

UC San Diego

UC San Diego Previously Published Works

Title

Comparing Latino Community Members' and Clinical Staff's Perspectives on Barriers and Facilitators to Colorectal Cancer Screening

Permalink

<https://escholarship.org/uc/item/7fk51217>

Journal

Journal of Cancer Education, 37(6)

ISSN

0885-8195

Authors

Alpert, Elizabeth N

Clark, Tatiana

Garcia-Alcaraz, Cristian

et al.

Publication Date

2022-12-01

DOI

10.1007/s13187-021-02007-0

Peer reviewed



Published in final edited form as:

J Cancer Educ. 2022 December ; 37(6): 1645–1653. doi:10.1007/s13187-021-02007-0.

Comparing Latino Community Members' and Clinical Staff's Perspectives on Barriers and Facilitators to Colorectal Cancer Screening

Elizabeth N. Alpert^{1,2}, Tatiana Clark¹, Cristian Garcia-Alcaraz¹, Sumayah Nuhaily Eddington³, Claudia Carrizosa⁴, Jessica Haughton⁴, Carolina Lopez de la Torre⁴, Felipe Garcia-Bigley⁵, Elva M. Arredondo¹, Christian Ramers⁵, Jesse Nodora⁶, Kristen J. Wells^{1,7}

¹San Diego State University, San Diego, California, USA

²UC San Diego Moores Cancer Center, San Diego, California, USA

³Stanford University, Stanford, California, USA

⁴San Diego State University Research Foundation, San Diego, California, USA

⁵Family Health Centers of San Diego, San Diego, California, USA

⁶UC San Diego, San Diego, California, USA

⁷San Diego State University/UC San Diego Joint Doctoral Program in Clinical Psychology, San Diego, California, USA

Abstract

Latinos in the United States have low rates of colorectal cancer (CRC) screening even though CRC is the third leading cause of cancer death among Latinos. This qualitative study aimed to understand and compare the perspectives of clinical staff (CS) and Latino community members (LCMs) in an urban Southern California community regarding barriers and facilitators of CRC screening. Through purposive sampling, 39 LCMs (mean age: 59.4 years, 79.5% female) were recruited to participate in one of five focus groups, and 17 CS (mean age: 38.8 years, 64.7% female) were recruited to participate in semi-structured in-depth interviews, along with a demographic survey. Interviews and focus group recordings were transcribed verbatim, translated, and analyzed using direct content analysis. Demographic data were summarized using descriptive statistics. Findings suggest that CS and LCMs have both similar and opposing perspectives with regard to barriers and facilitators of CRC screening. Themes discussed included attitudes towards CRC screening, CRC knowledge, access to resources, commitments and responsibilities, social support, vicarious learning, patient-provider communication, trust, and social relationships. Study

Terms of use and reuse: academic research for non-commercial purposes, see here for full terms. <http://www.springer.com/gb/open-access/authors-rights/aam-terms-v1>

Correspondence concerning this article should be addressed to: Dr. Kristen J. Wells, Department of Psychology, San Diego State University, 6363 Alvarado Court, Suite 103, San Diego, CA 92120-4913. kwells@sdsu.edu.

Publisher's Disclaimer: This Author Accepted Manuscript is a PDF file of a an unedited peer-reviewed manuscript that has been accepted for publication but has not been copyedited or corrected. The official version of record that is published in the journal is kept up to date and so may therefore differ from this version.

findings can be used to guide interventions and policies to improve access to CRC screening among LCMs.

Keywords

Hispanic Americans; Latinos; Colorectal Cancer Screening; Adherence; Colorectal neoplasms

In 2019, it is expected that in the United States (U.S.) there were an estimated 145,600 new cases of colorectal cancer (CRC) and 51,020 CRC deaths [1]. To reduce the risk of being diagnosed or dying from CRC, the U.S. Preventive Services Task Force (USPSTF) recommends that people between the ages of 50-75 years obtain regular CRC screening [2]. There are two approaches to CRC screening: stool-based testing and direct visualization. Stool-based testing consists of obtaining either a fecal immunochemical test (FIT) every year, a guaiac-based fecal occult blood test (gFOBT) every year, or a multitargeted stool DNA test (FIT-DNA) every 1-3 years. Direct visualization consists of obtaining either a colonoscopy every 10 years, a computed tomography (CT) colonography every 5 years, a flexible sigmoidoscopy every 5 years, or a flexible sigmoidoscopy every 10 years when supplemented with FIT every year.

Although CRC is the third leading cause of cancer death among Latinos [3, 4], in several U.S. states (e.g., California) Latinos have low CRC screening rates as compared to Non-Hispanic Whites and African Americans [5]. The Social Ecological Framework (SEF) postulates that health behaviors occur as a result of a person's interaction with the following levels of the environment: (1) intrapersonal, (2) interpersonal, (3) institutional, (4) community, and (5) public policy [6, 7]. At each level, Latinos may encounter a number of barriers that make uptake of or adherence to CRC screening more difficult, as well as a number of facilitators that make uptake of or adherence to CRC screening easier. A 2013 review [8], as well as other recent studies [9–17], indicate that fear of screening procedures and results, CRC stigma, language barriers, low access to health care services, little to no knowledge regarding CRC, lack of motivation, low education, *machismo*, embarrassment, cancer fatalism, lack of insurance, lack of doctor recommendations, inadequate transportation, cost of screening, poor quality and rushed care, and mistrust in the U.S. health care system complicate utilization of CRC screening among Latinos. With regard to facilitators, studies indicate that in-person health education, access to transportation, access to health insurance, doctor recommendations, desire to prevent cancer, awareness about CRC, family history of cancer, being symptomatic, and positive peer/family support facilitate utilization of CRC screening among Latinos [9, 12, 18, 13].

Federally Qualified Health Centers (FQHCs) are uniquely positioned to address geographic, cultural, linguistic, and other barriers to health care services, including cancer care, that underserved and marginalized populations face in the U.S. [19]. In 2018, 36.3% of patients served nationally by FQHCs identified as Latino [20]. Therefore, to contribute specifically to efforts for increasing CRC screening among Latinos, the present qualitative study used the SEF to understand and compare the perspectives of Latino community members (LCMs) and FQHC clinical staff (CS) regarding intrapersonal and interpersonal barriers and

facilitators to CRC screening. Only one known study [11] has compared CRC screening perspectives of primary care CS and the LCMs that they serve; this study found that while health care system staff and LCMs agreed on various themes, they disagreed on LCMs' attitudes towards CRC screening and accessibility of CRC care. The present study will further investigate patient-FQHC staff member discrepancies regarding the needs of a community when obtaining CRC screening; and identify intrapersonal and interpersonal factors that influence CRC screening utilization among Latinos. It is envisioned that this knowledge will facilitate the development of more effective CRC screening interventions.

Methods

Participants

Using purposive sampling [21, 22], 39 LCMs and 17 CS members were recruited from an urban area in San Diego County, California. LCMs were eligible to participate if they were 50 years old, self-identified as Latino/a, and were willing and able to participate in a focus group conducted in Spanish. CS were eligible to participate if they were a staff member or provider at a local FQHC system who had knowledge and experience regarding the process of CRC screening at the FQHC. The San Diego State University Institutional Review Board approved this cross-sectional, qualitative study. All participants provided written informed consent to participate in the study prior to initiation of study procedures.

Procedures

The present qualitative data resulted from a larger study focused on developing the *Juntos Contra el Cáncer*, or *JUNTOS*, intervention [13, 23], a group-based intervention seeking to increase CRC screening among Latino communities in San Diego, California. LCMs were recruited from participating community organizations through flyers and verbal announcements. Interested LCMs submitted their name and phone number and agreed to be contacted by a trained Spanish-English bilingual research assistant for a phone screening. Participants' language skills were not measured. Eligible LCMs were scheduled to take part in one of five focus groups held in private rooms at a public location (e.g., local library) and conducted in Spanish. Focus groups were stratified by gender and by whether or not the participants were up-to-date on CRC screening. A Spanish-English bilingual research coordinator moderated focus groups using a standardized focus group guide based on the SEF [6, 7]. Five focus groups were conducted and recorded in Spanish between spring and summer 2016, ranging from 59 to 94 minutes (mean: 79 minutes, standard deviation [SD]: 13 minutes) in length. Focus group participants received a \$15 incentive for their participation. Additionally, LCMs completed a 27-item demographic survey consisting of questions regarding gender, age, race, ethnicity, education, number of years living in the U.S., country of birth, household income, marital status, health insurance, and whether they were up-to-date on cancer screening based on the 2016 USPSTF recommendations [2].

Members of the research team and clinic personnel who served on the project community advisory board or investigative team identified CS members who had knowledge or expertise regarding the process of CRC screening and diagnostic procedures at FQHC. These CS members included clinical providers, managers and administrators, and support staff (i.e.,

individuals coordinating referrals, patient service representatives, phlebotomy staff). Most CS participants oversaw CRC screening procedures or directly interacted with FQHC patients at some point in the CRC screening process. A trained research coordinator contacted interested CS via telephone or email to schedule interviews at a private location on the FQHC premises. On the day of the interview, the research coordinator verified inclusion criteria and conducted the interview by using a semi-structured in-depth interview guide based on the SEF [6, 7]. Seventeen in-depth interviews were completed in English between spring and summer of 2016, ranging from 19 to 43 minutes (mean: 29 minutes, SD: 7 minutes) in length. CS were provided with lunch during the interview as an incentive. Additionally, CS completed an 8-item demographic form consisting of questions regarding gender, age, race, ethnicity, language fluency, education, occupation, and work-related job responsibilities.

Data Analysis

Focus group recordings were transcribed verbatim and then translated into English by a professional translator, and CS interviews were transcribed verbatim from their original audio recording. Three members of the research team reviewed all focus group and CS interview transcripts and determined that theoretical saturation had been achieved as participants were no longer providing new information [24]. Through direct content analysis [25], two authors developed a preliminary codebook based on the *a priori* themes of the SEF and one additional theme for intervention development suggestions. Two members of the research team independently coded each transcription with this codebook; discrepancies in coding were resolved through discussions among the two authors until consensus about coding was reached. Codes were applied to transcripts using NVivo, and then three authors summarized data assigned to each theme. Only data from the interpersonal and intrapersonal themes are summarized in this paper. SPSS was used to conduct descriptive analysis of demographic data (i.e., frequencies, measures of central tendency and variation).

Results

Participant Characteristics

Table 1 presents demographic and cancer screening information for LCM participants. Their mean age was 59 years (SD: 6.6), and most LCM participants were female (79.5%), had less than a high school education (71.4%), were married (51.4%), had health insurance (62.2%), were born in Mexico (87.2%), and lived in a household with an income of less than \$20,000 per year (78.8%). Importantly, 52.8% were up-to-date with CRC screening (FIT or colonoscopy). Most women were up-to-date with breast (mammogram; 76.7%) and cervical cancer screening (Pap test; 80.6%). Table 2 presents demographic information for CS participants. Their mean age was 39 years (SD: 9.9), and most CS participants identified as Latino/a (88.2%), were female (64.7%), were Spanish-English bilingual (82.4%), and completed some college or university level degree (76.5%). CS participants held a range of different jobs at the FQHC.

Intrapersonal Influences on CRC Screening

Attitudes towards Screening.—Both LCMs and CS mentioned that attitudes towards CRC screening influence willingness and ability to complete screening. With respect to concerns, both LCMs and CS discussed LCMs' embarrassment regarding colonoscopy and FIT procedures. LCMs specifically reported that, as patients, they were concerned with body exposure and a lack of privacy, especially with respect to obtaining colonoscopy: "That's the fear one has... another person will see your body." CS agreed, "Some people aren't too comfortable with showing certain sides of themselves or their bodies or feeling that they're inferior because now they're on the table and something's happening to them." However, CS indicated that issues with embarrassment were declining because FQHC medical assistants were explaining procedures and answering questions in private settings.

There were varying perceptions regarding the acceptability of the different types of CRC screening. CS and LCMs agreed that many patients consider the FIT procedure to be unsanitary, difficult, and unnecessary. One CS member explained, "They think it's gross and they don't understand really how to do it. I think they think it's a lot more involved than it actually is.... I've heard they don't think it's really that important." Conversely, some LCMs and CS agreed that FIT is more acceptable than a colonoscopy given its simplicity. Also, the colonoscopy preparation was commonly viewed as unpleasant. One LCM said, "That's the most uncomfortable.... The preparation, more than anything, is a bit tedious." Fear of pain associated with a colonoscopy was commonly mentioned, yet one LCM stated that sedation eliminated this concern, "You count from 1 to 10 and then you know nothing. I like it, I don't feel a thing."

There were also a range of perspectives regarding community members' views about CRC prevention. Some CS stated that patients would rather not know their health status than receive a potential cancer diagnosis. Some LCMs agreed, "Besides those diagnoses, the preoccupation and then, job, money. Where is it going to come from if I happen to have that disease or how am I going to deal with it? I avoid knowing what's wrong with me." Conversely, LCMs who had positive attitudes toward screening outcomes were empowered by their desire to be knowledgeable about their health. A LCM mentioned, "Because if you get the checkups, you can detect it on time.... otherwise, it's very advanced... and that's what they try to prevent. One should be alert, so they can avoid those problems. Latino people don't go and get those checkups as they should."

Both LCMs and CS noted that the intersection of gender, culture, and educational background created unique barriers to CRC screening. A CS member described a typical scenario with a male patient, "The sex of the patient and where they're from and what type of a background they have. For instance, we had a Hispanic person that didn't want nothing up their rectum. And he'd, you know, rather risk the chance of having colon cancer than having somebody stick something up his butt. So, it all depends on their culture and their upbringing." Additionally, both groups of participants stated that female patients prefer female physicians to discuss FIT procedures and to perform a colonoscopy.

CRC Knowledge.—Both LCMs and CS mentioned that knowledge of and awareness of risk for CRC influence patients' decision to obtain CRC screening. Overall, LCMs

unfamiliar with CRC were unlikely to be screened. In addition, a CS member explained that patients who are asymptomatic are less likely to complete screening, “They feel that they can wait on it versus other things that maybe are more obvious to them like getting a vision screening.... If they’re not having symptoms, then they may feel like it’s not as important for them to do.” Conversely, LCMs expressed desire to obtain screening when they had a family history of cancer, “I was looking forward to getting it [colonoscopy] done. Why? Prevention.... I have an experience with a cousin who came here to the clinic.... They found breast cancer. She’s younger than I am. I am 56 years old; she’s not even 40.”

Comorbidities and Disability.—Comorbidity and disability also impact CRC screening outcomes. A CS member explained that other health concerns may take priority, “Maybe they’re more concerned about other things or they have a list of other problems... when I’ve looked at the MR [medical record] numbers of patients who are getting that test ordered but it’s [the FIT sample] not returned, they have like schizophrenia or something. So, it’s like that’s the last thing on their mind.” A CS member mentioned that some patients face physical challenges when collecting a FIT sample, “Some people, like obese people, have a problem.... They say when they make the stool on the paper, it goes through or have problems bending down.... It’s a problem of how old you are, how is it you can bend on the toilet, or things like that.” In contrast, having comorbid conditions prompted some LCMs to be more diligent about their health.

Access to Resources.—Both LCMs and CS discussed how the availability of certain resources (e.g., information, transportation, money, and insurance) can empower patients to make better health decisions, such as seeking CRC screening. Both groups agreed that health information can improve CRC outcomes. However, while some CS felt information was accessible and available on the internet, LCMs disagreed as illustrated by this LCM: “I don’t agree so much with [the internet providing complete health information] because let’s say about 50% do not have internet...it’s something not even secondary, it’s tertiary.” Another LCM said available written information is ineffective, “I can’t see. How am I going to read?” Both groups mentioned that lack of transportation impeded adherence to CRC screening. A LCM mentioned, “I only have approved transportation for my [clinic] visit so how am I going to return the [FIT] kit? I live by myself.” Both LCMs and CS acknowledged that lack of health insurance and unaffordable costs prevent patients from seeking both preventive and urgent care. One uninsured LCM described their personal struggle, “I don’t have the capability of having a doctor and instead of going to the doctor and spending that money I need for the rent. I stop myself.” While some CS acknowledged federally funded health insurance to be a facilitator for preventive visits and screenings, they also reported that undocumented individuals are ineligible for this assistance, “We have a lot of undocumented patients, and some of them just can’t afford it.”

Commitments and Responsibilities.—LCMs and CS agreed that the need to work, guilt over familial support, and childcare responsibilities affect patients’ abilities to care for their own health. Financial inability to miss wages to complete CRC screening and inflexible work schedules discourage patients from visiting a clinic during its hours of operation. One CS member said, “Our patients that we serve are underserved, so they’re low income. So,

they'd rather go to work than miss a day to come and get a test done." LCMs' perceptions of familial duties were viewed as both a barrier and a facilitator to CRC care. On the one hand, being responsible for children and perceptions of being a burden to adult children were described as barriers to CRC screening. In contrast, one LCM described family relationships as a motivating factor, "I want to prevent cancer in time, more so for my children because they are still very young, so to live a little longer for them."

Interpersonal Influences on CRC Screening

Social Support.—Both LCMs and CS reported that patients face difficulties when completing CRC screening due to lack of social support. One LCM explained their difficulty with maintaining their appointments, "Because my son works or my daughter works, I don't have anybody to drive me." A CS member shared a similar experience, "Sometimes they are waiting to do it and, yes, they understand the importance of the test. They take the kit with them, but either they don't have any help, or they rely on somebody else to bring the test back." On the other hand, both LCMs and CS mentioned that significant others, family members, and CS motivate patients to seek healthcare regularly.

Vicarious Learning.—Many LCMs expressed that the decision to obtain CRC screening is influenced by the experiences of other people. One LCM recalled the experience of his wife, "Perhaps something that stuck with me... my wife got it done in a place that was without anesthesia, and I was afraid of that. To feel pain." Conversely, LCMs who had heard of or witnessed positive experiences with CRC screening were more motivated to be screened. CS did not discuss the impact of other people's experience on CRC screening outcomes.

Patient-Provider Communication.—Both LCMs and CS agreed that the quality of communication between CS and patients affects CRC care. Some LCMs struggled to communicate with their health care provider because of language barriers, interpreter discrepancies, and a lack of confidence when speaking to a non-Spanish speaking physician. CS added that health literacy and education level impact written and verbal communication, "A lot of times they call, and they have no idea what's going on. They're like, I got a referral for this, but what is that for?" Importantly, both groups noted the benefits of having interpreters and bilingual staff in clinics. A CS member explained, "I always speak Spanish, Tagalog and everything and my job is to translate here and make sure they understand when I speak Spanish to them; they understand and communicate it well. I make sure that they repeat what I say. So, when they repeat what I say, I say, okay, you understand everything I said, then that's fine. So, yeah, I mean we're really big on it." A LCM agreed when asked if they have difficulties understanding medical terms, "No, they speak English and Spanish everywhere, everywhere."

CS reported their concentrated efforts to facilitate communication and understanding of CRC screening procedures, "Once the doctor requests it [FIT/FOBT], we provide the information to a patient, and we do have a kit, which is explained in Spanish and English. We pretty much explain to the patient the process of it and how to collect the stool and how important it is and what are we trying to find out on that list. We really push the issue of how

important it is to detect the disease before it has been spread.” Another CS member said, “We purchased Play-Doh and we’re doing simulations and demonstrations for the patients. So, when we give them the kit, we use Play-Doh to demonstrate how they’re going to collect it and what to do with it.” Some LCMs noted that results and referrals were communicated clearly by their physician, but others reported not being given a thorough explanation of the FIT or FOBT tests when they sought health care. A LCM said, “They didn’t communicate it. They didn’t teach us how to use it and I forgot.” Another LCM said, “Many doctors do not explain.”

Additionally, both LCMs and CS noted that time restrictions negatively impact patient-provider communication. Though ultimately deciding to obtain CRC screening, one LCM expressed feeling rushed, “I don’t know if they are in a hurry or they have many appointments or I don’t know, but the doctor only told me, ‘You know what? You are 49. I recommend you this.’ Why not? Might as well take advantage of it. I tell him: OK, why not?” One CS member mentioned, “They don’t understand why they need it, even after explaining that it’s the second leading cause of death among men and women, but they don’t understand why they need to go see another doctor for a big test. That’s hard to do in a few minutes.” Another CS member shared, “I feel that when providers give patients instructions, it’s very hard. They’re on a timeframe. They only have what? Twenty minutes with the provider. They’re usually here to see the provider for a different reason and that is just an order. It’s not really stressed. It’s not really explained to them.”

CS also mentioned that electronic health records (EHRs) close some of the communication gaps between providers, support staff, and patients. One CS member explained the benefit of EHR, “If they answer yes, I haven’t done the FIT within the last year. It’ll automatically add that order and plus the doctor will talk to the patient about it, and he’ll put it in as well.”

Patient-Provider Trust and Relationship.—Both LCMs and CS discussed that patient-provider trust increases the likelihood of patients adhering to CRC screening. A CS member said, “If patients don’t trust you, no way are they going to go get it. So, I’m very fortunate that most of my patients who know me and trust me, they’ll kind of just do whatever I ask.” A LCM agreed, “What I heard was that after the age of 50, it’s good to get it done. That’s why I got it done too. [Moderator: Did you go and ask the doctor for it or did the doctor...?] No, the doctor. As I said, I’m so happy with my doctors. They tell you what to get done.”

CS noted approaches they were taking steps to build trust between patients and staff; for example, a CS member said, “Most of our patients we try to keep them with their primary care provider so that they can build a rapport with them and have one person following their care that they trust and feel comfortable with.” CS also reported that staff are respectful and try to match their patients with doctors of similar cultural backgrounds to mitigate any discomfort. CS highlighted that culture sometimes negatively affects patient-provider trust, “What I noticed, in my personal opinion, is if a Latino [patient] is speaking to a Latino doctor, there’s a lot of confidence.... (They all say) I believe everything he said, but then if I put a Caucasian doctor to a Latino [patient], they will just say, ‘He doesn’t tell me anything....’” Despite these efforts, some LCMs reported negative experiences in various clinics (not necessarily the FQHC where CS were interviewed) that reduced their trust in

health care providers, “What interferes is that when I started to go for checkups...when I made questions, he sort of got upset. So, I told him that I felt a lump here. He said: It’s a lump of fat. He answered back, ugly, I didn’t like it.” Another LCM said, “Sometimes they are very rude and very condescending. That’s the truth.”

Discussion

Using the SEF, this study compared perspectives of LCMs and FQHC staff on intrapersonal and interpersonal barriers and facilitators to CRC screening. In the present study, the CRC screening rate among LCMs (52.8%) was similar to the rates among Latinos in California who participated in the 2016 Behavioral Risk Factor Surveillance System (55.6%)[5]. The CRC screening rate found in our study was also consistent with previous studies which reported CRC screening rates among Latinos that ranged from 14.7% to 60.5% [9–12, 14, 16, 26, 27].

Similar to previous research [8–16, 17, 18], CS and LCMs agreed that Latinos face a number of intrapersonal barriers to CRC screening, including a lack of financial resources, lack of insurance, inadequate transportation, language barriers, fear, embarrassment, negative attitudes, low health literacy, and lack of knowledge regarding CRC screening. On the other hand, LCMs who understood the importance of preventive care and who felt empowered about their health viewed CRC screening more positively. Similarly, a previous qualitative study found that the desire to prevent cancer was a facilitator to CRC screening among an urban Latino sample [12]. The present findings also show that intersectional factors of gender and culture influence utilization of CRC screening. Similar to previous research [26, 11, 15, 27], LCMs and CS noted that Latina patients prefer female providers, and Latino males may have specific cultural concerns regarding CRC screening. Lastly, an important and novel finding shows that CRC screening may not be offered to patients experiencing a physical or mental disability; moreover, comorbid physical conditions may impair LCMs’ ability to complete CRC screening.

With respect to interpersonal influences on CRC screening and a novel finding, both LCMs and CS noted that lack of social support hinders utilization of CRC screening. This parallels a previous qualitative study that listed positive social support as a facilitator to CRC screening among a Latino sample [12]. In addition and similar to previous findings [12, 26], concerns regarding family responsibilities hinders CRC screening, but effective communication and patient-provider trust facilitates CRC screening. Consistent with the literature [28, 29], both LCMs and CS noted that culture affects patient-provider trust, and time restrictions prevent effective communication of health and CRC screening information. Consistent with a previous study [16], LCMs indicated that learning about others’ experiences with obtaining CRC screening influenced their decision to obtain CRC screening. They also reported both positive and negative experiences when trying to obtain health care services in the community, such as when requesting information about CRC screening. The FQHC staff members interviewed described multiple ways in which they facilitate patient-provider trust and address communication barriers with regard to CRC screening, such as by speaking Spanish, showing patients respect, and demonstrating how to do the FOBT/FIT test using Play-Doh.

Findings from this study have significant clinical and public health implications. As per the SEF, it is clear that approaches are still needed to address intrapersonal and interpersonal barriers to CRC screening among Latinos. To increase CRC screening among Latinos, interventions need to address a wide range of concerns about both types of CRC screening. For instance, LCMs may need assistance to overcome barriers to obtaining medical care in general, including overcoming health insurance, transportation, and financial barriers and meeting familial responsibilities. Additional approaches are needed within healthcare systems to address barriers such as poor patient-provider communication, patient-provider mistrust, and insufficient time available to provide adequate health information. Also, effective intervention approaches should address other levels of the SEF not included in this study, including institutional, community, and public policy barriers to care.

Promising intervention approaches to increase CRC screening among LCMs include patient navigation or community health worker interventions [30, 31], attempts to reduce structural barriers (such as by mailing FOBT kits to LCMs) [32], and small media [33]. However, relatively little high-quality research on these interventions has been conducted, and few of these studies [30] have been conducted with Latino males who have specific concerns about CRC screening [27, 15] and are less likely to obtain CRC screening when compared to Non-Hispanic Whites and African Americans [4, 34]. No known research has investigated these interventions among individuals who have physical limitations that may complicate CRC screening. Future research should evaluate whether intervention approaches should be targeted by gender as well as physical and mental disability. Finally, additional qualitative research should compare the perspectives of LCMs who were and were not up to date on CRC screening, as this information could further facilitate intervention and policy development efforts.

The present study is not without limitations. Study participants were LCMs, staff at a single FQHC location, and sampled from a single urban location in Southern California. Thus, the ability to generalize the study results to other urban communities, FQHC centers, and ethnic groups is limited. Furthermore, findings from this analysis did not include other levels of the SEF which may play a significant role in influencing access to care. Finally, the transcription of audio recordings of the focus groups did not allow for the identification of individual focus group participants. Therefore, we were unable to quantify how many focus group participants had similar or different perspectives.

In conclusion, there was significant agreement among LCMs and CS regarding the importance of CRC knowledge, attitudes toward CRC screening, availability of various resources, social support, work and family responsibilities, patient-provider communication and trust, and clinic time restriction. LCMs underscored the importance of other people's experiences in their own decision-making regarding CRC screening and described negative experiences related to CRC screening in healthcare settings. CS described how physical and mental comorbidities may reduce the likelihood of CRC screening as well as steps they have taken to overcome barriers to CRC screening within their clinics. Overall, these data could be used to create interventions suitable for both the community and health care systems, thus improving CRC screening among Latinos. Furthermore, existing intervention models,

like patient navigation, still require further research to evaluate their effectiveness among Latinos.

Acknowledgments:

Research reported in this publication was supported by the National Cancer Institute of the National Institutes of Health under award numbers: U54CA132384 and U54CA132379. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

References

1. National Cancer Institute. 2019. Cancer Stat Facts: Colorectal Cancer. <https://seer.cancer.gov/statfacts/html/colorect.html>. Accessed 15 January 2020.
2. US Preventive Services Task Force. 2016. Screening for colorectal cancer: US Preventive Services Task Force recommendation statement. *Journal of the American Medical Association* 315 (23):2564–2575. doi: 10.1001/jama.2016.5989. [PubMed: 27304597]
3. Miller Kimberly D., Sauer Ann Goding, Ortiz Ana P., Fedewa Stacy A., Pinheiro Paulo S., Tortolero-Luna Guillermo, Martinez-Tyson Dinorah, Jemal Ahmedin, and Siegel Rebecca L.. 2018. Cancer statistics for Hispanics/Latinos, 2018. *CA: A Cancer Journal for Clinicians* 68 (6):425–445. doi:10.3322/caac.21494. [PubMed: 30285281]
4. American Cancer Society. 2018. Cancer facts & figures for Hispanics/Latinos 2018–2020. <https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/cancer-facts-and-figures-for-hispanics-and-latinos/cancer-facts-and-figures-for-hispanics-and-latinos-2018-2020.pdf>. Accessed 15 January 2020.
5. Centers for Disease Control and Prevention. 2019. Colorectal cancer screening rates. <https://www.cdc.gov/cancer/ncccp/screening-rates/index.htm>. Accessed 15 January 2020.
6. McLeroy Kenneth R., Bibeau Daniel, Steckler Allan, and Glanz Karen. 1988. An ecological perspective on health promotion programs. *Health Education Quarterly* 15 (4):351–377. [PubMed: 3068205]
7. Centers for Disease Control and Prevention. 2013. Increasing quality colorectal cancer screening: An action guide for working with health systems.
8. Wang Jing, Moehring Jody, Stuhr Susan, and Krug Molly. 2013. Barriers to colorectal cancer screening in Hispanics in the United States: An integrative review. *Applied Nursing Research: ANR* 26 (4):218–224. doi: 10.1016/j.apnr.2013.08.005. [PubMed: 24238084]
9. Byrd Theresa L., Calderon-Mora Jessica, Salaiz Rebekah, and Shokar Navkiran K.. 2019. Barriers and facilitators to colorectal cancer screening within a Hispanic population. *Hispanic Health Care International* 17 (1):23–29. doi: 10.1177/1540415318818982. [PubMed: 30574791]
10. Miranda-Diaz Christine, Betancourt Elba, Ruiz-Candelaria Yelitza, and Hunter-Mellado Robert F.. 2016. Barriers for compliance to breast, colorectal, and cervical screening cancer tests among Hispanic patients. *International Journal of Environmental Research and Public Health* 13 (21). doi:10.3390/ijerph13010021.
11. Goodman Michelle J., Ogdie Alexis, Kanamori Mariano J., Canar Janet, and O'Malley Ann S.. 2006. Barriers and facilitators of colorectal cancer screening among Mid-Atlantic Latinos: Focus group findings. *Ethnicity & Disease* 16:255–261. [PubMed: 16599380]
12. Varela Alejandro, Jandorf Lina, and Duhamel Katherine. 2010. Understanding factors related to colorectal cancer (CRC) screening among urban Hispanics: Use of focus group methodology. *Journal of Cancer Education* 25 (1):70–75. doi: 10.1007/s13187-009-0015-z. [PubMed: 20082178]
13. de la Torre CL, Dumbauld JN, Haughton J, Gupta S, Nodora J, Espinoza Giacinto R, Ramers C, Bharti B, Wells K, Lopez J, Diaz M, Moody J & Arredondo EM 2021. Development of a group-based community health worker intervention to increase colorectal cancer screening among Latinos. *Hispanic Health International* 19 (1): 47–54. doi: 10.1177/1540415320923564.
14. Warner Echo L., Bodson Julia, Mooney Ryan, Lai Djin, Samadder Niloy Jewel, and Kepka Deanna. 2018. Latinas' colorectal cancer screening knowledge, barriers to receipt, and feasibility

- of home-based fecal immunochemical testing. *Journal of Immigrant and Minority Health* 20 (4):981–990. doi:10.1007/s10903-017-0615-3. [PubMed: 28646404]
15. Fernandez Maria E., Wippold Rosario, Torres-Vigil Isabel, Byrd Theresa, Freeberg Diamond, Bains Yadvindra, Guajardo Jessica, Coughlin Steven S., and Vernon Sally W.. 2008. Colorectal cancer screening among Latinos from U.S. cities along the Texas-Mexico border. *Cancer Causes & Control* 19 (2): 195–206. doi: 10.1007/s10552-007-9085-6. [PubMed: 18038186]
 16. Green Alexander R., Peters-Lewis Angeleen, Percac-Lima Sanja, Betancourt Joseph R., Richter James M., Janairo Maria Pamela R., Gamba Gloria B., and Atlas Steven J.. 2008. Barriers to screening colonoscopy for low-income Latino and White patients in an urban community health center. *Journal of General Internal Medicine* 23 (6):834–840. doi: 10.1007/s11606-008-0572-6. [PubMed: 18350339]
 17. Coronado Gloria D., Petrik Amanda F., Spofford Mark, Talbot Jocelyn, Do Huyen Hoai, and Taylor Victoria M.. 2015. Clinical perspectives on colorectal cancer screening at Latino-serving federally qualified health centers. *Health Education and Behavior* 42 (1):26–31. doi: 10.1177/1090198114537061. [PubMed: 24952378]
 18. Natale-Pereira Ana, Marks Jonnie, Vega Marielos, Mouzon Dawne, Hudson Shawna V., and Salas-Lopez Debbie. 2008. Barriers and facilitators for colorectal cancer screening practices in the Latino community: Perspectives from community leaders. *Cancer Control: Journal of the Moffit Cancer Center* 15 (2): 157–165. doi: 10.1177/107327480801500208.
 19. Health Resources & Service Administration. 2018. 2018 National health center data. <https://bphc.hrsa.gov/uds/datacenter.aspx>. Accessed 15 January 2020.
 20. Health Resources & Service Administration. 2018. What is a health center? <https://bphc.hrsa.gov/about/what-is-a-health-center/index.html>. Accessed 15 January 2020.
 21. Palys Ted. 2008. Purposive sampling. In *The sage encyclopedia for qualitative research methods*, ed. Given Lisa M.: Los Angeles: SAGE Reference Publication.
 22. Etikan Ilker, Musa Sulaiman Abubakar, and Alkassim Rukayya Sunusi. 2016. Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics* 5 (1): 1–4.
 23. Arredondo Elva M., Dumbauld Jill N., Milla Maria, Madanat Hala, Coronado Gloria D., Wong Alice, Houghton Jessica et al. In press. A promotor-led pilot study to increase colorectal cancer screening in Latinos: The Juntos Contra el Cancer program. *Health Promotion Practice*, doi: 10.1177/1524839920912240.
 24. Patton Michael Quinn. 2002. *Qualitative research and evaluation methods* London: Sage Publications: International Eductaional and Professional Publisher.
 25. Hsieh Hsiu Fang, and Shannon Sarah E.. 2005. Three approaches to qualitative content analysis. *Qualitative Health Research* 15 (9): 1277–1288. doi: 10.1177/1049732305276687. [PubMed: 16204405]
 26. Garcia-Dominic Oralia, Lengerich Eugene J., Wray Linda A., Parrott Roxanna, Aumiller Betsy, Kluhsman Brenda, Renderos Carlos, and Dignan Mark. 2012. Barriers to CRC screening among Latino adults in Pennsylvania: ACCN results. *American Journal of Health Behavior* 36 (2): 153–167. doi: 10.5993/AJHB.36.2.2. [PubMed: 22370254]
 27. Getrich Christina M., Sussman Andrew L., Helitzer Deborah L., Hoffman Richard M., Warner Teddy D., Sanchez Victoria, Solares Angelica, and Rhyne Robert L.. 2012. Expressions of machismo in colorectal cancer screening among New Mexico Hispanic subpopulations. *Qualitative Health Research* 22 (4):546–559. doi:10.1177/1049732311424509. [PubMed: 22138258]
 28. Ferguson Warren J., and Candib Lucy M.. 2002. Culture, language, and the doctor-patient relationship. *Family Medicine and Community Health Publications and Presentations* 34 (5):353–361.
 29. Paternotte Emma, van Dulmen Sandra, van der Lee Nadine, Scherpbier Albert J. J. A., and Scheele Fedde. 2015. Factors influencing intercultural doctor-patient communication: a realist review. *Patient Education and Counseling* 98 (4):420–445. doi:10.1016/j.pec.2014.11.018. [PubMed: 25535014]

30. Mojica Cynthia M., Parra-Medina Deborah, and Vernon Sally. 2018. Interventions promoting colorectal cancer screening among Latino men: A systematic review. *Preventing Chronic Disease: Public Health Research, Practice, and Policy* 15:E31. doi:10.5888/pcd15.170218.
31. Percac-Lima Sanja, Grant Richard W., Green Alexander R., Ashburner Jeffrey M., Gamba Gloria B., Oo Sarah, Richter James M., and Atlas Steven J.. 2009. A culturally tailored navigator program for colorectal cancer screening in a community health center: A randomized, controlled trial. *Journal of General Internal Medicine* 24 (2):211–217. doi: 10.1007/s11606-008-0864-x. [PubMed: 19067085]
32. Coronado Gloria D., Golovaty Ilya, Longton Gary, Levy Lisa, and Jimenez Ricardo. 2011. Effectiveness of a clinic-based colorectal cancer screening promotion program for underserved Hispanics. *Cancer* 117 (8): 1745–1754. doi:10.1002/cncr.25730. [PubMed: 21472722]
33. Aragono Abraham, Schwartz Mark D., Shah Nirav R., and Gany Francesca M.. 2010. A randomized controlled trial of a multilevel intervention to increase colorectal cancer screening among Latino immigrants in a primary care facility. *Journal of General Internal Medicine* 25 (6):564–567. doi: 10.1007/s11606-010-1266-4. [PubMed: 20213208]
34. American Cancer Society. 2019. Cancer facts & figures for AfricanAmericans 2019-2021. <https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/cancer-facts-and-figures-for-african-americans/cancer-facts-and-figures-for-african-americans-2019-2021.pdf>. Accessed 15 January 2020.

Table 1.

Descriptive characteristics of focus group participants (n=39).

Characteristic	n (%)
Age in years, mean (range) ^a	59.4 (50-74)
Gender	
Female	31 (79.5)
Male	8 (20.5)
Education Level ^b	
Less than or some high school	25 (71.4)
High school diploma or higher	10 (28.6)
Marital Status ^c	
Married or living as married	19 (51.4)
Single ^d	18 (48.6)
Race/Ethnicity	
Latino/Hispanic	38 (97.4)
Black or African-American	1 (2.6)
Health Insurance ^c	
Insured	23 (62.2)
Not insured	14 (37.8)
Annual Household Income ^e	
\$0 to \$20,000	26 (78.8)
\$20,001 to \$50,000	7 (12.1)
Country of Birth	
Mexico	34 (87.2)
USA	4 (10.3)
El Salvador	1 (2.6)
Years Living in U.S.	
<1 to 10 years	2 (5.1)
11 to 20 years	6 (15.4)
>20 years	31 (79.5)
Colorectal Cancer Screening ^{f,g}	
Up to date	19 (52.8)
Not up to date	17 (47.2)
Breast Cancer Screening ^{f,h}	
Up to date	23 (76.7)
Not up to date	7 (23.3)
Cervical Cancer Screening ^{f,i}	
Up to date	25 (80.6)
Not up to date	6 (19.4)

^aMissing n=7

^bMissing n=4

^cMissing n=2

^dIncludes divorced, widowed, and separated

^eMissing n=4; Declined to state n=2

^fBased on 2016 US Preventive Services Task Force recommendations for screening intervals

^gMissing n=3

^hMissing n=9

ⁱMissing n=8

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Table 2.

Descriptive characteristics of clinic staff participants (n=17).

Characteristic	n (%)
Age in years, mean (range)	38.76 (28-59)
Gender	
Female	11 (64.7)
Male	6 (35.3)
Race ^a	
White	8 (47.1)
Asian	1 (5.9)
Other	1 (5.9)
Ethnicity	
Hispanic	15 (88.2)
Non-Hispanic	2 (11.8)
Other Languages Spoken	
None	3 (17.6)
Spanish	14 (82.4)
Education Level	
High school diploma or GED	1 (5.9)
Some college/trade school	5 (29.4)
Associate's degree	2 (11.8)
College/ university degree	6 (35.3)
Post-graduate or professional school degree	3 (17.6)
Job Title	
Administrators/Management	3 (17.6)
Nursing/Medical Assistants	7 (41.1)
Support Staff	4 (23.5)
Physician	1 (5.9)
Physician Assistant	1 (5.9)
Nurse Practitioner	1 (5.9)

^aMissing n=7