


Qualitative Assessment of Washington State Medicaid Health Plan Readiness to Implement Systems-Based Approaches to Colorectal Cancer Screening

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Abstract

Implementation of population-based colorectal cancer screening programs by Medicaid health plans could address colorectal cancer screening disparities. Our objective is to identify facilitators and barriers to implementation of a population-based colorectal cancer screening program by Washington State Medicaid health plans. We conducted semi-structured interviews with leadership from 2 statewide and 3 national Medicaid plans. We organized the interview questions around the Consolidated Framework for Implementation Research (CFIR). We analyzed interview transcripts, guided by directed content analysis, and identified facilitators and barriers to Medicaid health plan implementation of population-based colorectal cancer screening programs. Robust health plan (inner setting) quality improvement infrastructures were facilitators. Lack of statewide Medicaid policy incentives (external setting) to increase colorectal cancer screening were barriers to potential implementation. Efforts to address identified barriers through local and national policies and statewide data sharing efforts may support Medicaid health plan implementation of population-based colorectal cancer screening programs.

Keywords

colorectal neoplasms, early detection of cancer, qualitative research, Medicaid, population health

Why is this study important?

Colorectal cancer is a leading cause of cancer death in the United States. Efforts by Medicaid health plans to increase rates of colorectal cancer screening could reduce colorectal cancer health disparities.

What does this study show?

Medicaid health plans have significant experience implementing systems-based efforts to increase quality of care. State and federal policies that govern Medicaid financing and incentives may negatively impact Medicaid health plans capacity to address colorectal cancer screening

Introduction

Despite multiple effective screening tests, colorectal cancer (CRC) remains a leading cause of cancer death in the United States.¹ Rates of CRC screening are particularly low among minority and lower income populations.²

Population-based approaches increase rates of CRC screening.^{3,4} One successful strategy, Systems of Support, involves using electronic health record (EHR) data to identify patients eligible for CRC screening, mailing fecal test kits to patients to complete at home, and sharing test results and recommendations back to patients. This program resulted in a 2-fold increase in screening.³ Similar programs tested in diverse systems show comparable results.^{5–7} In the United Kingdom, population-based outreach CRC screening programs result in 50% to 58% return rates.⁸

Medicaid health plans, which provide insurance coverage to more than 65 million low income and disabled US adults,⁹ offer a potentially unique environment in which to consider implementation of population-based CRC screening programs. Since the 2010 passage of the Affordable Care Act (ACA), 32 states have expanded their Medicaid eligibility criteria; 17 million previously uninsured individuals have gained coverage, many of

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whom are eligible for CRC screening.⁹⁻¹¹ Populations covered by Medicaid health plans, including those with low incomes and previously uninsured or underinsured populations, have particularly low rates of CRC screening,¹² highlighting the need for Medicaid health plans to implement evidence-based CRC screening programs. In contrast to individual primary care clinics or health systems, Medicaid health plans have access to large populations in need of CRC screening and plan wide implementation of evidence-based approaches to CRC screening has the potential to significantly reduce CRC screening disparities. Population-based approaches to CRC screening have successfully been implemented in primary care clinics and health systems.^{4,13} A study underway will test the effectiveness of population-based CRC screening in 2 health plans.¹⁴ Success of population-based CRC screening programs in health systems can inform implementation of this approach with Medicaid health plans, which provide coverage for low-income populations.¹⁵⁻¹⁷

Because understanding implementation of population-based CRC screening programs has focused on health system delivery,^{18,19} more information is needed on health plans' readiness to implement these programs. In this study, we use a cross-sectional qualitative study to apply the Consolidated Framework for Implementation Research (CFIR), which posits that implementation is influenced by the characteristics of an intervention, and the internal and external contexts in which the intervention is used,²⁰ to identify facilitators and barriers to implementation of a population-based CRC screening program by Washington State Medicaid health plans.

Methods

Setting

In Washington State, the Health Care Authority (HCA) administers Medicaid coverage through 5 managed care health plans. Three plans operate regionally or nationally, reaching 28 states, while 2 health plans serve only Washington State. In 2016, Washington State Medicaid provided health insurance for more than 1.8 million patients, an increase of 62% above pre-ACA Medicaid enrollment levels.¹¹

Recruitment of Participants

The University of Washington Institutional Review Board approved the study procedures. In 2016, the lead investigator met with the director of the Washington State HCA to introduce the aims of the study. The director of the HCA invited medical directors, or their equivalents, from each of the 5 Medicaid health plans to participate in interviews. All 5 Medicaid health plans agreed to participate. Four health plans selected their medical directors, and 1 health plan selected both their medical and quality directors for interview participation.

Development of the Interview Guide

We developed a semi-structured topic guide (Supplemental Appendix A) organized around CFIR, which outlines 5 domains

essential to consider when designing and evaluating implementation studies: outer setting and inner setting factors, intervention characteristics, individuals, and processes,¹⁶ and can be applied to identify facilitators and barriers to successful implementation of interventions.¹⁷ In this study, we focused on the 5 domains of CFIR, rather than the subdomain constructs. We intentionally chose this approach to keep our questions and analysis at a high level and generate hypotheses and approaches that may be tested in future work.

Interviews

We conducted semi-structured qualitative interviews with leaders from all 5 health plans (2 statewide plans and 3 national plans). Four interviews were tape-recorded and transcribed, and 1 interview was captured in detailed notes by the lead researcher. Interviews lasted 30 to 45 minutes. The interviewer shared an overview of Systems of Support program as an example of a population-based mailed fecal immunochemical test (FIT) model.³ The interviewer highlighted that the program relies on FIT as its primary screening strategy for patients at average risk for CRC screening and asked questions from the topic guide. Participants were offered \$100 gift cards for participation.

Analysis

Our analysis strategy, informed by directed content analysis, examined interview transcripts and applied CFIR.^{20,21} The study team created an initial coding structure by creating codes for each of the 26 CFIR constructs organized within the 5 overarching domains, adding associated "facilitator" and "barrier" tags for a total of 52 codes. Two investigators used the initial template to code 2 transcripts, identifying facilitators and barriers. The investigators met to review and reconcile the coded transcripts. There were significant (40% agreement) discrepancies between coders regarding which subdomain fragments fit within, but almost universal agreement (91% agreement) between coders regarding which larger construct the coded fragments fit within. Based on this, the research team simplified the coding structure so that codes represented only the larger 5 domains of the CFIR rather than each subdomain construct. Once coding was completed, investigators organized facilitators and barriers reported by each health plan, and synthesized which facilitators and barriers were common across all health plans.

Results

The characteristics of the participants and the health plans are reported in Table 1. Health plan-specific factors, contextual factors, and the characteristics of the population-based CRC screening program itself were identified as the most salient barriers and facilitators to health plan implementation of population-based CRC screening programs. The CFIR constructs to which these factors most closely mapped

Table 1. Characteristics of Participants and Health Plans.

Health plan N = 5	Participants N = 6	Health plan characteristics
1	Chief medical officer (1)	Operates in 8 states
2	Manger of health improvement (1) Quality manager (1)	Operates in 1 state
3	Vice president for quality (1)	Operates in 1 state
4	Chief medical officer (1)	Operates in 13 states
5	Chief medical officer (1)	Operates in 22 states

included internal context (health plan-specific factors), external context (contextual factors), and intervention characteristics (elements of the intervention itself).

Health Plan-Specific Factors (Internal Context)

Organizational infrastructure and quality improvement experience, priorities, and access to data emerged as both key facilitators and barriers to health plan leaders' perceived ability to successfully implement a population-based CRC screening program (Table 2).

Facilitators

Quality infrastructure. All 5 health plans reported significant experience developing, implementing, and evaluating quality improvement initiatives. Plans described having an infrastructure in place to support implementation of quality improvement within their health plan. Examples of quality improvement infrastructure within health plans included having a dedicated quality improvement team (5 plans), generating and sharing performance reports with clinical partners (3 plans), and providing population health management for patients with complex conditions and/or chronic diseases (4 plans). Two plans had experience with cancer screening initiatives that may provide a model for implementing population-based approaches to CRC screening. Specifically 1 plan reported pilot testing a small mailed FIT program with selected patients. Another plan reported a reminder letter intervention to increase uptake of breast cancer screening in age-eligible women.

Data sharing processes. Three health plans reported they generate and share claims-based data reports with practices on a regular basis, or engage in statewide efforts of claims data sharing to support quality improvement. However, no plans reported that they currently share reports about CRC screening performance with clinical partners.

Valuing partnership with providers and health systems. Three plans highlighted that they recognize the importance and value of collaborating with health systems and providers to optimize operations and improve patient care.

Barriers

Competing priorities. All 5 plans reported competing priorities and that priorities determined how resources were allocated. Examples of competing priorities included needing to address measures and metrics incentivized by the state and/or those that were most costly for health plans, such as reducing hospital readmissions and addressing care for clients with both behavioral and medical health needs.

Lack of high quality data. Four health plans cited lack of high quality data to identify and reach patients eligible for CRC screening as a major barrier to potential implementation of population-based CRC screening programs. Despite operations in a state with a Health Information Exchange, access to high quality data to measure and improve CRC screening remained a challenge. Health plan leaders reported that members move on and off plans, suggesting that claims data on past health care utilization may be incomplete.

Contextual Factors (External Context)

Although some health plan leaders acknowledged contextual facilitators to successful implementation of a population-based CRC screening program, leaders acknowledged more contextual barriers to program implementation (Table 3).

Facilitators

Relationships with commercial vendors. Leaders from 3 health plans reported successful relationships with commercial vendors as a potential facilitator to implementation of population-based CRC screening programs. Although costly, commercial vendors were thought to be more likely to have resources and expertise needed to track and monitor proactive outreach to patients in these programs.

Program alignment with patient needs. Leaders from 3 health plans perceived that programs that leverage mailed stool-based CRC screening tests would expand access to screening for those who may not be able to present at the clinic for these services. For example, clients who have difficulty arranging child care or time off work to attend clinic visits would still be able to receive screening tests.

Table 2. Health Plan-Specific Facilitators and Barriers for Implementation of Population-Based Colorectal Cancer Screening.

Health plan-specific factors (inner setting)		Number of plans citing	Example quotes
Facilitators	Quality improvement infrastructure	5	<p>“We definitely have a robust quality program and department.”—Health Plan 1</p> <p>“We really develop and implement member health promotion programs to try to improve our quality and reporting scores.”—Health Plan 2</p>
	Data sharing processes	3	<p>“As a plan we try to give [providers and practices] quarterly, at least quarterly, data information . . . They use that to see how they are doing on metrics and we use that for quarterly payouts.”—Health Plan 1</p>
	Valuing partnership with providers and health systems	3	<p>“This is a shared responsibility between plans and providers. Each should be doing what they are best at. We can support the providers and help reduce their burden. We can bring resources to the clinic. It’s also about trust and mutual respect. If you go in there and tell them that you understand the challenges and are bringing resources. We talk about the era of heightened scrutiny and we are going to be out there with our scores broadly shared. It has to be a collaborative effort.”—Health Plan 4</p>
Barriers	Competing priorities	5	<p>“You know I think really overall it is about our priorities. You know, we are working with limited resources—and so, well I guess that means we have focus on our required measures.”—Health Plan 1</p> <p>“How are priorities determined? There is a number of drivers. There is only so much in terms of resources and there are so many choices. We have hundreds of initiatives going on between providers and direct member outreach.”—Health Plan 4</p> <p>“Right now we are focused more on overall prevention and screening and not really just putting effort into colorectal cancer screening alone.”—Health Plan 2</p>
	Lack of high quality data	4	<p>“A big concern for us [in considering using mailed FIT] would be how would we get accurate data.”—Health Plan 1</p> <p>“If you have bad data [about CRC screening] then it is hard to improve quality.”—Health Plan 1</p> <p>“We know the limitations of claims data [for identifying and tracking patients in need of CRC screening]. Especially for our [Medicaid] members, because they can move on and off plans all the time and so we might only have a month or two of information about them.”—Health Plan 2</p> <p>“The claims data, well yes that is definitely a limitation [for mailed FIT] . . . We know that our members have churn and come and go off our plan and we may not have that long a look back period.”—Health Plan 5</p>
	Creating successful partnerships between health plan and providers/clinics	1	<p>“In terms of designing and implementing [the population-based colorectal cancer screening program], a challenge is not having a model to draw on for the plan to develop and strategize. Figuring out who does what and how and thinking through how we partner with our providers and clinics, but also wanting to make sure we are being efficient and not just duplicating what our clinics are already working on . . . A big challenge, I would say is finding how to translate what has been done in a clinic setting to work with a plan.”—Health Plan 2</p>

Table 3. Contextual Facilitators and Barriers for Implementation of Population-Based Colorectal Cancer Screening in Medicaid Health Plans in Washington State.

Contextual factors (outer setting)	Number of plans citing	Example quotes
Facilitators		
Relationships with commercial vendors	3	“The majority of our outreach and quality improvement really is done through vendors . . . We are working with a couple of really great vendors that are able to track and understand data and give us the data to do evaluation and have the ability to reach our members.”—Health Plan 2
Program alignment with patient needs	3	“Our patients may prefer the fecal immunochemical test (FIT) over colonoscopy. If they are employed, they probably don’t have a benefit where they get paid when they don’t work. Asking someone to take a day or two off work due to a procedure. That is an expensive thing for our members. Even though the cost of the procedure is covered, we don’t pay for the lost work time for the patients and caregivers.”—Health Plan 3
Emerging statewide programs to support health data sharing	2	“[There is] a statewide initiative [called the] clinical data repository project. All the health plans, the Health Care Authority and Department of Health, create a statewide data repository to combine EHR data and health plan data. We are definitely helping with that.”—Health Plan 2
Barriers		
Misaligned statewide policy incentives	5	“Colorectal cancer screening is not a required HEDIS measure. The state determines these.”—Health Plan 1 “Our biggest challenge is that colorectal cancer screening is not a HEDIS measure. So at the end of the day it is not a HEDIS measures and so resources aren’t really directed towards it.”—Health Plan 2
Patient relationship with health plans	5	“Members may not really identify with their health plan. If they get information from just us [about CRC screening], they might not really understand why they got it or feel like they should act on it.”—Health Plan 1

Emerging statewide programs to support health data sharing. Leaders from 2 health plans identified that emerging statewide programs, such as the statewide clinical data repository, could serve as important platforms for launching this type of program, bringing together claims and clinical data to correctly identify eligible patients. However, no health plan reported experience leveraging this data in past efforts.

Barriers

Misaligned statewide policy incentives. All 5 Medicaid health plans highlighted the lack of state policy or adequate financial incentives for CRC screening as a significant barrier to implementation of population-based CRC screening programs. Leaders reported directing limited resources to improving outcomes for required measures and allocating limited or no resources to improvement of nonrequired measures.

Patient relationship with health plans. Leaders from all 5 Medicaid health plans expressed concern that patients may not understand the role their health plan may play in delivering

care. Patients may expect to receive only billing and coverage information from their health plan, rather than a test for CRC. Without an introduction from a physician with whom the patient has a relationship, the plans worried that patients who receive mailed CRC screening tests from health plans may not recognize the importance of completing the test and would be less likely to complete it than if they received it from a physician.

Population-Based CRC Screen Program (Intervention Characteristics)

Health plan leaders identified implementation factors related to the intervention, including both how the population-based CRC screening program might operate in a health plan and the consequences of relying on FIT as a primary screening strategy for CRC screening (Table 4).

Facilitators

Strong business case. One health plan leader expressed that a program relying on FIT screening likely has a strong

Table 4. Intervention-Specific Facilitators and Barriers for Implementation of Population-Based Colorectal Cancer Screening in Medicaid Health Plans in Washington State.

Population-based colorectal cancer program characteristics (intervention characteristics)	Number of plans citing	Example quotes
Facilitators		
Strong business case	1	“An advantage of [using] the FIT test is that it costs [the plan] less up front than a colonoscopy and it delivers all its return on investment right away. The colonoscopy costs a lot more and then the financial benefits are actualized over a 10-year period.”—Health Plan 5
Ability to pilot prior to large-scale implementation	1	“We did a [pilot] of mailed FIT to a group of patients with a gap in care for colorectal cancer screening . . . It was really quite effective.”—Health Plan 5
Barriers		
Unintended harms of population-based colorectal cancer screening programs	2	<p>“One of my real concerns would be offering this service to members outside of a clinic visit creates missed opportunities for providers to see them. It might help rates of colorectal cancer screening, but would it end up lowering rates of other services that they normally get at a visit, like fewer mammograms being done or fewer flu shots being given? Because a lot of that stuff has to be done in the clinic. How can you mail people a flu shot . . .? We might be more likely to focus on getting people in for those preventive visits so that they can get all the preventive services they need and not just focusing all our attention on one service.”—Health Plan 1</p> <p>“There could be problems with the lab vendor . . . You want to be sure that the lab is accurate. If they are having a way higher positive FIT rate, that could influence the number of colonoscopies needed. Patients getting unnecessary colonoscopies could also be harmed.”—Health Plan 4</p>

business case due to the lower screening cost compared with alternative CRC screening strategies. The health plan noted that the cost of FIT is much lower than the cost of colonoscopy. The leader of this health plan thought the lower cost of FIT compared with colonoscopy would make the health plan more willing to invest time and resources in increasing patients’ use of the test and thought it likely that the business benefit of increased screening rates would outweigh the costs of implementing the program.

Ability to pilot prior to large-scale implementation. One health plan had experience piloting a similar population-based CRC screening program with good success, highlighting the ability to test processes on a small subset of eligible patients before scaling the program. The health plan believed this experience and knowledge about access to data and design of workflows would make it easier to spread the program across its clients and successfully sustain the program.

Barriers

Unintended harms of population-based CRC screening programs. Leaders from 2 health plans identified the possibility of unintended harms associated with a population-based

CRC screening program. These leaders suggested that use of a mailed CRC screening program could reduce incentives for patients to seek preventive care that requires in-person visits, such as influenza vaccination.

Discussion

Through application of CFIR, several key findings emerged that may guide plans for future implementation of a population-based CRC screening program by Medicaid health plans.

State-Level Policies Related to CRC Screening Drive Health Plan Priorities

Quality improvement initiatives, which may be associated with significant cost,^{21,22} must be financially incentivized for health plans to dedicate resources toward their implementation. Medicaid, which is implemented at the state-level, is influenced by both federal and state policies. The ACA requires the federal government to identify and publish a core set of health care quality measures for adult Medicaid enrollees, and each year the federal government reports Medicaid program performance on these quality measures.²³

Currently, CRC screening is not a core quality measure for adult Medicaid patients. Incentivizing specific quality and health measures appears to affect how health plans direct resources. External incentives or mandates related to CRC screening measures (eg, making CRC screening a required Medicaid Healthcare Effectiveness Data and Information Set [HEDIS] measure) are key to driving health plan priorities and resources.

Individual states have the option of selecting additional Medicaid quality measures beyond the federal required HEDIS measures. Oregon is the only state known to the investigators to have added CRC screening as an incentivized quality metric for the state's Medicaid program, and Oregon Medicaid health plans have initiated efforts to implement population-based CRC screening programs.²³ This action represents a promising example of how the external context may drive health plans to focus resources on improving CRC screening.

Ensuring Access to High Quality Data to Identify and Reach Patients

Medicaid health plans reported difficulty in obtaining data to accurately identify individuals eligible for CRC screening and difficulty maintaining accurate data about clients' CRC screening status over time. Claims data have long been recognized to have significant limitations for measuring CRC screening.²⁴⁻²⁶

Addressing data quality is critical to ensuring successful CRC screening programs in health plans. Combining EHR and claims data to identify patients due for CRC screening may be more useful than either data source alone and is a promising solution to improving the accuracy of identifying patients eligible for CRC screening.²⁴ Health information exchanges, operational in more than 45 states, support infrastructures to share health data from multiple sources, including both EHR and claims-based data,²⁷ and may serve as a promising platform for implementation of population-based CRC screening programs across Medicaid health plans.

The Role of Individuals: Provider and Patient Engagement

Health plans reported that understanding and shaping new roles as health plans with Medicaid enrollees and their providers may be a challenge. Engaging providers in development and implementation of CRC screening programs is critical but not sufficient. Health plans likely need to engage patients, identifying ways to build relationships and redefine the role of the health plan within a patient's health care.²⁸

Limitations

We conducted interviews with health plan leaders in only 1 state. Although 3 health plans interviewed offer coverage in

a combined total of 28 states, policy issues may vary across states. This may limit the generalizability of our findings. Yet, 37 states have expanded Medicaid to include adults that are likely eligible for CRC screening, suggesting that improved approaches for increasing CRC screening by health plans will be important nationally. In addition, data collection was terminated after interviews with all 5 programs operating in Washington. It is possible that interviews with additional programs outside of Washington would have offered additional information and helped us in identifying additional facilitators or barriers. Our findings are not meant to be exhaustive of health plans nationally.

There were several factors identified from a single health plan, such as creating partnerships between health plans, clinics and providers. The health plan citing this experience may represent an outlier or extreme case of a health plan with significantly greater capacity than others to participate in this type of program. Further exploration to understand whether these factors are present in other health plans, outside of Washington, is important in better understanding the contribution of this factor to health plan capacity.

Medical directors offer one perspective by which we explore implementation facilitators and barriers. Further studies are needed to explore patients' and providers' perspectives. Our findings must be considered in the context of potential changes in federal healthcare legislation. At the time of this study's conception and throughout data collection, the ACA created an opportunity for addressing CRC screening disparities through Medicaid expansion and partnerships. A curtailment of Medicaid expansion could decrease the likelihood that Medicaid health plans would implement population-based CRC screening programs.^{29,30}

Conclusion

Among Medicaid health plans, we identified barriers to implementation of population-based CRC screening programs: lack of Medicaid policy incentives and limited health plan access to high quality health data. Efforts to address challenges through policy changes offer opportunities to support implementation of population-based CRC screening programs in collaboration with Medicaid health plans and address screening disparities.

Authors Contribution

A.C. conceived and designed the study, conducted interviews, contributed to data analysis and interpretation, and drafted portions of the manuscript. E.W. advised on study design, led data analysis and interpretation, and revised portions of the manuscript. L-M.B. advised on study design, data analysis, and interpretation. All authors reviewed and approved the final manuscript.

Availability of Data and Supporting Materials

The data sets generated during and/or analyzed during the current study are not publicly available because they may contain potentially

identifiable information but are available from the corresponding author on reasonable request.

Ethical Approval

The University of Washington Institutional Review Board reviewed and approved this study.


Declaration of Conflicting Interests

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Supplemental Material

Supplemental material for this article is available online.

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