Colorectal Cancer Screening Quality Improvement: A FITKit Mailing Initiative

Isabella Kratzer
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Hudson Headwaters LIC
Glens Falls, NY
2018-2019
The Problem: National Incidence Trends

Colorectal cancers are the third most common cancers in both men and women in the US.

One in 22 men and one in 24 women will receive a colorectal cancer diagnosis in their lifetime.

Trends show a recent accelerated decline in colorectal cancer incidence, attributed to increased screening and subsequent intervention.
HHHN is one of the largest providers of primary care in Upstate New York. This network provides care to a large geographic area that is otherwise largely medically underserved.

The screening rates show little trend from health center to health center and little improvement.

HHHN Colorectal Cancer Screening Rates and National Colorectal Cancer Round Table 2018

HHHN

NCCRT 2018

Goal

Under Goal

The screening rates show little trend from health center to health center and little improvement.
Comparison at the State and National Level

As a network, our best screening rates in recent years are below 63%.

While the state of New York is in the second-highest bracket for screening rates, HHHN still sits in the lowest.

This is complicated by our role as an FQHC, with a large catchment area and socioeconomically diverse patient population.

American Cancer Society Colorectal Cancer Facts & Figures 2017-2019

*Colon cancer screening prevalence estimates do not distinguish between examinations for screening and diagnosis.

The Need

- We serve a largely rural population
- Few available GI centers capable of colonoscopy
- Large need for screening options with greater availability, accessibility, and geographic flexibility
The Public Health Cost

By cancer type, national expenditure on colorectal cancer is second only to female breast cancer.

**National Expenditure for CRC**

$16.3 Billion

By cancer type, national expenditure on colorectal cancer is second only to female breast cancer.

**Typical Stage IIb Case Study**

$124,425

American Cancer Society case study reports care for a typical Stage IIb CRC patient costing $124,425 in the first year of treatment alone.

**Local Coverage**

51.5% Commercial

HHHN patient population eligible for CRC screening (with insurance on file for search): 51.5% commercial, 38.7% Medicare, 9.7% Medicaid.

The Community Perspective: An Interview with HHHN Care Manager, Debra Shay

Financial Barriers to Access:
- Large copays for screening services, particularly colonoscopy
- Expense of return postage for at-home screening options
- Need to pay no-show fees at local GI offices before scheduling new procedures

Social Support Barriers to Access:
- Availability of family/friends to escort patients to and from colonoscopy (required if using sedation)
- Availability of family/friends to observe and remain available to patients after colonoscopy in case of complications

Personal Barriers to Access:
- Fear of significant screening procedures
- Potential embarrassment of returning at-home samples in-person
"It’s the people who are disenfranchised, people who don’t get to go to their well care checks, who need to be engaged."

"I’m so happy the medical community is looking beyond colonoscopy, because we meet with so many people who are not up to date on screening and have no intention of getting a colonoscopy."

"Some people don’t want to be found, it’s not exactly safe right now, but we’re trying to find trusting relationships with gatekeepers in the community, so hopefully we can reach that [New American/Immigrant] group."

Kathryn Cramer

Gail Infante

Kathryn Cramer
Methods: Data and Design

- **Data Acquisition:** with massive support from Erin Dunn and Kelly Piotrowski from HHHN’s Population Health department, we pulled three years’ data from Athena Health records to identify trends in successful and failed CRC screening measures.

- **Data Analysis:** looked at age, insurance type, income, geography, individual health centers, individual providers, and risk factors and comorbidities (e.g. obesity, homelessness, asthma, COPD, diabetes, hypertension, osteoporosis) to determine most at-risk populations.

- **Literature Review:** underwent a literature search to find evidence-based interventions in similar populations.

- **Project Approval:** devised and approved a pilot FITKit mailing program including cost estimates/approval, written outreach reviewed by HHHN’s marketing department, and presentation of the pilot plan itself to the network.
Methods: Intervention

We mailed FITkits to a cohort of HHHN primary care patients who:

- Are currently failing the CRC screening measure
- Haven’t seen a provider in 2018
- Are age 50-75
- Have a BMI greater than or equal to 30 (obese)
- Have 0-5 comorbidities

This mailing was preceded by an introduction email for the initiative (1 week prior).

Kits included a second introductory letter for the initiative, health center call-back numbers, the existing fact sheet included with FITkits in-office, and pre-stamped, pre-addressed return envelopes for samples.

Two automated phone reminders were released, at ~ 1.5 and 3 weeks after the kit mailing, encouraging patients to complete the screening.
Why this Cohort?

- **Chosen Cohort = 389 Patients**
- **Well distributed among 17 health centers → more generalizable**
- **Opportunity to reach patients not coming into our offices (where we already hand out kits)**
- **Includes important risk factor for CRC: Obesity**
- **Obese men: RR ~ 1.5 for colon cancer and RR ~ 1.2 for rectal cancer**
- **Obese women: RR ~ 1.2 for colon cancer and R ~ 1.1 for rectal cancer**
Support from the Literature

Effectiveness and Cost of Multilayered Colorectal Cancer Screening Promotion Interventions...
Kemper et al, 2018

- This study showed a 31% return rate in their mailed FIT kits at involved FQHC’s in Washington State
- Study used additional mailed/telephone reminders
- Found cost per completed screening to be just under $40

Effect of Colonoscopy Outreach vs Fecal Immunochemical Test Outreach on Colorectal Cancer Screening Completion
Signal et al, 2017

- This RCT compared colonoscopy mailed outreach and FIT kit mailed outreach with usual care among individuals 50-64 years old, receiving primary care at a safety-net institution.
- Found colonoscopy outreach to have higher rates of process completion (38.4%) than FITkit outreach/mailing (28.0%), but maintained a stringent definition of process completion
- Required FITkit patients to follow up on abnormal test results with colonoscopy to be considered ‘complete’

Evaluation of Interventions Intended to Increase Colorectal Cancer Screening Rates in the United States
Dougherty et al, 2018

- This meta-analysis looked at many RCT’s investigating different interventions intended to increase CRC screening rates and found that FBT outreach had the best advantage over usual care
- RR (of completing screening) of 2.26 and CI of 1.81-2.81 (better than patient navigation, patient education, and patient reminders)
The Results

In mid-January, 2019, FITKits were mailed out to nearly 400 HHHN patients who were out of date with screening recommendations and subsequently at risk of having undetected colorectal cancer.

We plan to track FITKit returns within this cohort over the coming months, sending out additional reminders accordingly.

The data we collect will direct future efforts for this pilot quality improvement project.
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<tr>
<th>Strengths</th>
<th>Limitations</th>
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<td>Reached a population that was not receiving regular preventative care</td>
<td>High financial cost, price per completed screening still to be determined</td>
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<td>Equally effective for even the most rural patients in population</td>
<td>Time-consuming mailing assembly process</td>
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<td>Provided a quick, simple cancer screening option without need to schedule appointment or procedure</td>
<td>Size of cohort limited by financial and time burden</td>
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<td>Eliminated travel time and cost, hopefully improving accessibility</td>
<td>Potential issues with follow-up for inaccessible patients with positive test results</td>
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<td>Worked with population generalizable to much of HHHN</td>
<td>Visual/language demands of included kit instructions</td>
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<td>Workflow of retroactively ordering screening</td>
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Future Directions

**DATA ANALYSIS**
Evaluate effectiveness by collecting data on FITKit returns, consider analysis of cost per returned screening.

**COMPARISON**
Consider comparing returns on mailed kits to those handed out in-office.

**REPETITION**
Explore annual mailings for any patients receptive to this mailed screening option.

**ASSESSMENT**
Assess any barriers to follow-up and continued workup for any positive screening results.

**EXPANSION**
Based on collected data, consider expanding pilot to broader HHHN population.
Recommendations

Streamline

Consider streamlining mailing process:
- Estimated person-hours for mailing assembly for current cohort ~21
- Eliminate need to disassemble and reassemble every FITKit by printing patient ID stickers and including postage and return label as loose components with backing paper intact

Consider

Consider measures to increase accessibility and inclusivity:
- Consider picture-based instructions, eliminating need to read small font or have English language proficiency

Learn

Learn from our neighbors at the Cancer Services Program:
- Consider small rewards (e.g. $5 Stewart’s giftcard) included with completed FITKit results
- Consider radio ads for outreach
- Establish method for individuals who are out-of-date with screening to request FITKit mailing, without need for in-person communication
Where do we stand today?

26 Kits Returned
Just under a month after mailing FITKits to a pilot group of Hudson Headwaters patients, we have seen 26 mailed kits returned to our offices for processing.

7.14% Completion
With most recent literature suggesting ~30% screening completion on similar FITKit mailing initiatives, 7.14% returns is a promising start near the one-month mark.

$427 in FITKits
New FITKit purchasing for the entire cohort cost the network nearly $427, with additional costs of the initiative attributable to mailing envelopes, postage, and printing.

16% of Kit Cost
FITKit purchasing for this QI project represented only 16% of the networks total FITKit purchasing expenses in 2018 (with record lowest FITKit spending this year).
Citations


