CASE STUDY SPOTLIGHT

Mercy Health System

Type
Primary Care Practice

Headquarters
St. Louis, MO

EHR
Epic

3,671,033
outpatient visits in 2020

Patient Strategies
■ Patient reminder or recall/in reach
■ Patient education
■ Small media

Clinician/Staff Strategies
■ Provider reminder or recall
■ Provider education
■ Provider incentives
■ Care team/team-based approach
■ HIT interventions dashboard
■ Shared decision-making model

Reducing Structural Barriers
■ Mailed FIT

Background
Mercy Health System (MHS) examined their colorectal cancer (CRC) screening process and calculated it would need to recruit 32 providers to conduct screening colonoscopies full-time just to address the backlog of colonoscopies. To alleviate this backlog, they implemented a policy of offering fecal immunochemical tests (FITs) as the first line of screening for average-risk patients in what they called their “FIT first” campaign.

Results
Eighty-five percent of MHS patients completed their CRC screening without needing a colonoscopy during the FIT first campaign. The cost savings and reduction in unnecessary burden on the health system were significant. By 2019, the health system had reached an overall CRC screening rate of 60% and increased that to 76% by 2021 among Medicare patients.
Evidence-based Strategies and Innovations

MHS has taken a patient-centered approach to CRC screening, engaging in shared decision-making, while also training staff and providers on how to provide options to the patients. Providers and care teams worked together and received reminders, used an HL7 interface (data processing system) upgrade, and implemented a mailed FIT campaign to increase CRC screening rates.

At the beginning of this process, MHS found that their practices considered FITs easy to dismiss due to the lack of upfront financial reward and the required follow-up after a positive or abnormal test. The COVID-19 pandemic created an opportunity for the health system to use FITs as an appropriate option for CRC screening when screening colonoscopies were paused and the subsequent backlog of patients needing screening ensued. MHS shared the following solutions and lessons learned from the changes they made to their CRC screening strategy:

### Mailed FIT Kits

- Obtaining test results can be challenging when the intervention is led by a health system partner and not the practice. The health system partnered with a Medicare Advantage plan on a mailed FIT intervention where FIT kits were mailed directly by the health plan to beneficiaries, rather than distributed by providers to patients. The main challenge that the practice encountered with this intervention is that they were unable to successfully track and follow-up with patients at the system level on completion of the tests, results of the FITs, and follow-up of positive or abnormal results. While the health plan would send the results back to the primary care providers at the practice, there was often a lag of several months before the results were manually logged into the practice EHR. Since there was no mechanism to electronically transmit the results directly from the health plan to the practice EHR, the practice ran into challenges with reliably entering and tracking results. The health system found they require tighter control to ensure receipt of timely results to effectively follow-up with patients on their test results and ensure proper follow-up if needed.

- **Patient Education** – The FIT kit used by their lab (InSure® ONE™) is an at-home test kit that only requires water-based sampling of one bowel movement. The practice is currently going through the process of retooling and implementing new workflows for mailing these FIT kits and ensuring that patient education instructions are included in mailings to refer to the water-based method as opposed to their previous FIT that required the patient to also brush the stool.

- **“Freshness counts”** – The health system found it is necessary to ensure that specimens are sent to the lab before they expire and to be cognizant of expiration dates of test kits. Staff and providers need to communicate to patients the importance of timeliness in returning samples. If specimens are being sent or dropped off at the provider’s office before being sent to the lab, they should be sent to the lab right away to ensure freshness. Labs will not process expired kits either.

- Postal service issues – during the pandemic, it sometimes took two weeks or more for samples to reach the labs. If mailing specimens, they need to be sent as soon as possible since many samples expire within four to six weeks.
Best practices/lessons learned:

- Conduct pilot tests to work out potential kinks with mailed materials
- Ensure return envelopes are pre-labeled and stamped with appropriate postage
- Follow-up with patients should occur within a week of distributing test kits

EHR Point of Care (POC) Prompts

The Encounter Guide EHR POC prompt provides alerts used by roomers to begin educating patients and start the conversation about CRC screening. The health system uses patient educational content from Healthwise in the EHR, which can be made available to patients as a printed handout and/or transmitted electronically via the patient portal. FIT kits are provided either during the visit or mailed to the patient.

mt-sDNA (Cologuard) HL7 Interface

For patients whose health insurance covers Cologuard, the health system has a bi-directional interface with EPIC that enables them to order Cologuard and receive the results of the test through the interface. This has been a turnkey solution for the providers. Once the HL7 interface is established, the order gets sent directly to Exact Sciences (the maker of Cologuard) from the EHR, and Exact Sciences follows up with the patient. The resulting report comes back to the EHR electronically through the interface.

Provider Incentives

In July 2021, MHS began a compensation incentive tied to quality achievements, which includes CRC screening as one of those measures. Since they still have colonoscopy backlogs, they are using this opportunity to drive “FIT first”.

Provider/staff Education

MHS is now re-educating staff about the new FIT kit, realizing that the clinical teams, providers, and staff all need reassurance about test reliability and the differences in sample methodology. It is critical that patients hear consistent instructions from everyone that they interact within the health system.

FIT First

By leading with FITs first for average-risk patients and prioritizing patients with positive or abnormal results for colonoscopy, the health system is addressing what it sees as a myth of the reliability of testing options. The health system believes the message should be: “All tests are equally reliable if the tests are followed through” and still takes an informed and shared decision-making approach with patients. The health system also shares information with providers, called “Throw a FIT”, about cost-effectiveness of the stool-based tests to help reduce their bias towards colonoscopy for average risk patients.
Tools Shared

- Encounter Guide – during the rooming process, if the patient is due for CRC screening, a point of care prompt will come up for the provider in the EHR – Appendix CS05-1.
- Sample letters, sample script for campaigns, telephone and text messaging campaigns – Appendix CS05-2.
- Information on how to provide patient-centered, cost-effective CRC options to patients in making the decisions (“Throw a FIT” provider training slides) – Appendix CS05-3.

Interviewees

James Rogers, MD, FACP
Adult Primary Care and Medical Director
Mercy Health System

Debra Barnhart
Director of Operations
Mercy Health System
CASE STUDY APPENDICES

CS05-1

Encounter Guide Screenshot from Epic

Point of Care Prompt Example used by Mercy Health System to alert provider that patient is due for Colonoscopy
CS05-2

Normal FIT Patient Result Letter Template

[Date]

[First Name] [Last Name]

[Address]

[City,] [State] [ZIP]

Dear [First Name],

You recently completed a Fecal Immunochemical Test (FIT) to check for colorectal cancer. The results of your FIT test were **normal**, meaning there was no blood found in your stool at the time of the test.

**Next Steps**

Regular screenings can help protect you from colorectal cancer. The U.S. Preventative Services Task Force recommends screenings at ages 50 to 75. A screening colonoscopy for adults of average risk can be done every 10 years. Alternatively, a FIT test can be done yearly.

If you have a Mercy primary care provider, a copy of these results has been shared with them. *If you do not have a primary care provider, we can help you locate a Mercy physician. Visit Mercy.net to find a doctor.*

**Catch it Early**

Remember, although colorectal cancer can be deadly, it can be cured if caught early. Screening is key to early detection and prevention of cancer. To learn more about colorectal cancer screening tests, go to [insert URL].

Congratulations on taking an important step in protecting your health!

Sincerely,

Your Mercy Care Team
Abnormal FIT Patient Follow-up Letter Template

[Date]

[First Name] [Last Name]

[Address]

[City,] [State] [ZIP]

Dear [First Name],

You recently completed a Fecal Immunochemical Test (FIT) to check for colorectal cancer. The results of your test were abnormal, showing blood in your stool.

An abnormal result does not necessarily mean that you have colorectal cancer, but it does mean that additional testing is needed. Your doctor may recommend that you follow up with a colonoscopy to find the source of your bleeding and to determine if a polyp or cancer is present.

Next Steps

Schedule an appointment with your primary care provider and let them know that you tested positive for blood in your stool (FIT Test). If you have a Mercy primary care provider, a copy of these results has been shared with them. If you do not have a primary care provider, we can help you locate a Mercy physician. Visit Mercy.net to find a doctor.

Learn More

Remember, although colorectal cancer can be deadly, it can be cured if caught early. Screening is key to early detection and prevention of cancer.

A colonoscopy can protect your health. If colorectal cancer is caught early with a colonoscopy, 9 out of every 10 people with the disease can be cured. If you have colorectal cancer and do not get tested, you may miss out on the chance for early and more effective treatment.

To learn more about colonoscopy go to [insert URL]

Sincerely,

Your Mercy Care Team
Script for Abnormal FIT Result

Hi [Patient Name].

This is [Caller’s First Name]. I work with Dr. [PCP] at Mercy. You recently completed a Fecal Immunochemical Test (FIT) to check for colorectal cancer. The results of your test were abnormal, showing blood in your stool. Dr. [PCP] would like for you to schedule an appointment to discuss the next steps.

IS NOW A GOOD TIME TO SCHEDULE AN APPOINTMENT?

■ “Yes” ➔ (Book the appointment and confirm.) You are scheduled for ______ day and time with [doctor or APP name]. He/she will have a copy of your results and a copy will also be mailed to you.

■ “No” ➔ I recommend that you call and schedule an appointment with Dr. (Mercy PCP’s) office within the next two weeks. He/she will have a copy of your results and a copy will also be mailed to you.

■ “I’m no longer seeing Dr. [Mercy PCP].” ➔ Do you have a primary care provider?

● “Yes” ➔ Please share a copy of your results with your provider. A copy of your results will also be mailed to you. Call their office to schedule an appointment and to talk about your abnormal results and next steps.

● “No” ➔ Do you need help finding a Mercy primary care provider?

▶ “Yes” ➔ (Can look up providers with new patient appointments available. Book the appointment and confirm.) You are scheduled for ______ day and time with [doctor or APP name and address]. He/she will have a copy of your results and a copy will also be mailed to you.

▶ “No” ➔ I recommend that you call and schedule an appointment with a primary care provider within the next two weeks. A copy of your results will also be mailed to you. Schedule an appointment to talk about your abnormal results and next steps.

Question and Answer

■ “Why do I need to do this?” OR “Does this mean I have cancer?” An abnormal result does not necessarily mean that you have colorectal cancer, but it does mean that additional testing is needed. Your doctor may recommend that you follow up with a colonoscopy to find the source of your bleeding, and to determine if a polyp or cancer is present. A colonoscopy can protect your health. If colorectal cancer is caught early with a colonoscopy, 9 out of every 10 people with the disease can be cured. If you have colorectal cancer and do not get tested, you may miss out on the chance for early and more effective treatment.

■ “Where can I learn more about a colonoscopy?” To learn more about colonoscopy go to insert URL
CS05-3

Information on how to provide patient-centered, cost-effective CRC options to patients in making the decisions ("Throw a FIT" provider training slides).

Provider Training Training on Cost-Effectiveness of CRC Screening Options

Throw a FIT

About colon cancer detection

Colorectal Cancer

80% screening rate by 2020 would result in 260,000 cases and 200,000 colon cancer deaths prevented by 2030.
Procedure “costs”

<table>
<thead>
<tr>
<th>Test</th>
<th>Prof MCR Fee</th>
<th>Prof Fee Sch</th>
<th>Total Fee MCR/Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colonoscopy 10 yrs</td>
<td>$308.63*</td>
<td>$1109*</td>
<td>38.86/110.90*</td>
</tr>
<tr>
<td>Flex Sig 5 yrs</td>
<td>$158.57*</td>
<td>$324*</td>
<td>31.74/64.80*</td>
</tr>
<tr>
<td>CT colonography 5 yrs</td>
<td>$117.75*</td>
<td>$462*</td>
<td>23.55/92.40*</td>
</tr>
<tr>
<td>DNA stool 3 yrs</td>
<td>$508.87</td>
<td>$1098</td>
<td>169.62/366</td>
</tr>
<tr>
<td>FIT 1 yr</td>
<td>$18.05</td>
<td>$66</td>
<td>18.05/66</td>
</tr>
<tr>
<td>FOBT 1 yr</td>
<td>$15.92</td>
<td>$66</td>
<td>15.92/66</td>
</tr>
</tbody>
</table>

* Does not include facility fees

The American Cancer Society Guidelines

- Any of the recommended screening options can be used.
  - Colonoscopy every 10 years
  - Flex sig every 5 years
  - CT colonography every 5
  - Multi-target stool DNA every 3 years
  - FIT or HSGFOBT annually
Model-estimated Benefit CRC Screening by Starting Age

Model-estimated Life Years Gained from CRC Screening Starting at Aged 45y vs 50y, per 1000 Screened Over a Lifetime

- CSY – Colonoscopy
- CTC – CT colonography
- FS – Flexible Sig
- FIT – fecal immunochemical
- HsPgFOBT – Guaiac
- Mts-DNA – Col奥运


Result of delays

Incidence rates are going up among patients 50 to 54. Only 51% of patients 50 to 54 are up-to-date with screening.
Recent Developments in Colorectal Cancer Burden

Rising colorectal cancer incidence among people under age 50.¹


Incidence Trend in <50 Years by Tumor Subsite

2.6 in 1991

4.8 in 2012

Source: SEER 9 delay-adjusted rates, 1975-2012; 3-year moving average.
Understanding the Birth Cohort Effect

- Risk is related to year of birth.
- People born more recently (70s, 80s, and more recently) are at double the risk for colon cancer and 4 times the risk of rectal cancer than people born in earlier decades (60s, 50s and before 1950).
- This risk appears to carry through the rest of life.
  - 50-year-old people today are at higher risk than 50-year-olds decades ago.

What is Causing this Increase in Risk?

- The cause is unknown.
- Almost certainly an environmental factor; too fast a change to be due to genetic shift.
- Candidate factors are:
  - Increasing obesity
  - Lower fiber
  - More processed foods
  - Less NSAID and aspirin use
  - Less exercise
  - More inactivity
  - Life stress
  - Unknown factors
Insurance Coverage Update

- Two large insurers are covering all screening options according to the ACS guideline:
  - Aetna
  - CareFirst
- Maine passed a bill in May requiring most insurers to cover screening beginning at age 45.
- Other states have laws linking coverage to ACS guidelines.
- All insurers will cover annual FIT testing with follow-up colonoscopy.

Colonoscopy and Stool Testing are Both Critical Strategies

Every system achieving 80% is relying on stool testing as well as colonoscopy.
Both approaches are critical.
Stool Blood Testing Remains Important in the “Age of Colonoscopy”

- Colonoscopy is now the most frequently used screening test for CRC.
- However, when provided annually to average-risk patients with appropriate follow-up, stool occult blood testing with high-sensitivity tests can provide similar reductions in mortality compared to colonoscopy and some reduction in incidence.

Source: Evaluating Test Strategies for Colorectal Cancer Screening: A Decision Analysis for the U.S. Preventive Services Task Force

We Must Ensure that Anyone Can Be Offered a Home Stool Blood Test

- Even if you recommend colonoscopy for all, some people won’t get one, can’t get one, or shouldn’t get one.
- Using colonoscopy exclusively will, inevitably, lead to a screening gap.
Many Patients Prefer Home Stool Testing

<table>
<thead>
<tr>
<th>Method</th>
<th>Completion Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colonoscopy</td>
<td>38% completed</td>
</tr>
<tr>
<td>FOBT</td>
<td>67% completed</td>
</tr>
<tr>
<td>Colonoscopy or FOBT</td>
<td>69% completed</td>
</tr>
</tbody>
</table>

Source: Adherence to Colorectal Cancer Screening: A Randomized Clinical Trial of Competing Strategies

Fecal Immunochemical Tests (FITs) Should Replace Guaiac FOBT

FITs:
- Demonstrate superior sensitivity and specificity.
- Are specific for colon blood and are unaffected by diet or medications.
- Some can be developed by automated readers.
- Some improve patient participation in screening.

AMGA current counts

<table>
<thead>
<tr>
<th>AMGA Participant Service Area</th>
<th>Patient Count</th>
<th>Numerator</th>
<th>*Screening Rate</th>
<th># Un-screened</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joplin</td>
<td>11,720</td>
<td>5,955</td>
<td>50.81%</td>
<td>5,765</td>
</tr>
<tr>
<td>Fort Smith</td>
<td>24,675</td>
<td>11,806</td>
<td>47.85%</td>
<td>12,869</td>
</tr>
<tr>
<td>East</td>
<td>127,522</td>
<td>77,319</td>
<td>60.63%</td>
<td>50,203</td>
</tr>
<tr>
<td>Springfield</td>
<td>66,754</td>
<td>43,828</td>
<td>65.66%</td>
<td>22,926</td>
</tr>
<tr>
<td>NWA</td>
<td>25,775</td>
<td>16,735</td>
<td>64.93%</td>
<td>9,040</td>
</tr>
<tr>
<td>West</td>
<td>57,331</td>
<td>33,728</td>
<td>58.83%</td>
<td>23,603</td>
</tr>
<tr>
<td>Mercy</td>
<td>313,777</td>
<td>189,371</td>
<td>60.35%</td>
<td>124,406</td>
</tr>
</tbody>
</table>

* AMGA excludes Sites of Care with <100 patients when drilling down. The overall Benchmark reports includes these so the numbers can vary between the two reports.

Manpower Shortage

Skilled scopist = 1,728 – 2,106 year (1,917) 8-10 screenings/day
4.5 days/week
48 weeks/year

# of FTE’s needed
Close Gap to 80% screening = 32.44
Rescope @ 10%/yr = 9.9
Colonoscopies for all? Practical Implications?

• Manpower shortage
• Cost of normal exams - Closing 80% gap
  – Cost net of FIT
    • MCR = $290.18
    • Fee = $1090.95
  – 75% of screening scopes = normal (ADR =25%)
Colonoscopy “cost” for normal
  if MCR = $13,573,549.90
  if Fee = $50,895,272.10

What do we want?

Lead with FIT complete with colonoscopy
Standardize
  Tools
  Capture
  Results
Centralize the Management to reduce clinic burden
Drive better rates and save lives
What do We Need?

Build/complete QLIK app to enable:
- Identification of patients for inclusion in FIT campaigns
- Track distribution and follow-up of patients sent FIT kit
- Track returns, results, and confirm follow-up

Finalize FIT test methodology (proformas)
- Batch analyzer
- Manual test

Educate - FIT first
- Clinic co-worker education and patient scripting
- Campaign for physicians and providers

Establish FIT kit distribution process – regional vs central?