

**Formative Evaluation of Colorectal Cancer Screening Practices at Two Hawai'i Rural
Community Health Centers and One Urban Hospital**

Brief Report

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Background

The Hawai'i Department of Health (HDOH) Colorectal Cancer Program goals include improving low colorectal cancer screening (CRCS) rates due to (1) lowered minimum screening age of 45 and (2) decreased screening rates due to the pandemic. The Healthy Hawai'i Strategic Plan 2030 Objective 9 for cancer reads "Increase the proportion of adults receiving lung, breast, cervical, and colorectal cancer screenings"¹ with the following three strategies:

- Partner with the Hawai'i Primary Care Association to increase and implement evidence-based interventions (EBI) at FQHCs
- Identify resources and secure funding for implementation
- Evaluate the effectiveness of the implementation of the EBI

The long term desired outcome in the state's Strategic Plan is an absolute increase in CRCS of 9%, from a 2018 BRFSS derived baseline of 75.1% to 84.1%, however, this goal was based on screenings among 50 to 75 year olds (p. 54).¹ In August 2021, the US Preventive Services Task Force (USPSTF) gave a "B" rating to expanding the ages for colorectal screening to 45 to 49 year olds.² Additionally, during the COVID-19 pandemic, rates of colorectal screening fell; an analysis of 2020 data showed screenings in Hawai'i declined to 74.4% among 50 to 75 year olds (Richardson et al., 2022). Data from the Health Resources and Services Administration Hawai'i Health Center Program Uniform Data System shows that in 2021, only 40.74% of community health clinic patients were up-to-date for CRCS (range: 26.4%-63.4%).³ The Community Preventive Services Task Force (CPSTF) creates the Community Guide to aid public health professionals and organizations select evidence-based interventions to increase cancer screening, including colorectal cancer screenings, at a population level.⁴ The Guide includes 14 different EBIs specifically to increase screening rates for colorectal cancer.⁵

Evaluation Methods

To advance the screening goals stated above, the HDOH engaged the Healthy Hawai'i Evaluation Team (HHET) at the University of Hawai'i at Mānoa to conduct a formative evaluation of the current colorectal cancer screening practices at rural federally qualified health centers (FQHCs) and one urban hospital. HDOH approved the evaluation on May 25, 2023 and recruitment started the following day. This project was deemed not human subjects research by the University of Hawai'i at Mānoa Institutional Review Board (June 8, 2023, #2023-00413). HDOH referred up to four participants from sites across the state. HHET provided informed consent and explained the data collection process, which included both a pre-interview worksheet and group interview about each center or system's current interventions to increase colorectal cancer screenings.

The pre-interview worksheet was created to gather initial data on which Community Guide-recommended screening interventions are currently used, had been previously used, used for other cancer screenings (i.e., breast or cervical), and whether those interventions had been tried previously and dropped. Additional questions asked which interventions would be most likely

and least likely to be adopted by each health center or system. Participants each filled out a worksheet individually. Worksheets were collected from June 20 to July 11, 2023. Worksheets were then collated by site and results were used as part of the semi-structured group interviews.

Interview participants were asked about their roles, the current age range used for CRCS referrals, types of screenings offered or referred to, participant roles in CRCS specifically, patient barriers and facilitators to CRCS, and clinical barriers and facilitators regarding CRCS. Then each type of screening intervention was reviewed by staff to ensure the current status of evidence-based intervention use was properly recorded. Staff then provided feedback on each of the interventions. Closing questions asked which interventions would lead to increased screening, what additional technical assistance or support was needed from HDOH, and if there were additional considerations that needed to be factored into any decision to utilize evidence-based interventions. Interviews were conducted July 18-24, 2023. Clarifying questions were sent to two interviewees September 27, 2023, who responded via email within a few days.

This brief report details the interventions used by interview participants, barriers and facilitators to screening, and recommendations based on the findings. Confirmed worksheet data are below in Table 1. Qualitative data are reported by intervention as well using thematic analysis. A longer document details all analyses and information on each individual intervention, plus contextual information about evidence-based interventions conducted in Hawai'i and nationally drawn from the literature.

Results

HHET sent invitations to twelve potential participants referred to HHET staff; nine agreed to participate: four from one FQHC, three from the second FQHC, and two from the health system. Staff roles varied; generally, these staff were medical/program directors, nursing staff of varied levels and roles, health informatics data analyst, and medical assistants and care coordinators. Because one of these participating sites was a hospital and interviews were conducted with screening coordination staff who help deliver screenings like colonoscopies, data provided by this group differs from the FQHC staff, who primarily distribute immunological fecal occult blood test (iFOBT) kits for initial screening. Therefore, there are some differences between these site types in the barriers and facilitators to CRCS reported, as well as why some interventions are implemented while others are not.

Barriers to Screening

Barriers to screening: Client. Client related barriers included clients forgetting to do a screening, not wanting to use the EMR-based questionnaire, or feeling unable to complete the preparation for colonoscopy or disgusted by the iFOBT instructions. Additional barriers were cultural barriers to discussing fecal matter, rectum, or anus; only wanting to receive instructions from the physician; and, lack of transportation to drop off iFOBT kits to labs or lacking a place to perform an iFOBT screening for unhoused or unstably housed clients.

Barriers to screening: Structural. Structural barriers to screening included the days and times colonoscopies were available; differing locations or distance between patients' homes, FQHCs, lab, and/or hospital; physician's need to treat other pressing diseases or symptoms; insurers sending information about chronic disease prevention and screening but not cancer screening; and issues related to insurance status for patients between plans or for those who do not qualify for insurance due to immigration status. Broader systemic barriers included the availability of iFOBT kits and lab processing capacity.

Facilitators to Screening

All sites named their EMR and population management tools as facilitators that helped make screening easier for patients. For both FQHCs, monthly reports to providers, provider assessment and recall, and lists of patients due for screening were also facilitators. The hospital's EMR system allowed patients to complete pre-screening questionnaires asynchronously. The second FQHC named patient education as a facilitator. They also hoped that adding an on-site lab would facilitate returning screening kits.

Community Guide Recommended Evidence-Based Interventions

The table below summarizes the number of participating sites who use Community Guide recommended interventions already in their colorectal cancer screening work. All three sites used between eight and eleven Community Guide recommended EBIs.

Common interventions

Multicomponent interventions. One FQHC used 11 of the 13 EBIs currently listed in the Community Guide for increasing colorectal cancer screening while the other used nine. The health system hospital used eight interventions. No sites currently use client incentives. Two sites did not use provider incentives (FQHC 1 and hospital). FQHC 2 did not use group education, mass media, or small media. The hospital site did not use group education, and also did not provide provider assessment and feedback in the same way as defined by the Community Guide.

Community health workers. All sites confirmed they were engaging CHWs. The first FQHC's care coordination team fulfilled many of the same roles that CHWs would normally do related to colorectal cancer screening, though none of the staff have the formal CHW title. The second FQHC was just starting its engagement with CHWs, first with planned outreach via the Diabetes Prevention Program, and further engagement was ideated upon in the interview as CHWs were also working on self-measured blood pressure monitoring and street medicine programs. The hospital engages CHWs when patients are non-compliant for CRCS and other types of tests and screenings.

Client reminders. All sites used client reminders. Reminders were delivered via phone call; mailed letter; or, by using the EMR to deliver messages via the patient portal, automated phone calls, emails, or text messages. Barriers mentioned for client reminders included patients moving or switching providers, patients negatively reacting to short text messages mentioning "cancer," and patients frequently changing phone numbers or requesting to block reminders

Table: The Community Guide List of Evidence-Based Interventions⁴ Currently Used By Sites In Hawai'i

Category	Intervention	Rural FQHC 1	Rural FQHC 2	Health System
Client-oriented interventions	Client incentives			
	Client reminders	✓	✓	✓
	Group education	✓		
	Mass media	✓		✓
	One-on-one education	✓	✓	✓
	Reducing client out-of-pocket costs	✓	✓	✓
	Reducing structural barriers	✓	✓	✓
	Small media	✓		✓
Provider-oriented interventions	Provider assessment and feedback	✓	✓	n/a
	Provider incentives		✓	
	Provider reminder and recall systems	✓	✓	✓
n/a	Interventions engaging community health workers	✓	✓	✓
	Patient navigation services	✓	✓	✓
TOTAL	Total Interventions in Use (Multicomponent)	11	9	8

n/a: This site received referrals from primary care physicians ordering colorectal cancer screenings and does not provide provider assessment and feedback in the same way as defined by the Community Guide.

completely. One structural barrier mentioned was a lack of coordination between the lab processing screening kits and clinic EMR due to potential HIPPA violations.

One-on-one education. All sites used one-on-one education. The FQHCs reported using a team-based approach to education across the clinical staff, though one FQHC felt patients were most receptive to education from doctors or nurses. The hospital used the pre-screening questionnaire to refer patients to online education videos and would also use the questionnaire to provide additional one-on-one, if needed, by the care team or to answer clarifying questions about the procedure. One barrier mentioned during one-on-one education with providers was

when assessing intent to complete a screening, patients will just respond positively with “yes” when they actually have no intent to follow through with screenings.

Reducing out of pocket costs. All three sites reported reducing client costs, mainly through sliding scale fees, while the hospital also had a payment plan plus compliance with the No Surprises Act. Even with sliding scale fees, colonoscopies could be prohibitively expensive for those who still lacked funds or lacked insurance due to current circumstances like immigration status. One site suggested the development of a grant program for these patients.

Reducing structural barriers. All three sites worked at reducing structural barriers at varying degrees. The two FQHCs offered translation services, one through Language Line and one through VOYCE. One FQHC also had a van to provide transportation services; the other FQHC previously offered rideshare vouchers, but drivers were unreliable which left patients not picked up. Lastly, the hospital offers colonoscopies at one additional site and on a half-day on Saturdays at the main site, plus allows patients to fill out pre-screening questionnaires asynchronously. One challenge mentioned by FQHC 2 was that while patients would pick up kits at the clinic, they needed to return them at an unfamiliar site that was sometimes inaccessible due to transportation issues. One idea generated was to provide screening kits to people doing street medicine outreach, but a barrier to that idea was where people experiencing homelessness would perform the screening.

Patient navigation services. No sites specifically mentioned patient navigation services in this portion of the interview, however, all sites mentioned using parts of the patient navigation services criteria from the Community Guide, including client reminders, assisting with colonoscopy scheduling, translation, transportation, and one-on-one education.

Provider reminder and recall systems. There is considerable overlap now between provider reminder and recall systems and client reminders since all are facilitated by EMRs and population management tools. For clients who were non-compliant, FQHCs would call patients to follow up. For the hospital, the EMR would be utilized to recall non-compliant patients.

Less Common Interventions

Group education. FQHC 1 was doing small-scale group education with kupuna groups and via health fairs. FQHC 2 was going to implement some group education leveraging community health workers in its Diabetes Prevention Program, while the hospital did not do group education. Some participants felt group education would be useful as part of a multicomponent intervention as there is a desire among some patients to solve problems communally.

Mass media. FQHC 1 and the hospital were using mass media, but neither appeared to be part of a coordinated media campaign. The FQHC used ads in newspapers, social media posts, and videos on YouTube about colorectal cancer while the hospital also used social media posts, but also radio spots and paid “advertorials” on television. FQHC 2 only recently hired a marketing coordinator and hopes to start mass media activities. A challenge for the sites using mass media was measuring success from these efforts. Hospital staff suggested a larger awareness

building campaign was needed for colorectal cancer screening. Awareness building should include information about the procedure protocols to address knowledge gaps about different screening procedures.

Small media. FQHC 1 used small media materials like flyers in exam rooms that said “Make your bottom your priority” to generate conversation with providers. The hospital distributed brochures to referring providers, also used as a cue for discussion, but staff were unsure if providers actually used the materials. Lastly, FQHC 2 lacked printed small media materials; additionally, while the site had TV monitors throughout the clinic, it lacked content related to colorectal cancer screening to display on them. Ideas included developing after-visit summaries or brochures that could be printed from the EMR and the development of small media materials and PowerPoint slides, translated into different languages, that could be distributed to patients and displayed on monitors throughout the clinic.

Provider assessment and feedback. Only responses from the two FQHCs are included here as they directly identify patients for screenings; the hospital performed screenings and received referrals. Both FQHC sites currently use provider assessment and feedback systems through EMR data and population assessments. At one FQHC, providers are given screening updates and work to improve screening rates. At the second FQHC, population reports are given to the providers on a regular basis and used to discuss ways to improve screening rates with providers.

Provider incentives. FQHC 2 used provider incentives as defined by the Community Guide by giving providers funds out of the clinic’s budget for achieving targets. FQHC 1 did confirm that it receives quality payments from health plans based on the clinic reaching each plan’s selected benchmarks, but these are not given to providers. The same FQHC confirmed that it would like the ability to reward care teams for their quality improvement activities. Lastly, the hospital staff felt that provider incentives were not needed since “it’s their profession to do this.”

Interventions Not Currently in Use

Client incentives. FQHC 1 previously provided client incentives for colorectal cancer screening, but funds for the intervention ran out. The incentive was a lunch kit, which included food containers and a reusable water bottle. The incentive created interest in the community for colorectal cancer screening because it created word of mouth: “*Because when Aunt Mabel did her colorectal screening, and got this great lunchbox. Then Sonny wanted to do his colorectal, and he wanted the lunchbox, and then the guy down the street, said, ‘Hey, where’d you get that?’*” FQHC 2 had success using \$50 gift cards as client incentives for well-child visits. These incentives were provided by only one insurer but were cumbersome to implement due to tracking mechanisms. Both FQHCs wanted further incentives if possible. Hospital staff did not think that an incentive was needed as they believed avoiding cancer is incentive enough: “What we try to promote is a healthier Hawai’i... getting your screening done at the appropriate time for the right reasons.”

Discussion

This formative evaluation of current CRCS practices was conducted with three sites—two rural FQHCs and one urban hospital—across three main islands. Our evaluation found that there were some client and structural barriers as well as facilitators to completing CRCS. We also found that all sites were already using multicomponent interventions based on the Community Guide definition, but there were varying reasons for why certain interventions were not in use.

EMRs and population management software were named as the primary facilitator for all sites; these systems were used to monitor eligibility and testing status, to recall clients who are non-compliant, and to facilitate provider assessment and feedback. Client-related barriers identified included forgetting to screen, feeling unable to screen due to discomfort, and cultural barriers. Forgetting to screen was most often remedied by client reminders, however, other issues mentioned by interviewees would require using community-level interventions to build awareness of the importance of CRCS and normalize screening. The barrier related to only wanting to receive instructions from physicians only point to a need to build more contact between care teams and patients to further build trust. Lastly, not wanting to use the EMR to complete pre-screening questionnaires is also complicated by the amount of time it takes to do questionnaires over the phone.

Structural and client barriers interacted when returning required going out a client's way or there was an inability to reach a drop-off site due to lack of transportation. One site was working to address this barrier by integrating a lab in its site. Previously, this site had attempted to use rideshare vouchers but with unsuccessful results. These barriers may also be addressable by utilizing CHWs to conduct home visits which could include dropping off kits and/or picking up samples for processing. Other barriers, such as colonoscopies for people who do not qualify for insurance, would need to be addressed at a policy level. Another major structural barrier revealed during the interviews were shortages of test kits and a lack of processing capacity at local laboratories.

As mentioned earlier, all sites were engaged in multicomponent interventions. All sites engaged CHWs and used patient navigation services. Almost all client-oriented interventions were used, with the exceptions of client incentives which were not used at any site; group education, mass media and small media were not used at all sites. Barriers to implementing these were lack of funds for incentives, lack of evidence for group education, and lack of capacity to create mass media campaigns and small media materials. All provider-oriented interventions, with the exception of provider incentives, were used. Incentives for providers were cost prohibitive for one site.

Limitations

There are several limitations to this evaluation which limit the generalizability of the findings. First, the sample size is relatively small. There are 14 FQHCs and community health centers across the state, however, only two sites participated. The needs of the participating centers are likely localized, though issues related to budgets, transportation, and reaching clients are probably universal among FQHCs. Another limitation was the inclusion of a hospital in the

sample; as the hospitalists we interviewed work in a colonoscopy testing facility, they have issues that are different from those of FQHCs and service clients who likely have a different demographic profile. Another limitation was that we interviewed clinic and hospital staff, but did not include the perspectives of patients. These limitations notwithstanding, this evaluation did catalog the different interventions underway at three sites across the state even without funder-directed intervention funding.

Recommendations

Below are recommendations based on the results and ideas provided by the interview participants that are related to the Community Guide's evidence-based interventions for colorectal cancer screening.

- **Media products:** Sites using both small and mass media interventions lacked a coordinated overarching campaign that could be tailored to local populations. One site cited that they needed materials to communicate the importance of colorectal cancer screening. **Recommendation:** Coordinate a media campaign to build awareness of the need to screen for colorectal cancer. The campaign should include traditional **mass media** products (e.g., public service announcements) combined with branded **small media** brochures and educational materials to reinforce messaging in clinics or on social media pages. Coordinated distribution and postings could be facilitated with sites' marketing coordinators. One participant also mentioned that insurers often send materials related to chronic disease management and control, but not about cancer screenings. Coordinating mailings with insurers with co-branded materials could also help increase colorectal cancer screenings. Materials and commercials should be culturally appropriate, translated, or tailorable for certain priority populations. Additional supportive materials about how to do an iFOBT screening are likely needed. Sites could then leverage materials in either **one-on-one** or **group education**. Co-branded materials could also be uploaded as after-appointment paperwork to be printed from EMRs by clinic staff.
- **Community health workers:** While all three sites had staff performing CHW-like roles or engaging CHWs, more could be done to leverage CHW skills. **Recommendation:** CHWs could be further engaged in **one-on-one** or **group education**, and could be further supported with **small media** materials to conduct that education. In addition, CHWs could aid in distribution and retrieval of test kits from patients who lack transportation to drop off finished kits.
- **Client incentives:** Both FQHCs mentioned that they would like to be able to provide clients with incentives. One site mentioned they had increased interest in iFOBT screening, and another site increased well-child visits through \$50 incentives offered by one insurer. **Recommendation:** Work with insurers and foundations to work toward providing **client incentives** for colorectal cancer screenings and colonoscopy. Incentives for iFOBT could be similar to the lunch kits described in interviews. Colonoscopy incentives can be useful for patients who lack sick time or need help to pay

for transportation to appointments. Incentives could also be need based; patients with private insurance with a higher income may be less likely to need incentives.

- **Reducing out-of-pocket costs:** One clinic site discussed how its clients are particularly unable to afford colonoscopies. **Recommendation:** To address gaps in service access for people without insurance or unable to access preventive colonoscopies, work with non-profits and donors to develop a grant program to help patients pay out-of-pocket costs.
- **Reducing patient barriers:** Transportation was a theme at one FQHC as well as with the hospital. **Recommendation:** While rideshare vouchers were not effective on neighbor islands, this may be more effective on O'ahu. For neighbor island clinics, pooling funds across HDOH grants for purchasing vans may be a potential solution, especially if CHWs were to do home visits.
- **Reducing patient barriers:** Using patient portals and completing online questionnaires was mentioned by the hospital as a barrier. **Recommendation:** EMR vendors likely need to do further testing with patients to assure patient portal use; FQHCs and hospitals should work with EMR vendors to recruit local patients for testing focus groups. Alternatively, more resources could be devoted to patient navigation services to assure questionnaires are completed over the phone.

Other needs and recommendations that were not related to Community Guide interventions were:

- **Ensure availability of iFOBT kits:** Due to supply chain issues or delayed shipping, participants recommended developing a stockpile of kits to backfill during supply interruptions.
- **Need for increased processing capacity:** Lab capacity to process kits was an issue, however, how this could be addressed was not known.
- **Postage for kits:** Only one site discussed using the mail to distribute kits, but no sites discussed using mail to retrieve kits. Funds to support postage for kit return may be valuable for clinics.

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