PREVENTING CHRONIC DISEASE
PUBLIC HEALTH RESEARCH, PRACTICE, AND POLICY
Volume 23, E73 NOVEMBER 2026

PROGRAM EVALUATION BRIEF

Qualitative Analysis of a Stool DNA–Based Colorectal Cancer Screening Service in a Federally Qualified Health Center

Sean W. Chen, BS[1]; Elaine Liang, BA[1]; Menal Jham, MD[2]; Gery Ryan, PhD[3]; Paul J. Chung, MD, MS[3]

Accessible Version: www.cdc.gov/pcd/issues/2026/26_0471.htm

Suggested citation for this article: Chen SW, Liang E, Jham M, Ryan G, Chung PJ. Qualitative Analysis of a Stool DNA–Based Colorectal Cancer Screening Service in a Federally Qualified Health Center. Prev Chronic Dis 2026;23:260471. DOI: https://doi.org/10.5888/pcd23.260471.

PEER REVIEWED

Summary

What is already known on this topic?

Stool DNA–based colorectal cancer (CRC) screening allows for the early detection of CRC and precancerous polyps. However, CRC screening adherence is a persistent public health challenge, especially in underserved patient populations.

What is added by this report?

Patient perspectives on a new stool DNA–based CRC screening process at a federally qualified health center in Los Angeles provide insights into workflow barriers and help create tailored interventions.

What are the implications for public health practice?

Patients who completed the test kit identified barriers to accessing results, suggesting the need for optimization of this workflow step. Further efforts are required to engage harder-to-reach patients with poor adherence to CRC screening.

Abstract

Colorectal cancer (CRC) screening is underutilized in underserved populations, contributing to racial, ethnic, and socioeconomic disparities in CRC incidence and outcomes. In February 2025, UMMA Health, a federally qualified health center in Los Angeles that serves predominantly low-income Hispanic/Latino and Black patient populations, transitioned from fecal immunochemical testing (FIT) to triennial stool DNA-FIT (sDNA-FIT) kits. After implementation, screening rates declined from the previous median of 43.6% in February 2025 to 27.9% by August 2025, prompting a qualitative evaluation of patient experiences with the new workflow. From July to November 2025, we conducted a focus group discussion and individual semistructured telephone interviews. We recruited 15 study participants by telephone call or text message, including 4 focus group participants and 11 interviewees. Participants were English- and Spanish-speaking patients aged 45 to 75 years with an sDNA-FIT order. Interviews were conducted in English or Spanish, according to patient preference, with an interpreter as needed, and explored experiences with test kit completion, outreach, and access to results. Transcripts were analyzed by using workflow-based process mapping and thematic analysis. All but 2 participants completed their kits. Patients who did not complete kits were more difficult to recruit in part because they seemed unaware of the CRC screening process. Moreover, a substantial drop-off occurred between the number of kits that were returned (n = 13) and the number of patients who accessed their results (n = 5). Patients reported difficulty navigating online result portals, uncertainty about expected follow-up communication, and anxiety due to inaccessible results. The results of the qualitative workflow analysis suggested that standardization of access to results and proactive outreach via text message campaigns may improve CRC screening rates in this patient population.

Introduction

Despite overall declines in colorectal cancer (CRC) incidence, substantial disparities persist across socioeconomic, racial, and ethnic lines (1). People in the lowest socioeconomic bracket are 40% more likely to have a CRC diagnosis compared with those in the highest (2). Racial disparities are equally stark, with American Indian, Alaska Native, and Black people having the highest CRC incidence and mortality rates, exceeding those of White people by more than 2 percentage points in incidence rates across both sexes (3). These disparities reflect not only increased exposure to risk factors such as smoking and obesity but also unequal access to high-quality screening and treatment (3). Notably, racial and socioeconomic gaps are narrowest at early-stage diagnosis and

The opinions expressed by authors contributing to this journal do not necessarily reflect the opinions of the U.S. Department of Health and Human Services, the Public Health Service, the Centers for Disease Control and Prevention, or the authors' affiliated institutions.

This publication is in the public domain and is therefore without copyright. All text from this work may be reprinted freely. Use of these materials should be properly cited.

widen considerably at later stages (3), underscoring the critical role of timely CRC screening.

CRC screening rates are far below the Healthy People 2030 goal of 72.8% (4). In 2024, California ranked fifth lowest nationally, with an overall screening rate of 64%, including 70% among White, 65% among Black, and 56% among Hispanic people (3). Use is lowest among the youngest eligible adults, people without health insurance, people with less than a high school education, and recent immigrants (3), underscoring the need for tailored screening initiatives in underserved communities. Federally qualified health centers (FQHCs) are community-based safety-net clinics serving predominantly low-income, uninsured, and ethnically diverse populations and are critical in ensuring timely CRC screening access for these groups.

Patient adherence to CRC screening is multifaceted. Current guidelines from the US Preventive Services Task Force recommend CRC screening for adults aged 45 to 75 years through direct visualization (eg, colonoscopy) or stool-based options, including annual fecal immunochemical testing (FIT) or triennial stool DNA-FIT (sDNA-FIT) (5). Prior qualitative studies on FIT kits in FQHC settings identified barriers such as forgetfulness, lack of motivation, and language, while facilitators included live call reminders and ease of sample return (6). To improve rates of use, FQHCs have used strategies that include assigning a health care professional to coordinate care, mailed FIT kits, and provider-level reminder systems (7). Despite these efforts, screening rates at many FQHCs are well below national targets. UMMA Health is an urban FQHC in Los Angeles that serves a patient population that is predominantly Hispanic/Latino (59%) and Black/African American (19%), Medi-Cal insured (81%) or uninsured (11%), and living at or below 200% of the federal poverty level (83%) (8). At UMMA Health, the 12-month average CRC screening rate was 45.2% despite patient navigation services and live call reminders for FIT kits.

To improve rates of CRC screening, UMMA transitioned in February 2025 from annual FIT kits to Cologuard (Exact Sciences), a commercially available sDNA-FIT test covered by Medicare Part B. Unlike FIT, sDNA-FIT requires only triennial collection, involves a different at-home collection process, and includes manufacturer-integrated patient outreach, health education, and delivery of results. This change allowed patients to obtain their test result on the manufacturer's website after it had been reviewed by an UMMA provider on UMMA's online portal, via telephone call by an UMMA provider, or via letter from an UMMA patient navigator. Despite these changes, screening rates, defined as the proportion of patients who completed a kit from which valid results could be obtained, steadily declined from a median of 43.6% in February 2025 to 27.9% by August 2025, motivating this qualitative evaluation of patient experiences with the new workflow. Literature on patient experiences with transitioning from FIT to sDNA-FIT in an FQHC setting is limited. This evaluation was conducted through a partnership between UMMA Health and Kaiser Permanente Bernard J. Tyson School of Medicine, which pairs medical students with FQHCs to implement quality improvement projects as part of its required curriculum.

Purpose and Objectives

The purpose of this evaluation was to understand patient experiences with the transition from FIT to Cologuard sDNA-FIT at UMMA Health to identify workflow barriers and help create tailored interventions. The decline in CRC screening rates after the February 2025 transition motivated a qualitative approach to capture information on barriers and facilitators that quantitative data alone could not explain. The population of interest was English- and Spanish-speaking UMMA patients aged 45 to 75 years who were due for routine CRC screening and consented to be contacted.

Intervention Approach

A convenience sample of patients was drawn from an UMMA Health–provided list of all patients with a recent Cologuard order, including both English- and Spanish-speaking patients, without systematic randomization or balancing for age or other demographic characteristics. Participants chose between a 15-minute individual telephone interview with a $10 mailed gift card or a 2-hour in-person focus group discussion at the clinic with lunch and $20 cash. Both formats used the same semistructured interview guide, developed by the study team and reviewed by UMMA Health staff, to explore patient barriers and facilitators to CRC screening completion.

Evaluation Methods

From July through November 2025, interviews were conducted through 1 in-person focus group discussion and individual telephone interviews. This project was deemed exempt from the Kaiser Permanente Interregional Institutional Review Board due to its classification as quality improvement. All participants provided verbal consent to being recorded.

Recruitment and interview guides

The initial recruitment outreach consisted of telephone calls by study team members (S.W.C., E.L.). Because initial response rates with telephone calls were lower than anticipated, the strategy was modified to also include text message outreach. For the group discussion, both study team members (S.W.C., E.L.) and a UMMA

The opinions expressed by authors contributing to this journal do not necessarily reflect the opinions of the U.S. Department of Health and Human Services, the Public Health Service, the Centers for Disease Control and Prevention, or the authors' affiliated institutions.

staff physician at the time (M.J.) conducted a 2-hour in-person session at the FQHC, conducted half in English and half in Spanish with an interpreter. Individual telephone interviews were conducted in English or Spanish, according to patient preference, by 1 of 2 study team member (S.W.C. or E.L.), with an interpreter on the line for Spanish interviews. Each telephone interview lasted 10 to 15 minutes using the same semistructured guide, and calls continued until data saturation was reached (9). The interviews began with broad, descriptive prompts (eg, "May you walk me through your experience with colon cancer screening at UMMA?"), followed by core questions exploring patients' experiences with CRC screening at the FQHC and the sDNA-FIT company, as well as their personal motivations for screening, with both planned (eg, "What was it like to collect the sample yourself at home?") and unplanned follow-up questions to elicit detailed responses (9).

Data analysis

A workflow map detailing the chronological steps of CRC screening for both the FQHC and patient was created to guide process mapping analysis (10). An initial coding framework was developed based on the predefined steps of this screening workflow, and 2 researchers (S.W.C. and E.L.) independently coded interview transcripts, assigning excerpts to workflow stages. Codes were iteratively refined and grouped into themes representing patient experiences at each stage of the screening process. All transcripts were analyzed using Dedoose software version 10.0.59 (SocioCultural Research Consultants, LLC).

Results

Of the total 166 patients who were contacted (100 by text message, 66 by telephone call), 26 (15.7%) initially agreed. The most common reason for not agreeing to participate in the study was lack of awareness about the CRC screening process. Of those who initially agreed to participate, 13 (7.8% of those contacted) chose individual telephone interviews, and 13 (7.8% of those contacted) chose the in-person focus group discussion. The final sample included 15 patients (9.0% of those contacted). The focus group discussion included 4 patients (2 English speakers, 2 Spanish speakers; all completed and returned the kit). The 11 individual telephone interview participants included 7 English speakers (6 completed, 1 did not complete) and 4 Spanish speakers (3 completed, 1 did not complete).

Screening barriers identified by patients

Workflow maps detailing pathways to patient receipt of Cologuard (Figure 1) and patient receipt of screening results (Figure 2) were annotated with the number of patients who completed each step at the time of interview. We identified steps between "patient returns kit by mail or drop-off" (n = 13) and "patient able to review results" (n = 5) as key steps with potentially substantial drop-off (Figure 2). One patient faced barriers to accessing results online, which caused stress and anxiety: "When they sent the e-mail, I was not able to get into that page. So right now, I don't know how I am regarding that test. I don't know if your results were good or bad, I don't know."

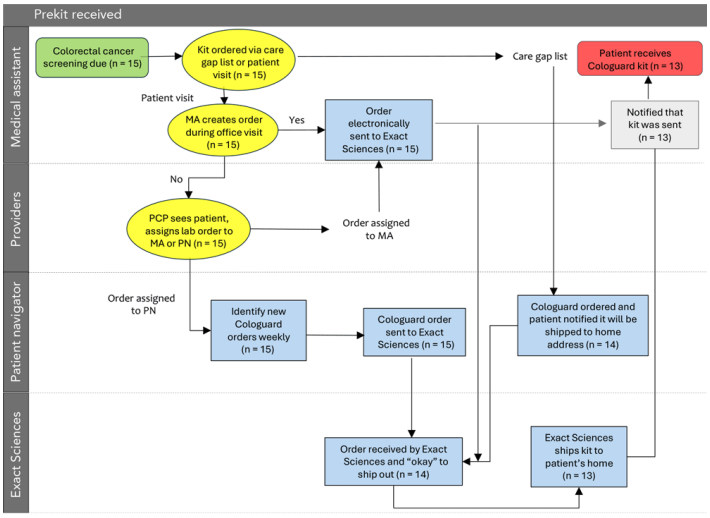


Figure 1. Cologuard ordering process, qualitative analysis of a stool DNA–based colorectal cancer screening service in a federally qualified health center in Los Angeles, California, July–November 2025. Abbreviations: MA, medical assistant; PCP, primary care physician; PN, patient navigator.

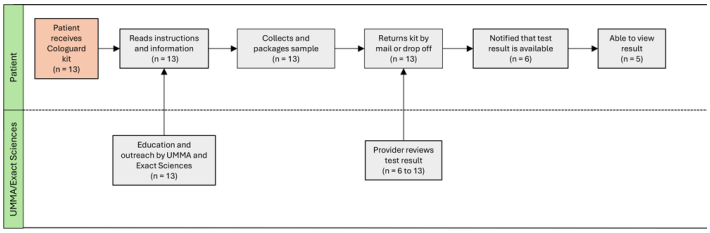


Figure 2. Steps taken by patients after they receive their stool DNA–based colorectal cancer screening kit in a federally qualified health center in Los Angeles, California, July–November 2025.

Another patient had not received a result and was unclear of what outreach to expect: "But they didn't tell you whether or not they'd reach out to you. It's kind of just you're assuming that if it's abnormal, they'll reach out to you."

Seven patients were not clear about whether a provider had reviewed their results, so the number for "provider reviews test result" was recorded as 6 to 13 (Figure 2).

The opinions expressed by authors contributing to this journal do not necessarily reflect the opinions of the U.S. Department of Health and Human Services, the Public Health Service, the Centers for Disease Control and Prevention, or the authors' affiliated institutions.

Implications for Public Health

The results of the qualitative workflow analysis suggest that standardization of access to results and proactive outreach via text message campaigns may improve CRC screening rates in the studied patient population.

Overall, access to results emerged as a key workflow step to improve for patients who had already completed their testing kit, but reach remained a potentially critical issue. Challenges in the recruitment of patients who did not return kits emphasized that a large portion of the patient population still needs to be reached, further supported by the 2 patients included in the study who were unaware of being overdue for CRC screening.

Outreach could be improved through a text campaign for patients overdue for CRC screening, including links to Cologuard how-to videos and confirmation of patient willingness before kit shipment, combined with continued telephone outreach from UMMA patient navigators and Exact Sciences.

To increase access to test results, UMMA Health is developing a standardized notification system in which negative results would be communicated via an automated letter, telephone call, or text. Abnormal results would prompt primary care provider involvement through a scheduled telephone or in-person visit. Together, these interventions seek to engage key patient populations with the FQHC while also ensuring that patients who complete the screening receive timely results and management.

Our study had several limitations. First, the patient population studied included only English and Spanish speakers at a single FQHC and may not reflect the social demographics of other FQHCs in southern California and patient populations speaking other languages. Second, workflow completion was assessed at the time of each interview; patients may have completed additional screening steps after the interview, and we did not capture this information. Third, using patient interview data, we were unable to confirm some steps, such as the number of screening results that were reviewed by a provider. As a result, a range was given for the possible number of people who completed this step of the workflow. Fourth, our sample was biased toward patients who were already engaged enough to return their test kits and speak about their experiences, with patients who did not return their test kits being more difficult to reach. Future studies should target harder-to-reach FQHC patients for additional perspectives, because the low recruitment rates among patients who did not return kits suggests that gaps in awareness of the need for CRC screening may account for much of the observed decline in screening. Indeed, because screening status did not carry over from FIT to sDNA-FIT, previously up-to-date patients were no longer counted as screened until they completed the new sDNA-FIT, and many were unfamiliar with the new screening program, which further contributed to the observed decline. Challenges in recruitment were especially apparent for the focus group discussion, which had a large dropoff. Of the 13 patients who agreed to participate, only 4 attended. This decline suggests that the format of focus groups may not be as effective for CRC screening discussion due to barriers and lack of flexibility for participants.

A recent study comparing CRC screening workflows and adherence rates across 8 US primary care clinics found that high performing clinics shared 3 features: clear communication about the need for screening, clinical conversations that emphasized screenings, and workflows that followed up on missing results (11). Our study adds to the literature by focusing on the workflow of a single FQHC, illustrating how qualitative methods can help inform interventions for promotion of CRC screening in medically underserved patient populations. These findings emphasize the importance of effective patient engagement and streamlined results access to improve CRC screening rates in underresourced populations.

Acknowledgments

This evaluation was supported by the UMMA Health Quality Improvement staff and the Department of Health Systems Science at the Kaiser Permanente Bernard J. Tyson School of Medicine. The authors acknowledge people who contributed to the implementation and evaluation of the project: the UMMA Health physicians, nurses, medical assistants, and patient navigators; Exact Sciences Laboratories; and the patients who agreed to participate in interviews. The authors declare no potential conflicts of interest with respect to the research, authorship, or publication of this article. The authors received no external financial support for the research, authorship, or publication of this article. No copyrighted material, surveys, instruments, or tools were used in the research described in this article.

Generative artificial intelligence (AI) was used to place final grammatical and syntactical edits on drafts of this manuscript written by the authors (GPT-5.5, OpenAI). No arguments, descriptions, results, or analyses of this study were AI-generated, and the authors take full responsibility for the integrity of the content.

Author Information

Corresponding Author: Sean W. Chen, BS, Kaiser Permanente Bernard J. Tyson School of Medicine, 98 S Los Robles Ave, Pasadena, CA 91101 (sean.w.chen@kp.org).

The opinions expressed by authors contributing to this journal do not necessarily reflect the opinions of the U.S. Department of Health and Human Services, the Public Health Service, the Centers for Disease Control and Prevention, or the authors' affiliated institutions.

Author Affiliations: [1]Kaiser Permanente Bernard J. Tyson School of Medicine, Pasadena, California. [2]Department of Family Medicine, Clínica Monseñor Oscar A. Romero, Los Angeles, California. [3]Kaiser Permanente Bernard J. Tyson School of Medicine, Department of Health Systems Science, Pasadena, California.

References

1. Carethers JM. Racial and ethnic disparities in colorectal cancer incidence and mortality. *Adv Cancer Res*. 2021;151:197–229. doi:10.1016/bs.acr.2021.02.007
2. Siegel RL, Wagle NS, Cercek A, Smith RA, Jemal A. Colorectal cancer statistics, 2023. *CA Cancer J Clin*. 2023; 73(3):233–254. doi:10.3322/caac.21772
3. Siegel RL, Wagle NS, Star J, Kratzer TB, Smith RA, Jemal A. Colorectal cancer statistics, 2026. *CA Cancer J Clin*. 2026; 76(2):e70067. doi:10.3322/caac.70067
4. Office of Disease Prevention and Health Promotion. Healthy People 2030. Increase the proportion of adults who get screened for colorectal cancer — C-07. Accessed September 29, 2026. https://odphp.health.gov/healthypeople/objectives-and-data/browse-objectives/cancer/increase-proportion-adults-who-get-screened-colorectal-cancer-c-07
5. Davidson KW, Barry MJ, Mangione CM, Cabana M, Caughey AB, Davis EM, et al; US Preventive Services Task Force. Screening for colorectal cancer: US Preventive Services Task Force recommendation statement. *JAMA*. 2021;325(19): 1965–1977. doi:10.1001/jama.2021.6238
6. Ylitalo KR, Camp BG, Umstattd Meyer MR, Barron LA, Benavidez G, Hess B, et al. Barriers and facilitators of colorectal cancer screening in a federally qualified health center (FQHC). *J Am Board Fam Med*. 2019;32(2):180–190. doi:10.3122/jabfm.2019.02.180205
7. Baker DW, Brown T, Buchanan DR, Weil J, Balsley K, Ranalli L, et al. Comparative effectiveness of a multifaceted intervention to improve adherence to annual colorectal cancer screening in community health centers: a randomized clinical trial. *JAMA Intern Med*. 2014;174(8):1235–1241. doi:10.1001/jamainternmed.2014.2352
8. UMMA Health. 2025 Annual report. Accessed October 15, 2026. https://www.ummahealthca.org/wp-content/uploads/2026/06/UMMA-Health-2025-Annual-Report.pdf
9. DeJonckheere M, Vaughn LM. Semistructured interviewing in primary care research: a balance of relationship and rigour. *Fam Med Community Health*. 2019;7(2):e000057. doi:10.1136/fmch-2018-000057
10. Trebble TM, Hansi N, Hydes T, Smith MA, Baker M. Process mapping the patient journey: an introduction. *BMJ*. 2010; 341(Aug 13):c4078. doi:10.1136/bmj.c4078
11. Robertson EA, Lutgen CB, LeMaster JW, Hester CM. Mapping colorectal cancer screening workflows in primary care. *BMJ Public Health*. 2026;4(1):e003301. doi:10.1136/bmjph-2025-003301

The opinions expressed by authors contributing to this journal do not necessarily reflect the opinions of the U.S. Department of Health and Human Services, the Public Health Service, the Centers for Disease Control and Prevention, or the authors' affiliated institutions.