10.1177/15248399241306409.

Colorectal Cancer Messaging and Gaps in Knowledge Among Screening-Eligible Individuals

Ginny E. Kincaid, MPH¹, Carolyn Headley, MSPH¹, Anna Jaffee, BA², Bria Marlowe, MPH³, Ally Moehring, BA¹, Will A. Murphy, BA⁴, Laura K. Vercammen, MPH⁴

¹Centers for Disease Control and Prevention, Atlanta, GA, USA

²Brunet-García, Jacksonville, FL, USA

³Katmai Government Services, Anchorage, AK, USA

⁴Fors Marsh, Arlington, VA, USA

Abstract

Shifts in colorectal cancer (CRC) screening, including guidance from the United States Preventive Services Task Force lowering the recommended screening age from 50 to 45 years in 2021, may leave gaps in clinicians' understanding of related barriers and beliefs held by patients. This study uses the National Institute on Minority Health and Health Disparities Research Framework to analyze factors influencing CRC screening uptake among individuals aged 44–54 years and identifies how gaps in knowledge intersect with screening barriers, particularly as they relate to the health care system and sociocultural environment. In 2022, the Centers for Disease Control and Prevention's Division of Cancer Prevention and Control's Screen for Life campaign conducted 12 online focus groups to gather audience insights and test materials. Researchers conducted the focus groups in English and Spanish with individuals aged 44–54 years who had never had CRC and had never received a CRC screening. Focus groups gauged participants' knowledge, awareness, and behavior pertaining to CRC and CRC screening. Results show that participants often lacked knowledge about risk factors and screening modalities and appreciated emotionally resonant communication approaches that addressed gaps in knowledge using demystifying, destigmatizing language and representative imagery. Findings also indicate a need to help patients overcome barriers related to insurance coverage, treatment options, and discrimination. Results may guide the development of future health promotion efforts and empower health care providers to approach conversations with their patients with additional context regarding patients' needs.

Keywords

behavior change; cancer prevention and control; colorectal cancer; health disparities; health promotion; qualitative research; social determinants of health; social marketing/health communication

On May 18, 2021, the U.S. Preventive Services Task Force (USPSTF) lowered the recommended age for initiating regular colorectal cancer (CRC) screening from 50 to 45 years, expanding the pool of adults eligible to receive screening (U.S. Preventive Services Task Force et al., 2021). Responding to the increasing incidence of CRC in adults aged 40–49 years (J. S. Lin et al., 2021; Siegel et al., 2017; Virostko et al., 2019), USPSTF recommendations stated that providers should recommend stool-based tests (e.g., fecal immunochemical test [FIT], guaiac-based fecal occult blood test [FOBT], and stool DNA test) and direct visualization tests (e.g., colonoscopy, CT colonography, and flexible sigmoidoscopy) to individuals aged 45–75 years.

Individuals who are newly eligible for screening may experience barriers to receiving CRC screening (Johnson Shen et al., 2020; Wainwright et al., 2022; Weiss et al., 2017), some of which were exacerbated by the COVID-19 pandemic (Cancino et al., 2020; Corley et al., 2021; van den Puttelaar et al., 2023; Zhou et al., 2022). Newly eligible adults contend with historical barriers to screening, including financial concerns, a lack of trust in the health system, and varying perceptions of risk and screening modalities (Ahmed et al., 2013; Brandzel et al., 2017; Moser et al., 2014). Health care providers (HCPs) and public health practitioners may have gaps in their understanding of behavioral factors and messaging strategies that can influence the uptake of CRC screening among newly eligible individuals (Underhill & Kiviniemi, 2012; Weiss et al., 2017).

In the National Institute on Minority Health and Health Disparities (NIMHD) Research Framework, factors affecting health outcomes are sorted across five domains of influence: biological, behavioral, physical/built environment, sociocultural environment, and health care system; and four levels of influence: individual, interpersonal, community, and societal. Factors within these domains include cultural identity, family/peer norms, discrimination, societal structure, health literacy, and insurance coverage (National Institute on Minority Health and Health Disparities, 2018). Negative perceptions of and misconceptions about screening, poor medical care, the cost and time requirements of screening, and other barriers affecting CRC screening uptake can be understood within this conceptualization of health disparities.

Research indicates that patients may hold entrenched beliefs that decrease their likelihood of receiving CRC screening, such as perceptions of cancer-related death and fear of invasive methods used during a colonoscopy (Bromley et al., 2015; Moser et al., 2014). Among some patients, prior culturally insensitive or offensive health care experiences may lead to infrequent visits, fewer opportunities to receive a screening recommendation from an HCP, and lower rates of CRC screening (Brandzel et al., 2017). Patients who are male, have low income, have limited English proficiency, and lack health insurance are especially likely to avoid seeing their physician (Brenner et al., 2016; Moser et al., 2014). HCPs, meanwhile, may have limited awareness of persistent barriers faced by patients accessing CRC screening and thereby struggle to offer sufficient counseling to patients in advance of screening (Johnson Shen et al., 2020; Lafata et al., 2014; Weiss et al., 2017).

Awareness of screening eligibility and modalities remains somewhat low among the general population. One 2018 survey found that 36% of respondents correctly identified the

recommended age to begin CRC screening for individuals at average risk (Mueller et al., 2022). Although women were more likely than men to correctly identify the screening age, they rated the importance of being screened lower (Mueller et al., 2022). Varying perceptions of risk can affect screening behavior, in that individuals who believe they are at risk for CRC are slightly more likely to complete screening (Atkinson et al., 2015). Misconceptions about risk pose additional barriers to access. In the 2018 survey, 71% of participants believed genetics was the primary determinant of developing CRC. A lack of awareness regarding the effectiveness of preventive behaviors may contribute to fatalistic beliefs that genetic risk is a death sentence (Mueller et al., 2022; Wang et al., 2013). These barriers contribute to low screening rates, especially among historically underserved populations (Bromley et al., 2015; Hwang, 2013; Johnson Shen et al., 2020; Wang et al., 2013).

Effective solutions to help mitigate these barriers require tailored communication strategies that address multiple factors of the NIMHD Research Framework and offer screening-eligible individuals the information they require to access screening (Brenner et al., 2016; Harper et al., 2021). Efforts that incorporate cultural values and attend to the fears or apprehensions of their audience can increase patients' receptivity to CRC recommendations and encourage screening (Cueva et al., 2013; Lucas et al., 2021; Lumpkins et al., 2016; Wang et al., 2014). However, additional research on communication strategies to address gaps in knowledge and reinforce patient-provider trust, especially among newly screening-eligible individuals, may guide efforts to improve CRC screening rates overall.

► AIMS

The Centers for Disease Control and Prevention's (CDC) Division of Cancer Prevention and Control leads efforts to reduce preventable cancer and increase access to and use of cancer screening tests. CDC's *Screen for Life* campaign educates eligible individuals about the importance of regular CRC screening. To tailor campaign communications and more effectively reach communities with lower rates of CRC screening, the *Screen for Life* campaign team conducted a series of focus groups. This paper aims to use focus group findings to address the following primary and secondary research questions:

Research Question 1 (RQ1):

What are persistent gaps in knowledge and barriers within different NIMHD domains of influence that affect screening uptake for individuals newly eligible for CRC screening?

Research Question 2 (RQ2):

What messaging strategies may help individuals of different demographics overcome behavioral, sociocultural, and health care system barriers?

►METHOD

Study Sample

Researchers conducted 12 online focus groups during August and September 2022. Researchers conducted focus groups in English and Spanish with individuals aged 44–54 years who had never had or been screened for CRC but had thought about getting a CRC screening. The focus groups gauged participants' knowledge, awareness, perceived barriers, and behavior pertaining to CRC screening, and their reactions to four social media posts and two storyboards in random order. Sixty-eight individuals participated in the study: (a) four Spanish-language focus groups with Hispanic and Latino participants, (b) four English-language focus groups with eligible participants of any race and ethnicity, and (c) four English-language focus groups with Black and African American participants (Table 1). Within each of these three clusters, one group included women aged 44–49 years, one included men aged 44–49 years, one included women aged 50–54 years, and one included men aged 50–54 years.

Recruiters asked participants to identify their gender as “male,” “female,” or a third option (self-described). Participants who selected “male” participated in the focus groups for men, and participants who selected “female” participated in the focus groups for women. Individuals who did not identify as “male” or “female” were not recruited for the focus groups.

Measures

Prior to data collection, this research received required ethics approvals and approval from the U.S. Office of Management and Budget (OMB #0920–0572). All materials were translated or transcreated into Spanish by multilingual researchers. An independent market research facility recruited participants from its existing panel and provided gift card incentives (\$150) to participants following focus group completion.

Participants were given an informed consent information sheet prior to participating. At the start of each focus group, the moderator obtained consent verbally from each participant. Trained moderators led the focus groups through structured discussions. Discussions were recorded and transcribed; personally identifiable information was removed from study records. A translator provided live translation from Spanish to English to observers during Spanish-speaking focus groups. Multilingual analysts later generated English transcripts from the original Spanish dialogue.

During the focus groups, moderators prompted participants to discuss behavioral predictors of CRC screening (e.g., perceptions of the benefits of receiving screening); barriers to seeking screening, including those related to the health care system and sociocultural environment; and the likelihood of receiving a screening test within the next year. Moderators also encouraged participants to discuss their thoughts on the new screening recommendations and probed for questions or concerns regarding screening access and eligibility.

Following a discussion of CRC perceptions and behavior, participants viewed four social media posts and two storyboards. Participants viewed each post individually and then compared them. Then, participants viewed two storyboards for potential video messages, responding to both individually and then comparing the two. Moderators guided conversations around believability and relatability of the media with stimuli-specific probes and prompted participants to discuss their first impressions of the media and their perceptions of each stimulus' message. Participants provided feedback on imagery and the media's effect on their awareness and behavior regarding CRC screening.

After data collection, researchers used a deductive approach to develop an initial codebook based on study objectives. Two analysts used the codebook to individually code data from the first two focus groups. Double-coded transcripts were analyzed using the NVivo software to establish intercoder reliability. Following an initial kappa of 0.79, analysts coded the remaining transcripts individually. Analysts assessed patterns across codes to identify emergent themes at the focus group level, including comparisons by age, gender, race, ethnicity, and language between focus groups. Analysts documented emergent themes when multiple participants across groups expressed similar beliefs and perceptions (e.g., misperceptions about CRC risk) or where there were disagreements across groups (e.g., preferences in tone within communication materials).

►RESULTS

Knowledge and Health Behaviors

Participants shared several knowledge gaps and misconceptions about CRC that may have contributed to their health behaviors related to CRC screening. Common misconceptions included beliefs that CRC is more prevalent in men or that CRC is always symptomatic. Some participants confused CRC with other cancers, citing news of celebrity deaths as a source of information. Furthermore, many participants did not perceive themselves as at risk for CRC and had low levels of knowledge about the recommended screening age. Most female participants and participants aged 44–49 years did not view themselves as vulnerable to CRC, citing a lack of symptoms or their healthy lifestyle.

Participants aged 50–54 years were most knowledgeable about the causes of CRC and the importance of CRC screening. Many participants were aware of the higher prevalence of CRC in Black and African American populations, and most were able to identify some risk factors or symptoms of CRC. Male participants were most aware of the importance of CRC screening. Although participants were often unclear about their own need for screening, a majority recognized screening as a preventive measure.

Family/Peer and Social Norms

Some participants' knowledge of CRC and CRC screening came from information shared within their family. Individuals whose family members had experienced cancer were generally receptive to the importance of testing—although they were apprehensive of receiving results—whereas individuals whose family members had negative testing experiences expressed an unwillingness to participate in screening. Family and peer norms

also impacted participants' perceptions of their own CRC risk and their perception of a cancer diagnosis as a death sentence. Hispanic and Latino participants often shared that a culture of secrecy or shame around discussing health concerns such as cancer had negatively impacted the health of their relatives. In addition, norms regarding invasive screening made several Hispanic and Latino participants wary of medical care in the United States. One female participant in the 50–54-year-old Spanish-speaking focus group said, “My reaction when I saw that list [of preparation instructions for colonoscopies] was I might as well wait and get this done in Mexico. I’ll get it done there because medicine over there is a little bit more compassionate. It’s more gentle.”

Sociodemographics and Cultural Identity

Across study groups, male participants often indicated that other men’s resistance to CRC screening, especially colonoscopies, may be related to perceptions of masculinity and related apprehension about anal screening. Several male Hispanic and Latino participants referred to a “macho” culture that deterred screening. However, connotations of emasculation and threats to “machismo” or “macho-ism” were not unique to Hispanic and Latino participants; male participants across groups often described the fears and concerns of other men. One male participant in the 50- to 54-year-old general population focus group noted, “I think some men who are super macho, they probably don’t want to do the anal screening. Anal pap smears and stuff like that, they would probably feel uncomfortable. So, they let their macho-ism get in the way.” Several Hispanic and Latino participants also cited a lack of encouraging communication from their doctors as an additional barrier to following through with CRC screening.

Discrimination

Some participants’ prior experiences of discrimination affected their trust in HCPs’ recommendations. Many Black and African American participants expressed frustration with the quality of medical treatment in the health care system, and some doubted the cause and credibility of new screening recommendations. Multiple male participants described beliefs that medical care is too expensive and that medical professionals seek to treat the symptoms but not the illness itself to generate additional profit.

Frequently, Black and African American participants expressed a balance of skepticism and a desire to remain healthy. According to one participant in the focus group for Black and African American men aged 50–54 years, “Past transgressions make us very leery of the future, but at the same time, for me personally, I want to be around so I’m open [to screening] within reason.” Participants also spoke of their distrust of the government and providers, citing past examples such as the Tuskegee Syphilis Study (Alsan & Wanamaker, 2018).

Insurance Coverage and Treatment Preferences

Concerns about insurance coverage and cost were prominent barriers to receiving screening. Many participants also shared that a lack of time for screening (e.g., having to take off work or pause family responsibilities to obtain screening) and difficulty accessing screening (e.g., needing somebody to take them to and from screening) were significant deterrents. These

barriers affected decision-making for most participants, many of whom emphasized their desire for a less invasive alternative to a colonoscopy and identified FIT as their preferred screening modality. In addition, some participants shared that mailed screening options (e.g., FIT and FOBT) made screening more feasible during the COVID-19 pandemic. Due to other health conditions, those participants appreciated the option to avoid hospitals and were receptive to messaging that mentioned multiple screening options.

Screen for Life Campaign Materials

Screen for Life campaign messages encompass many domains of influence from NIMHD's Research Framework, including health behaviors, cultural identity, norms, insurance coverage, and treatment preferences. Among campaign materials, the most positively viewed social media posts addressed prominent misconceptions regarding risk and eligibility, issues of cost and access, or fear of pain and invasive screening. The preferred social media post (Figures 1 and 2) stated, "Routine screening is #cancer prevention, because #ColorectalCancer doesn't always have symptoms. If you're 45 or older, talk to your doctor about screening options." The post included an image of a Hispanic man in the Spanish-language copy and an Asian man in the English-language copy, along with a graphic saying, "It takes guts to talk to your doctor. Colorectal cancer screening is cancer prevention," with a link to CDC's CRC screening website. Participants across study groups preferred this post because it had inclusive imagery and informative and attention-grabbing language that corrected misconceptions, mentioned screening options, and normalized CRC screening. Several participants aged 44–49 years noted that the post corrected their misconceptions that CRC was always symptomatic, and multiple male participants responded positively to the use of the word "routine." One male participant from the 44–49-year-old general population focus group shared, "It gets me thinking the same way I think about my car. I should take care of my body routinely just like my car."

For both social media posts and storyboards, male participants often preferred language that normalized screening through humor or relatable terminology, whereas female participants prioritized emotionally resonant, demystifying messages that included representative imagery. Female participants emphasized the importance of communication materials providing enough information so that consumers are encouraged to learn more and make educated decisions about their health. Most female participants and all participants ages 44–49 preferred the "testimonial" video concept (Figure 3), describing the depiction of sacrifice and the informative storytelling as straightforward, representative, and motivating.

►DISCUSSION

Study results highlighted: (a) gaps in knowledge and barriers at different NIMHD domains of influence that affect screening uptake for newly screening-eligible individuals, and (b) messaging strategies that may help individuals across demographic characteristics overcome health care and sociocultural barriers (Lucas et al., 2021; National Institute on Minority Health and Health Disparities, 2018). Study participants emphasized that a lack of information about risk and screening options presented a significant barrier to pursuing and accessing screening and shared that experiences of discrimination within the medical system

can cast doubt on the credibility of screening recommendations and providers. This is in line with prior research, which suggested a positive relationship between risk perception and screening behavior and explored how culturally insensitive experiences by providers may lead to distrust of medical systems (Atkinson et al., 2015; Brandzel et al., 2017).

This study's findings reinforce the importance of communication strategies that address misconceptions specific to newly eligible individuals. Within the newly eligible population, participants aged 44–49 years often lacked awareness of their CRC risk and identified messages with clarifying phrases and representative imagery aligning with their cultural identity as the most motivating—a finding in line with research conducted prior to the release of USPSTF's revised guidance (Mueller et al., 2022). Focus groups also underscored the extent to which knowledge gaps and effective messaging strategies vary according to demographic characteristics such as gender, race, age, and ethnicity (Lucas et al., 2021). Among women eligible for screening, emotionally resonant, informative messaging that incorporated motifs of risk and sacrifice was more motivating. Among men, communication approaches that used humor to destigmatize conversations about screening were often effective.

Especially among male participants, less invasive screening modalities were preferable to colonoscopies, which many individuals associated with pain, discomfort, and a potential challenge to beliefs of “machismo,” a finding that has been explored via prior research (Wang et al., 2013). Notably, however, a positive result from these tests requires that patients have a colonoscopy to receive a diagnosis. Therefore, negative perceptions of colonoscopy, coupled with perceptions of a cancer diagnosis as a death sentence, may limit individuals' willingness to complete follow-up visits after screening and to pursue treatment if needed (Bromley et al., 2015; Moser et al., 2014). Taken together with existing research (Dawadi et al., 2022; S. C. Lin et al., 2017), our findings emphasize the value of culturally competent patient–HCP conversations that clarify points of confusion and educate patients—especially those newly eligible—about the importance of CRC screening.

This study has potential limitations. First, as is consistent with qualitative research methodologies, due to the small sample size, findings may not be representative of the larger population. Second, participants may have responded in a certain way based on pressure felt in the group setting. Trained moderators helped mitigate this by encouraging participants to share differing opinions and guiding participants through discussions in which individuals strongly disagreed.

Third, at the start of each focus group, the moderator described CRC screening modalities and asked participants to specify which, if any, they received. Although all participants had initially expressed that they had not completed screening, upon hearing the moderator's description, 14 realized that they had been screened for CRC in the past and thus did not complete the discussion. Two additional focus groups were completed with participants confirmed to be eligible.

Fourth, due to size and recruitment limitations, the study did not include focus groups unique to the experiences of Asian, Native Hawaiian or Other Pacific Islander, American

Indian or Alaska Native, or Middle Eastern or North African individuals. Furthermore, individuals who did not identify their gender as male or female were excluded. Therefore, study results—particularly those involving cultural barriers and norms related to CRC screening—may not be applicable to these groups.

►IMPLICATIONS FOR PRACTICE

This study is among the first to examine gaps in knowledge and effective messaging strategies regarding CRC screening within a newly eligible population. The focus group findings hold important implications for health promotion practitioners by highlighting potential key messages and communication strategies that may destigmatize screening among underserved communities and address misconceptions common among individuals newly eligible for screening.

To address barriers to screening, health promotion practitioners should develop campaigns that correct common misconceptions, including that CRC affects both men and women, is often not symptomatic at first, and that on-time screening and early diagnosis can prevent the need for invasive CRC treatment. Furthermore, practitioners should assist the public in understanding screening eligibility by incorporating information about the USPSTF's recommended screening ages. Health promotion practitioners should design campaign materials that include destigmatizing language and incorporate representation of historically underserved populations to help assuage shame or discomfort among consumers. Campaign materials should include motivating themes of autonomy in medical decision-making, resilience and strength, and commitment to family. Finally, practitioners should tailor messages in a linguistically appropriate manner according to cultural identity, implementing messaging strategies guided by cultural beliefs and values.

►IMPLICATIONS FOR RESEARCH

Among newly eligible patients, barriers of shame and discomfort, exacerbated by a lack of trust in HCPs or health information from government sources, can reduce the success of efforts to encourage regular CRC screening. Health promotion researchers should identify strategies to establish trust between patients and HCPs to encourage conversations about risk and screening options. Health promotion researchers should further explore factors associated with CRC screening disparities among additional racial and ethnic groups or gender identities.

Authors' Note:

This work was supported by the Centers for Disease Control and Prevention's Division of Cancer Prevention and Control under request for quote (RFQ) number 75D301-21-Q-73112, titled, "Screen for Life Campaign Support and Cancer Communication Research."

REFERENCES

Ahmed NU, Pelletier V, Winter K, & Albatineh AN (2013). Factors explaining racial/ethnic disparities in rates of physician recommendation for colorectal cancer screening. *American Journal of Public Health*, 103(7), e91–e99. 10.2105/AJPH.2012.301034 [PubMed: 23678899]

- Alsan M, & Wanamaker M (2018). Tuskegee and the health of Black men. *The Quarterly Journal of Economics*, 133(1), 407–455. 10.1093/qje/qjx029 [PubMed: 30505005]
- Atkinson TM, Salz T, Touza KK, Li Y, & Hay JL (2015). Does colorectal cancer risk perception predict screening behavior? A systematic review and meta-analysis. *Journal of Behavioral Medicine*, 38(6), 837–850. 10.1007/s10865-015-9668-8 [PubMed: 26280755]
- Brandzel S, Chang E, Tuzzio L, Campbell C, Coronado N, Bowles EJA, Bradford SC, & Buist DSM (2017). Latina and Black/African American women's perspectives on cancer screening and cancer screening reminders. *Journal of Racial and Ethnic Health Disparities*, 4(5), 1000–1008. 10.1007/s40615-016-0304-2
- Brenner AT, Hoffman R, McWilliams A, Pignone MP, Rhyne RL, Tapp H, Weaver MA, Callan D, de Hernandez BU, Harbi K, & Reuland DS (2016). Colorectal cancer screening in vulnerable patients: Promoting informed and shared decisions. *American Journal of Preventive Medicine*, 51(4), 454–462. 10.1016/j.amepre.2016.03.025 [PubMed: 27242081]
- Bromley EG, May FP, Federer L, Spiegel BMR, & van Oijen MGH (2015). Explaining persistent under-use of colonoscopic cancer screening in African Americans: A systematic review. *Preventive Medicine*, 71, 40–48. 10.1016/j.ypmed.2014.11.022 [PubMed: 25481094]
- Cancino RS, Su Z, Mesa R, Tomlinson GE, & Wang J (2020). The impact of COVID-19 on cancer screening: Challenges and opportunities. *JMIR Cancer*, 6(2), e21697. 10.2196/21697 [PubMed: 33027039]
- Corley DA, Sedki M, Ritzwoller DP, Greenlee RT, Neslund-Dudas C, Rendle KA, Honda SA, Schottinger JE, Udaltsova N, Vachani A, Kobrin S, Li CI, & Haas JS (2021). Cancer screening during the coronavirus disease-2019 pandemic: A perspective from the National Cancer Institute's PROSPR consortium. *Gastroenterology*, 160(4), 999–1002. 10.1053/j.gastro.2020.10.030 [PubMed: 33096099]
- Cueva M, Kuhnley R, Slatton J, Dignan M, Underwood E, & Landis K (2013). Telenovela: An innovative colorectal cancer screening health messaging tool. *International Journal of Circumpolar Health*, 72, 21301. 10.3402/ijch.v72i0.21301 [PubMed: 23930245]
- Dawadi A, Lucas T, Drolet CE, Thompson HS, Key K, Dailey R, & Blessman J (2022). Healthcare provider cultural competency and receptivity to colorectal cancer screening among African Americans. *Psychology, Health & Medicine*, 27(10), 2073–2084. 10.1080/13548506.2021.1939073
- Harper DM, Tariq M, Alhawli A, Syed N, Patel M, & Resnicow K (2021). Cancer risk perception and physician communication behaviors on cervical cancer and colorectal cancer screening. *eLife*, 10, e70003. 10.7554/eLife.70003 [PubMed: 34427182]
- Hwang H (2013). Colorectal cancer screening among Asian Americans. *Asian Pacific Journal of Cancer Prevention*, 14(7), 4025–4032. 10.7314/apjcp.2013.14.7.4025 [PubMed: 23991947]
- Johnson Shen M, Elston Lafata J, D'Agostino TA, & Bylund CL (2020). Lower adherence: A description of colorectal cancer screening barrier talk. *Journal of Health Communication*, 25(1), 43–53. 10.1080/10810730.2019.1697909 [PubMed: 31795843]
- Lafata JE, Cooper G, Divine G, Oja-Tebbe N, & Flocke SA (2014). Patient–physician colorectal cancer screening discussion content and patients' use of colorectal cancer screening. *Patient Education and Counseling*, 94(1), 76–82. 10.1016/j.pec.2013.09.008 [PubMed: 24094919]
- Lin JS, Perdue LA, Henrikson NB, Bean SI, & Blasi PR (2021). Screening for colorectal cancer: Updated evidence report and systematic review for the US Preventive Services Task Force. *JAMA*, 325(19), 1978–1998. 10.1001/jama.2021.4417 [PubMed: 34003220]
- Lin SC, McKinley D, Sripipatana A, & Makaroff L (2017). Colorectal cancer screening at US community health centers: Examination of sociodemographic disparities and association with patient-provider communication. *Cancer*, 123(21), 4185–4192. 10.1002/cncr.30855 [PubMed: 28708933]
- Lucas T, Thompson HS, Blessman J, Dawadi A, Drolet CE, Hirko KA, & Penner LA (2021). Effects of culturally targeted message framing on colorectal cancer screening among African Americans. *Health Psychology*, 40(5), 305–315. 10.1037/hea0001073 [PubMed: 34152784]
- Lumpkins CY, Vanchy P, Baker TA, Daley C, Ndikum-Moffer F, & Greiner KA (2016). Marketing a healthy mind, body, and soul: An analysis of how African American men view the church as a

- social marketer and health promoter of colorectal cancer risk and prevention. *Health Education & Behavior*, 43(4), 452–460. 10.1177/1090198115604615 [PubMed: 26424748]
- Moser RP, Arndt J, Han PK, Waters EA, Amsellem M, & Hesse BW (2014). Perceptions of cancer as a death sentence: Prevalence and consequences. *Journal of Health Psychology*, 19(12), 1518–1524. 10.1177/1359105313494924 [PubMed: 23864071]
- Mueller NM, Hyams T, King-Marshall EC, & Curbow BA (2022). Colorectal cancer knowledge and perceptions among individuals below the age of 50. *Psycho-Oncology*, 31(3), 436–441. 10.1002/pon.5825 [PubMed: 34546622]
- National Institute on Minority Health and Health Disparities. (2018). NIMHD Minority Health and Health Disparities Research Framework. <https://www.nimhd.nih.gov/about/overview/research-framework/nimhd-framework.html>
- Siegel RL, Miller KD, Fedewa SA, Ahnen DJ, Meester RGS, Barzi A, & Jemal A (2017). Colorectal cancer statistics, 2017. *CA: A Cancer Journal for Clinicians*, 67(3), 177–193. 10.3322/caac.21395 [PubMed: 28248415]
- Underhill ML, & Kiviniemi MT (2012). The association of perceived provider–patient communication and relationship quality with colorectal cancer screening. *Health Education & Behavior*, 39(5), 555–563. 10.1177/1090198111421800 [PubMed: 21986241]
- US Preventive Services Task Force, Davidson KW, Barry MJ, Mangione CM, Cabana M, Caughey AB, Davis EM, Donahue KE, Doubeni CA, Krist AH, Kubik M, Li L, Ogedegbe G, Owens DK, Pbert L, Silverstein M, Stevermer J, Tseng C-W, & Wong JB (2021). Screening for colorectal cancer: US preventive services task force recommendation statement. *JAMA*, 325(19), 1965–1977. 10.1001/jama.2021.6238 [PubMed: 34003218]
- van den Puttelaar R, Lansdorp-Vogelaar I, Hahn AI, Rutter CM, Levin TR, Zauber AG, & Meester RGS (2023). Impact and recovery from COVID-19-related disruptions in colorectal cancer screening and care in the US: A scenario analysis. *Cancer Epidemiology, Biomarkers & Prevention*, 32(1), 22–29. 10.1158/1055-9965.EPI-22-0544
- Virostko J, Capasso A, Yankeelov TE, & Goodgame B (2019). Recent trends in the age at diagnosis of colorectal cancer in the US National Cancer Data Base, 2004–2015. *Cancer*, 125(21), 3828–3835. 10.1002/cncr.32347 [PubMed: 31328273]
- Wainwright JV, Mehta SJ, Clifton A, Bocage C, Ogden SN, Cohen S, & Rendle KA (2022). Persistent barriers to colorectal cancer screening completion amid centralized outreach: A mixed methods study. *American Journal of Health Promotion*, 36(4), 697–705. 10.1177/08901171211064492 [PubMed: 34970929]
- Wang J, Burke A, Tsoh JY, Le GM, Stewart S, Gildengorin G, Wong C, Chow E, Woo K, & Nguyen TT (2014). Engaging traditional medicine providers in colorectal cancer screening education in a Chinese American community: A pilot study. *Preventing Chronic Disease*, 11, E217. 10.5888/pcd11.140341 [PubMed: 25496557]
- Wang J, Moehring J, Stuhr S, & Krug M (2013). Barriers to colorectal cancer screening in Hispanics in the United States: An integrative review. *Applied Nursing Research*, 26(4), 218–224. 10.1016/j.apnr.2013.08.005 [PubMed: 24238084]
- Weiss JM, Pickhardt PJ, Schumacher JR, Potvien A, Kim DH, Pfau PR, Jacobs EA, & Smith MA (2017). Primary care provider perceptions of colorectal cancer screening barriers: Implications for designing quality improvement interventions. *Gastroenterology Research and Practice*, 2017, e1619747. 10.1155/2017/1619747
- Zhou JZ, Kane S, Ramsey C, Akhondzadeh M, Banerjee A, Shatsky R, & Gold KA (2022). Comparison of early- and late-stage breast and colorectal cancer diagnoses during vs before the COVID-19 pandemic. *JAMA Network Open*, 5(2), e2148581. 10.1001/jamanetworkopen.2021.48581 [PubMed: 35166787]

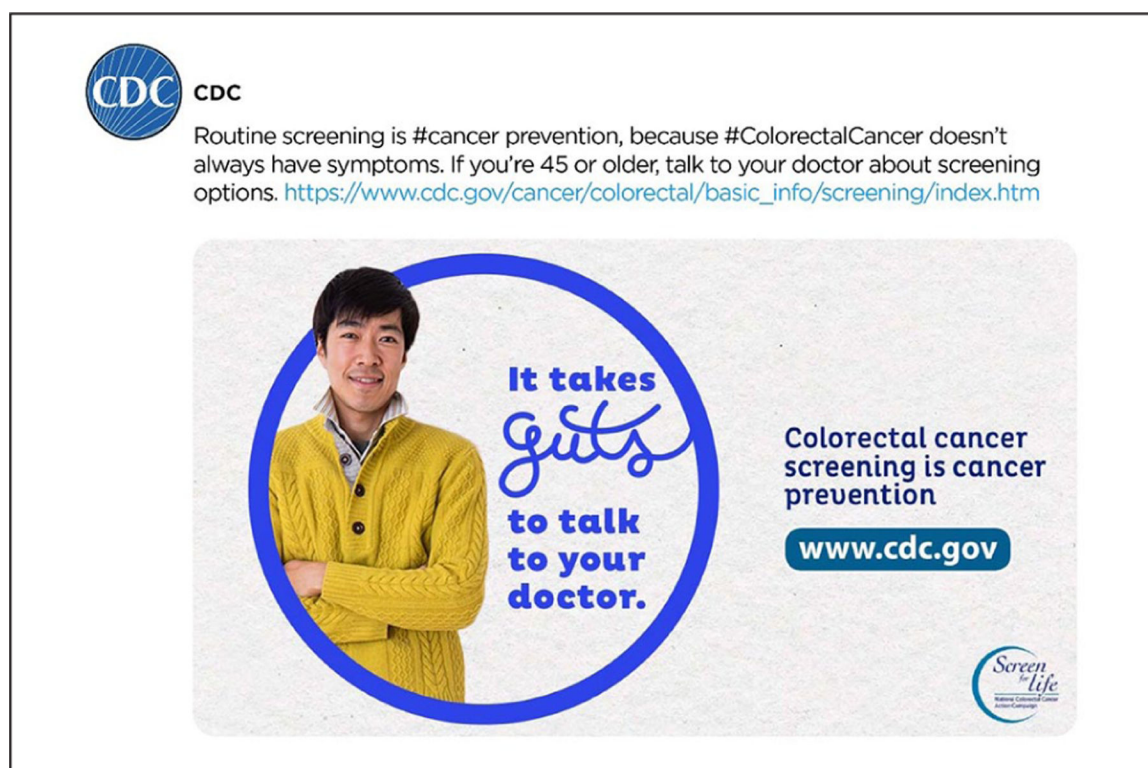


FIGURE 1.

CDC *Screen for Life* social media post in English entitled, “It Takes Guts to Talk to Your Doctor”

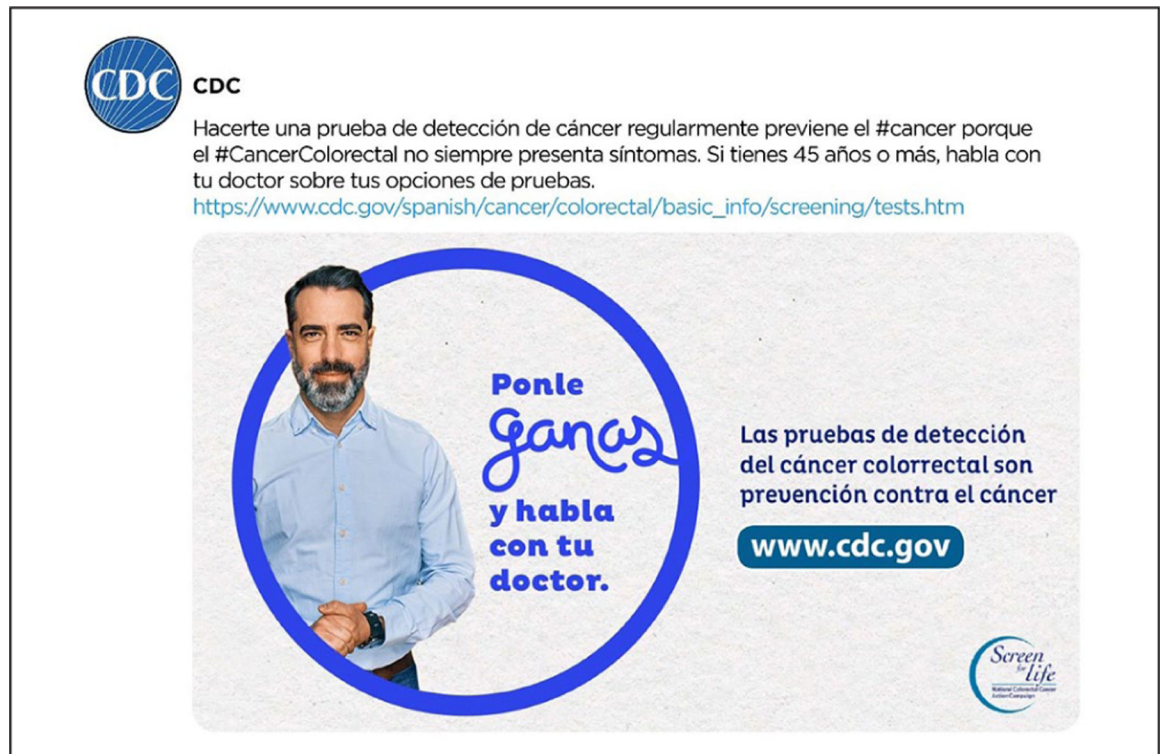


FIGURE 2.

CDC *Screen for Life* social media post in Spanish entitled, “Ponle ganas y habla con tu doctor”

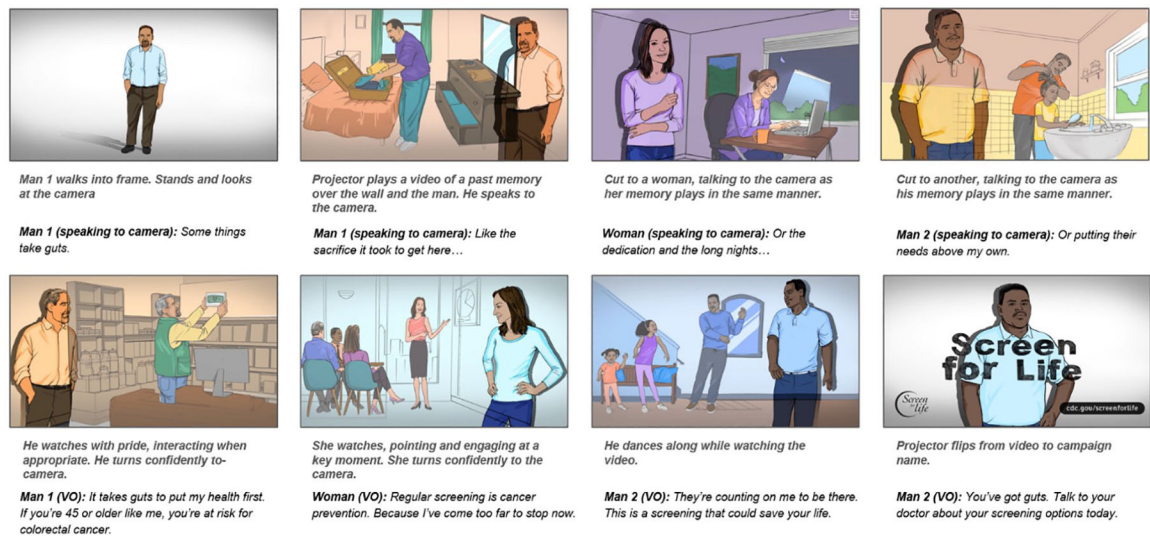


FIGURE 3.
 CDC *Screen for Life* storyboard depicting an English-language, testimonial-style video concept

TABLE 1

Overview of Focus Group Composition

Characteristic	Sample population (n = 68)
Age (years)	
44–49	33 (48.53)
50–54	35 (51.47)
Gender	
Female	34 (50)
Male	34 (50)
Race/ethnicity	
American Indian or Alaska Native	1 (1.47)
Asian	2 (2.94)
Black or African American	31 (45.59)
Hispanic/Latino	26 (38.24)
White	26 (38.24)
Preferred language for group discussion	
English	46 (67.65)
Spanish	22 (32.35)
Education level	
< High school degree/GED	1 (1.47)
High school degree/GED	10 (14.71)
Some college	15 (22.06)
Associate degree	11 (16.18)
Bachelor's degree	19 (27.94)
Master's degree	10 (14.71)
Professional or doctorate degree	2 (2.94)
Annual household income (\$)	
≤34,999	10 (14.71)
35,000–74,999	29 (42.65)
75,000–149,999	23 (33.82)
≥150,000	6 (8.82)

Note. Data in the table indicate *n* (%) unless otherwise noted. For race/ethnicity, multiple answers were permitted. “Prefer not to say” and “other race/ethnicity” responses are excluded. GED = General Educational Development test.