

Increasing Breast, Cervical and Colorectal Cancer Screening through Academic Detailing and Practice Facilitation

Project Summary Report **AUGUST 2020**

Prepared for the New York State Department of Health by:

Laurene M. Tumiel Berhalter, PhD

Alexandrea Bentham, BS

Caroline Horrigan-Maurer, BS

Laura A. Brady, PhD

SUNY University at Buffalo, Department of Family Medicine

Laura A. Schad, MPH

Christopher P. Morley, PhD, MA

SUNY Upstate Medical University, Department of Public Health and Preventive Medicine

This is a modified version of the report submitted in August 2020 to the New York State Department of Health in partial fulfillment of the project's deliverable requirements.

The material within this report has been edited to protect the anonymity of the practices who participated in this Project. While some identifying details have been redacted, the overall content remains largely the same.

The original report was drafted by Laura Brady, PhD, and the final submission authored by Ms. Brady, Alexandra Bentham, BS, Caroline Horrigan-Maurer, BS and Laurene Tumiel Berhalter, PhD from SUNY University at Buffalo, and Christopher P. Morley, PhD, and Laura A. Schad, MPH, from SUNY Upstate Medical University, for submission to the New York State Department of Health. The report was re-edited, with identifying information redacted, for public distribution, by Laura A. Schad MPH, in November, 2020.

Executive Summary

Introduction

In June 2019, the Research Foundation of SUNY – Upstate Medical University entered a contract with Health Research, Inc. and the New York State Department of Health (NYSDOH) to complete the project *Increasing Cancer Screening through Academic Detailing and Practice Facilitation* (June 30, 2019 - June 29, 2020). This current project is an extension of the previously funded project *Increasing Cancer Screening through Academic Detailing and Practice Facilitation*, the contract for which concluded June 29, 2019. As this is the seventh iteration of the project, the current project year will subsequently be referred to as Year 7.

The primary goals of the project were to implement interventions using a combination of academic detailing and practice facilitation to increase breast, cervical and colorectal cancer screening within primary care practices, and to assess the outcomes and barriers to intervention success. Activities under this project were administered to 12 primary care practices across Western and Central New York by three practice-based research networks (PBRNs) administered from SUNY Upstate Medical University, SUNY University at Buffalo, and University of Rochester Medical Center. An in-person 1-hour academic detailing session or an online webinar on breast, cervical and colorectal cancer screening guidelines and strategies to increase screening rates among eligible patient populations were available to all participating practices. The practices received practice facilitation services from trained professionals for a minimum 6-month period to develop and implement practice-specific strategies with the goal of increasing cancer screening among their eligible patients. In Year 7, the final year of the project, the amount of data collection and practice facilitation efforts were reduced to focus on the evaluation of the overall program.

Practice Recruitment and Practice Characteristics

The following PBRNs played an integral role in practice recruitment activities:

- Studying-Acting-Learning & Teaching Network (SALT-Net; Syracuse region)
- Upstate New York Practice Based Research Network (UNYNET; Buffalo region)
- Greater Rochester Practice-Based Research Network (GR-PBRN; Rochester region)

Twelve practices that participated in Year 6 re-enrolled to continue participation in Year 7. Participating practices completed all project components. Of the enrolled practices, three were part of a larger medical group or health care system, seven were federally qualified health centers (FQHCs), one was affiliated with university hospitals, and one was a non-profit clinic. All practices were clinical sites that provide care to underserved patients, more specifically, patients who are low-income, uninsured, or under-insured.

Practice Facilitation

Practice facilitators worked primarily with one person or a small team of people within the practice to provide guidance and motivation for quality improvement projects. The facilitators had monthly meetings (mostly by phone due to COVID-19) with this team to offer support and guidance, and assess strategies for sustainability. Practice facilitators built rapport and buy-in for the project among practice staff at their assigned practices.

Practice Challenges

Participating practices continued to have challenges with generating accurate cancer screening rates. This was compounded by staff turnover in several practices. There was a decrease in engagement levels observed among practice clinician champions and overall site commitment due to staff turnover and increased competing demands and workloads. This was compounded because of restrictions due to COVID-19.

Notable Project Findings and Outcomes

Breast, cervical, and colorectal cancer screening rates were collected from practices prior to practice facilitation and again at the end of the practice facilitation period. The average breast cancer screening rates increased overall during Year 7, while there were decreases in average colorectal and cervical cancer screening rates. The decline in colorectal cancer screening rates can likely be attributed, in part, due to COVID-19 and the inability to push for screening in light of many practice changes and limited in-office patient visits. It remains unclear whether observed changes are due to actual changes in number or percentages of patients screened, or whether the observed changes are due to changes in practice dynamic due to COVID-19, administrative issues related to guideline changes, EHR transitions, or provider turnover. Longitudinal analysis among practices that have participated in the project for the past several years indicates an overall upward trend in breast and colorectal cancer screening rates. We believe the longitudinal changes present a more robust picture of screening rate trends, than within-year/within-practice changes.

The most commonly implemented evidence-based interventions across all practices included client reminder systems, and reducing structural barriers. Strategies that utilized enhanced communication with clients included reminder phone calls and increased use of patient portals. Structural barriers were addressed by increasing the use of fecal immunochemical testing (FIT) and Cologuard, especially among patients that are more likely to experience challenges with transportation, cost, and time associated with colonoscopies. Other strategies included coordination of dedicated screening days for breast or cervical cancer, utilization of mobile mammography, and patient navigation services.

Practices continue to experience a range of issues at the patient, staff, and system levels. Transportation, social determinants of health, cost, cultural barriers, and health literacy were some of the top patient barriers reported. Lack of staff time and attention to quality improvement activities was cited as a common challenge, likely due to competing demands being addressed by staff. Obtaining accurate data remained a challenge at the practice level. This was often a result of communication challenges between providers, disrupting the timely delivery of screening records. Practices were more likely to successfully implement workflow adjustments among practice staff if these changes were adopted in the form of office policies, rather than relying on informal suggestions, and if the workflows were adaptable to multiple areas of health maintenance, including those outside of cancer screening. The success of primary care practices in closing the loop on patient screening (i.e., securing screening completion reports for patients) is also an issue and is partially contingent on the office operations and policies of area specialists in sharing screening completion reports, areas in which primary care practices have limited influence.

All practices prioritized implementing new procedures due to COVID-19. Many practices experienced a significant drop in patient appointments and staffing levels. Screening was suspended for up to seven weeks in some

practices. All participating practices have currently resumed screenings, but many are not yet at their pre-COVID-19 capacities.

The overall evaluation of the program is highlighted in multiple products. A series of best practice briefs were developed to showcase success of the program and provide steps and resources for other practices to implement these strategies. Five briefs were developed in all:

- Cancer Screening in Primary Care: Effective Use of Fecal Immunochemical Tests (FIT KITS)
- Cancer Screening in Primary Care: Mobile Mammography
- Cancer Screening in Primary Care: Addressing Homelessness
- Cancer Screening in Primary Care: Refugee Health
- Cancer Screening in Primary Care: Basics for a Team-Based Approach

A webinar will be available in the fall that include panel discussion that highlights best practices and showcases the practices that implemented them.

Three manuscripts are underdevelopment that describe process, outcomes, and barriers to, and facilitators of the longitudinal quality improvement project. These are:

- Implementation of a Longitudinal Multi-Site Quality Improvement Project to Increase Breast, Colorectal, and Cervical Cancer Screening in Primary Care
- Improving Cancer Screening Rates in Primary Care Practices via Practice Facilitation: A Multi-PBRN QI Project
- Increasing Breast, Cervical, and Colorectal Cancer Screenings: A Qualitative Assessment of Barriers, Promoters in Safety-net Practices

Year 7 numbers:

Breast: The average pre- and post-screening rates across the 12 practices were 47.77% and 48.64% respectively, with an increase of a 0.93 percentage point.

Cervical: The average pre- and post-screening rates across the 12 practices were 31.69% and 31.35%, respectively, with an overall screening rate decrease of 1.34%.

Colorectal: The average pre- and post-screening rate across the 12 practices were 49.64% and 47.96%, respectively, with a decrease in screening rates of 1.68 percentage points.

Table of Contents

Executive Summary	ii
Introduction	ii
Practice Recruitment and Practice Characteristics	ii
Academic Detailing and Practice Facilitation	ii
Practice Challenges	iii
Notable Project Findings and Outcomes	iii
Table of Contents	v
Acknowledgements	vii
Introduction	Error! Bookmark not defined.
I. Project Development	9
Academic Detailing Curriculum	9
Practice Facilitation Planning	9
Data Collection	10
II. Summary of Practices and Populations	11
III. Summary of Academic Detailing Activities	16
IV. Summary of Practice Facilitation Activities	16
Review of Practice Facilitation Working Items	16
V. Project Findings and Outcomes	17
Cancer Screening Rates	17
Breast Cancer Screening	18
Cervical Cancer Screening	19
Colorectal Cancer Screening	20
Comparisons of Practices by Project Period	21
Year 1 to Year 6 Participants	21
Focus Group and Interview Findings	23
VI. Lessons Learned & Implications	27
Practice Recruitment, Enrollment, and Engagement	28
Quality Improvement to Track Patient Screening	29
Barriers to Cancer Screening	31
VII. Recommendations	33
Assessment of Influential Factors on Screening Rate Data	33
Longitudinal Data Reporting	34
A Team Approach to Sustaining Cancer Screening QI	34
Implementation of Priority Evidence-Based Interventions	Error! Bookmark not defined.
Appendix A: Project Logic Model	41

Appendix B: Data Collection Materials	42
I. Practice Characteristics Survey	43
II. Focus Group/Interview Script and Structured Guide	45
Appendix D: Beyond TRANSLATE	46
Appendix E: Sustainability	Error! Bookmark not defined.
Appendix F: Intervention Guide	Error! Bookmark not defined.
Appendix G: Durable Materials	49

Acknowledgements

A number of individuals were pivotal to the successful completion of this project and/or to the composition of this final report through comments offered on the final draft. These include Gary J. Noronha, MD, Carlos M. Swanger, MD, and Karen Vitale, MEd (*University of Rochester Medical Center*), and Amanda L. Norton, MSW (*A. Mandatory, Inc., consulting for SUNY Upstate Medical University*).

In addition to practice facilitation conducted by Ms. Norton in the Syracuse region, one practice facilitator from the University at Buffalo, Alexandra Bentham, BS, contributed to the project in the Buffalo and Rochester regions. Laura Brady, PhD, served as the Project Manager and oversaw the Buffalo Practice Facilitator. Laura Schad, MPH played an invaluable role in the synthesis of all data collected from the practices. Caroline Horigan-Maurer, BS, coordinated the project deliverables and assisted in the completion of the annual report.

The project was conducted within a large multi-organizational framework, led by the Studying-Acting-Learning-Teaching Network (SALT-Net, SUNY Upstate Medical University) in partnership with the Upstate New York Network (UNYNET - University at Buffalo) and the Greater Rochester Practice-Based Research Network (GR-PBRN - University of Rochester Medical Center), under the auspices of the UNYTE Translational Research Network (UNYTE). CNYAHEC was also a contributor to the planning of an online continuing education module derived from the academic detailing presentation materials created for this project.

We would also like to acknowledge the 12 participating practices for their dedication to this project and their commitment to improving the health and lives of their patients.

Year 7 Implementation

In June 2019, the Research Foundation of SUNY – Upstate Medical University entered a contract with Health Research, Inc. and the New York State Department of Health (NYSDOH) to complete the project *Increasing Cancer Screening through Academic Detailing and Practice Facilitation* (June 30, 2019 - June 29, 2020). This contract was supported by Cooperative Agreement Numbers DP006309 and DP006102 between the Centers for Disease Control and Prevention (CDC) and the New York State Department of Health (NYSDOH).

The current project is an extension of the previously funded project, *Increasing Cancer Screening through Academic Detailing and Practice Facilitation*, supported by the same Cooperative Agreement Numbers DP006309 and DP006102 between the Centers for Disease Control and Prevention (CDC) and the NYSDOH, the contract for which concluded June 29, 2019, and by the Cooperative Agreement Number DP003879, the contract for which concluded June 29, 2017; as well as the project entitled *Increasing Colorectal Cancer Screening through Academic Detailing and Practice Facilitation*, which concluded on June 30, 2014, and was supported by the Cooperative Agreement No. 5U58DP002029 between the Centers for Disease Control and Prevention (CDC) and the NYSDOH. As this is the seventh iteration of the project, the current project year will subsequently be referred to as Year 7.

The primary goals of the project were to implement interventions using a combination of academic detailing and practice facilitation to increase breast, cervical and colorectal cancer screening within primary care practices, and to assess the outcomes and barriers to intervention success. Academic detailing is an activity wherein a trained professional (academic detailer) visits health care professionals in their own setting to provide tailored education on specific health topics and to provide guidance on best practices.¹ Practice facilitation involves the work of trained health care professionals (practice facilitators) who assist primary care practices in research and quality improvement activities.² This assistance includes data collection, feedback on provider and practice performance, and the facilitation of system-level changes to improve practice processes. Combined, academic detailing and practice facilitation help primary care practices align their work with evidence-based best practices to improve patient care and outcomes.

Under this project, three practice-based research networks (PBRNs) administered from SUNY Upstate Medical University, SUNY University at Buffalo, and University of Rochester Medical Center partnered to provide academic detailing and practice facilitation services on breast, cervical and colorectal cancer screening to 12 primary care practices across Western and Central New York. Practices enrolled in the project were able to receive either an in-person 1-hour academic detailing session, or participate in an online webinar on breast, cervical and colorectal cancer screening guidelines and strategies to increase screening rates among eligible patient populations. The practices received practice facilitation services from trained professionals for a minimum 6-month period to develop and implement practice-specific strategies with the goal of increasing cancer screening among their eligible patients.

¹ Module 10. Academic Detailing as a Quality Improvement Tool. May 2013. Agency for Healthcare Research and Quality, Rockville, MD. <http://www.ahrq.gov/professionals/prevention-chronic-care/improve/system/pfhandbook/mod10.html>

² Practice Facilitation as a Resource for Practice Improvement. May 2013. Agency for Healthcare Research and Quality, Rockville, MD. <http://www.ahrq.gov/professionals/prevention-chronic-care/improve/system/pfhandbook/mod1.html>

In Year 7, the amount of data collection and practice facilitation efforts were reduced to focus on the evaluation of the overall program. Therefore, this annual report details efforts made in Year 7 to improve cancer screening efforts of participating practices, and the overall evaluation of the multi-site longitudinal quality improvement program including a summary of best practices and lessons learned.

I. Project Development

The activities conducted under the *Increasing Cancer Screening through Academic Detailing and Practice Facilitation* project were guided by the logic model contained in [Appendix A: Project Logic Model](#). Core project staff at SUNY Upstate Medical University provided the primary administrative services for the project in collaboration with Laura Brady who took on the role of Project Manager, in addition to her practice facilitator role in Buffalo. Partner site investigators and coordinators in the Buffalo, NY and Rochester, NY project regions worked in alignment with the administrative processes developed at SUNY Upstate Medical University.

Academic Detailing Curriculum

The academic detailing curriculum developed during Year 3 was updated in Year 5 to reflect recent guideline changes made by both the United States Preventive Services Task Force (USPSTF) and American Cancer Society (ACS). Upon finalization, the academic detailing curriculum was submitted to the American Academy of Family Physicians (AAFP) for Continuing Medical Education (CME) credit as a live activity. The curriculum was granted 1 Prescribed Credit under the AAFP, which can be accepted by the American Medical Association (AMA) as a Category 1 Credit, and by the American Osteopathic Association as a Category 1-A Credit.

The curriculum was also converted into an electronic web-based course to be hosted on Health Workforce Apps (HWApps; hwapps.org), a system hosted by the Central New York Area Health Education Center (CNYAHEC). The webinar launched on December 1, 2016, and was also granted 1 Prescribed Credit from the AAFP. This course was hosted as open-access on HWApps, and was thus available to individuals outside of our project participant group.

Practice Facilitation Planning

Project staff turnover continued to be a challenge in Year 7. Mid-year, one Buffalo facilitator resigned. Laura Brady and Alexandra Bentham continued all facilitation work due to their relationships with the practices and knowledge of the program. The two worked closely and received ongoing support through bi-weekly meetings with the larger program team in the three areas.

Practice facilitation activities represented the majority of the work completed with the practices under this project. The facilitator role was slightly different this year in that they were more involved in evaluating the overall program. Instead of consistent monitoring and assistance with improving day to day implementation of the interventions for each cancer, monthly check-ins were completed with our champion from each practice. At each monthly meeting, oversight and assistance was provided by the practice facilitators if need be. Furthermore, at these meetings, questions surrounding sustainability, barriers, and best practices were discussed with each of the sites. Due to COVID-19 and its competing demands at the practices, some monthly meetings were cancelled or postponed. Many practices, although they do continually work to improve cancer screening rates, feel confident in their capability and have adapted many of their workflows to provide more efforts to these cancers. Many have

also noted that participating in this project over the years has brought these preventive cancer screening efforts to more of a forefront in their everyday patient interactions.

Data Collection

Several measures of effectiveness were developed to evaluate the impact of project activities on the cancer screening processes and outcomes in participating practices, as outlined in the Logic Model. These measures were reduced in Year 7 in order to conduct the overall evaluation of the 7-year program and are further detailed in Table 1.

Table 1. Data Collection Materials Designed to Evaluate Project Impact

Project Component	Measure	Measurement Tool
Practice Recruitment	Practices serve project priority populations	<ul style="list-style-type: none"> Practice characteristics survey
Practice Facilitation	Change in perceived barriers to breast, cervical and colorectal cancer screening Overall value of program, sustainability of evidence based interventions, etc	<ul style="list-style-type: none"> Focus groups/interviews
	Change in perceived barriers to use of breast, cervical and colorectal cancer screening registry	<ul style="list-style-type: none"> Focus groups/interviews
	Change in patient screening rates for breast, cervical and colorectal cancer	<ul style="list-style-type: none"> Pre- and post-practice facilitation screening rates for each cancer type

Data collection was coordinated between the practice facilitators and appropriate personnel at their assigned practices. Practice champions worked with practice facilitators to collect practice characteristic surveys. Information Technology (IT) contacts assisted with the collection of screening data for breast, cervical, and colorectal cancer.

Each practice reported the number of patients meeting recommended screening criteria (numerator) as well as the number of patients eligible for screening (denominator) for each cancer type. The evaluation team at SUNY Upstate Medical University subsequently calculated practice screening rates from these data.

Interviews were conducted by Amanda Norton, Laura Brady and/or Alexandra Bentham during their monthly contacts. All three are trained in qualitative data collection and analysis. The topics focused more on aspects of overall impact and sustainability of interventions rather than evaluation of the program and practice facilitator. The participants targeted for inclusion in the focus groups and interviews were those individuals most directly involved in the implementation of the project, including practice medical directors, office managers, and other quality improvement personnel. The interviews were conducted over the telephone to accommodate availability for participants. Audio transcripts were downloaded in a shared folder and transcribed verbatim; no names or otherwise personally identifiable information was recorded in the transcripts. Caroline Horigan-Maurer conducted the analysis of the qualitative data.

Copies of the Practice Characteristics Survey, listed in Table 1, can be found in [Appendix B: Data Collection Materials](#).

II. Summary of Practices and Populations

Practice Recruitment and Enrollment

Practice recruitment activities were completed between July and December 2019. The following PBRNs played an integral role in practice recruitment activities:

- Upstate New York Practice Based Research Network (UNYNET; Buffalo region)
- Greater Rochester Practice-Based Research Network (GR-PBRN; Rochester region)
- Studying-Acting-Learning & Teaching Network (SALT-Net; Syracuse region)

The directors of each PBRN, with study site coordinators, contacted practices within their regions that had participated during the Year 7 project period. Of these, all 12 enrolled for continued participation in the project this year.

The NYSDOH specifically requested that practices enrolled in the project have the capacity to affect a high percentage of patients who fell within their priority populations. These populations include racial/ethnic minorities, low socioeconomic status, uninsured, refugee, geographically isolated/rural, and Medicaid-eligible populations. Thus, all practices recruited for enrollment in the project were assessed for their ability to meet these criteria.

A one-page enrollment form detailing the purpose of the project, expectations, benefits, and deliverables, was provided to and completed by each enrolled practice. Each practice provided the name and contact information of a designated individual who would be the primary contact for the practice facilitator and act as a practice champion for the project.

Participating Practices and Populations

The Practice Characteristics Survey collected information on practice personnel and patient populations. The following information reflects the practice characteristics of the 12 practices that participated in the Year 7 project period.

Practice Information

Among the practices participating in this project year, six were federally qualified health centers (FQHCs), four were classified as large medical groups or healthcare systems, one was classified as a university hospital/clinic, and the last, a physician-owned practice. Ten of the practices have Patient-Centered Medical Homes designation, and eight practices followed Meaningful Use recommendations. Seven practices identified as single specialty and five practices identified as multi-specialty; the specialties included pediatrics, endocrinology, dental, podiatry, and behavioral health services with Medically Assisted Addiction Treatment (MAAT). Table 2 displays a summary of selected practice characteristics, including staff composition and patient volume.

Table 2. Practice Staff Composition and Patient Volume

Practice ID	Physicians Employed	Residents Employed	NPs Employed	PAs Employed	Total Patient Population	Practice Categorization	EMR Vendor
1	7	0	2	3	8000	Physician-owned practice	Medent
2	7	38	1	0	5000	Large medical group/health care system	Allscripts
3	5	17	2	1	16000	Large medical group/health care system	Allscripts
4	6	0	0	2	3837	Large medical group/health care system	Allscripts
5	4	0	1	1	1900	FQHC	Epic (Care Connect)
6	3	0	0	0	3125	FQHC	Epic
7	3	0	0	1	4000	FQHC	Epic (Care Connect)
8	8	0	5	0	5208	FQHC	eClinicalWorks
9	15	0	3	0	10000	University hospital or clinic	Epic
10	3	0	1	1	5000	Large medical group/health care system	Epic
11	5	0	4	4	14500	FQHC	GE Centricity- now called Athena
12	3	0	7	2	12713	FQHC	Centricity Practice Solution
TOTAL	69	56	26	15	89283		

Across the 12 practices, the average number of females served was 54.28%. The age distribution for the participating practices can be seen in Figure 1. Following the same age trends as the last two years, the Syracuse practices had the largest percentage (39%) of patients in the '20 and under' age group. The Buffalo practices had the largest percentage of patients in the two oldest age groups '50-74' and '75 and over' (approximately 50.3% of their total patients).

Figure 1. Patient Age Distribution by Practice Region

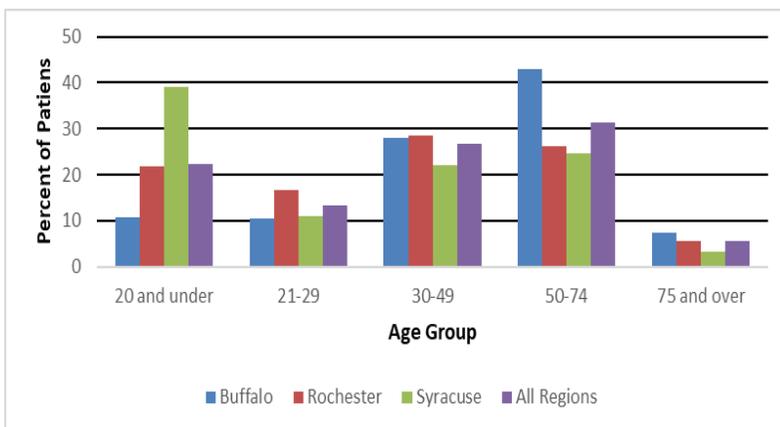


Figure 2 shows the distribution of patient race/ethnicity by practice region, as reported by the practices. Overall, 38.8% of patients were White, 47.1% Black, 1.4% Asian, 0.6% Native Hawaiian, and 0.4% Native American and, 14.5% of patients were reported as Hispanic or Latino. Compared to the other regions, the Buffalo practices had the highest percentage of Black (59.7%), Hispanic (23.7%), Native Hawaiian (1%), and Native American (0.9%) patients. Both the Buffalo and Rochester practices had the same percentages of patients who identified as Asian at 1.6%. The Syracuse practices had the largest percentage of White patients (81.9%).

Figure 2. Patient Race/Ethnicity Distribution by Practice Region

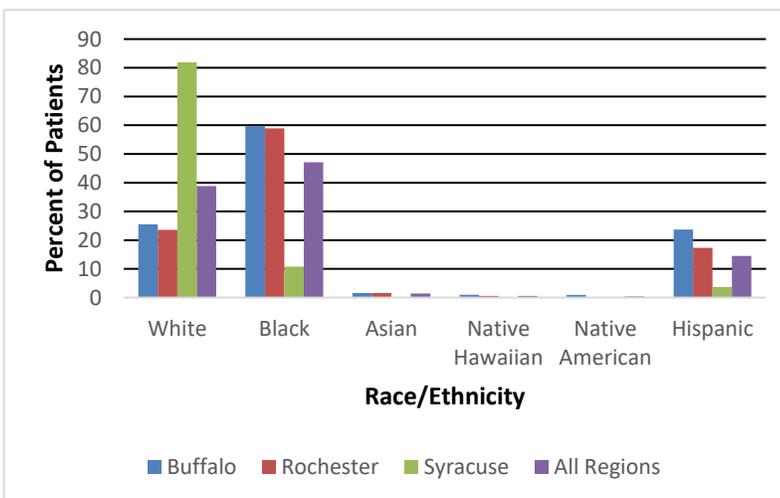
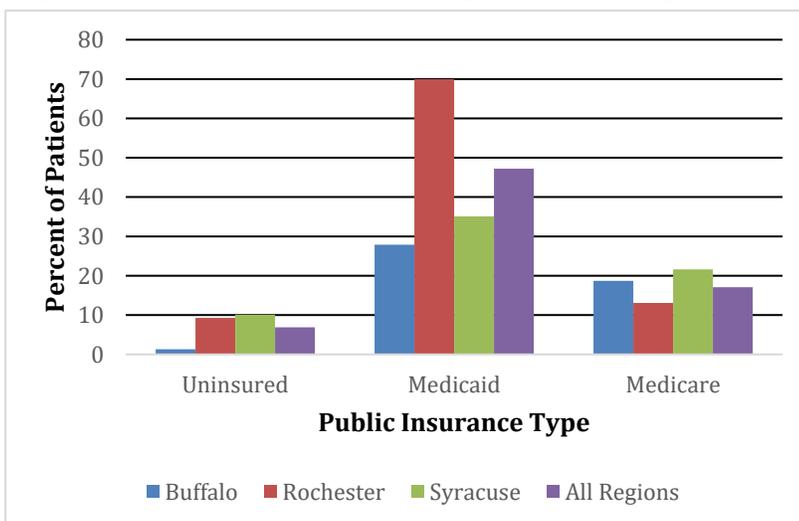


Figure 3. Patient Public Insurance Coverage, by Practice Region



Across all participating practices, 47.2% of patients were enrolled in Medicaid, 17.1% were insured in Medicare, and 6.9% were uninsured. As illustrated in Figure 3, Rochester had the highest percentage of Medicaid patients at 70%. Syracuse had the highest percentage of Medicare patients (21.6%) and uninsured patients (10.1%).

It is important to note that the practice demographics are not proportionately representative of the demographics of the regions. This project worked with safety net practices that serve low-income communities. In the Buffalo and Rochester regions, these practices were located

in urban areas that are home to a larger proportion of African American and Hispanic communities. The Syracuse practices represented a larger proportion of rural practices that served a higher proportion of low-income white patients and children. Information on patient demographics, such as race and ethnicity, was not always considered reliable by the participating practices. Some practices placed a disclaimer on the race/ethnicity data they reported, stating that it only represents a portion of their patient population, as many patients do not choose to report this information to the practice.

All of the practices involved in this project implemented guidelines for breast and colorectal cancer screening. All 12 practices utilized registries to track patient screening for colorectal and breast cancer screening. Four of the enrolled practices continued providing mammography services on-site to patients. All practices that offered the mobile mammography service postponed screening in March 2020 due to COVID-19 but resumed the service again in May 2020. One practice in the Buffalo region moved into a new location and is still working with administration to have the mobile mammography bus attend their new practice. Ten of the practices reported offering cervical cancer screening services compared to nine practices who indicated offering cervical cancer screening in Year 6. Eleven of the 12 practices indicated that they implemented guidelines for cervical cancer screening. One practice who did not implement cervical cancer guidelines and does not offer cervical cancer screening on-site. However, this practice worked in conjunction with an OBGYN nearby for patient referrals. All 12 practices that participated in Year 7 offered colorectal screening options to patients using FIT or FOBT. Two of these twelve practices also offered colonoscopy on-site.

Eight of the 12 participating practices expressed confidence that the numbers reported through their registries accurately reflect the number of patients who were up to date with breast, cervical, and colorectal cancer screening. Practices continued to express confidence in their numbers, despite large changes in those numbers, which they attributed to their inability to conduct screenings due to COVID-19 – a disruption of nearly half the reporting period for some practices. With limited clinical care and cessation of preventive cancer screening due to COVID-19, several practices took the opportunity to review and update electronic medical records related to screening. Four of the other practices had lower confidence in their numbers because of changes in personnel who ran the reports, difficulty running accurate reports, and lack of time and resources to enter up-to-date data into their system.

Tables 3 and 4 show the use of reminder systems among the participating practices, aimed at both care teams and patients. All 12 practices reported having one or more types of care team reminder systems in place. The most common of these mechanisms was reviewing patient medical records at the time of a visit (11 practices), followed by special notations or flags in patients’ charts (8 practices). All 12 practices also reported having at least one mechanism in place for patient reminders. The most common reminder system was phone calls to patients (10 practices). Other common patient reminder systems this year were letters (6 practices) and verbal prompts (7 practices).

Table 3. Cancer Screening Reminders for the Care Team in Use Pre-Practice Facilitation

Reminder Mechanism	Number of Practices
Special notation or flag in patient chart	7
Computer prompt or computer-generated flow sheet	5

Practice policy to review cancer screening in patient medical records at time of visit	11
Other: Pre-visit Planning	5
None	0

Table 4. Cancer Screening Reminders for Patients in Use Pre-Practice Facilitation

Reminder Mechanism	Number of Practices
Reminder by US mail	6
Reminder by telephone call	10
Reminder by e-mail	0
Personalized web page or patient portal	1
Practice Policy to provide a verbal prompt from a member of the care team during an office visit	7
Other	2
None	0

Project-Related Activities and Interventions

Ten practices addressed all three cancer screening types (breast, cervical, and colorectal) during Year 7, while six practices identified two as their top priorities. These six practices targeted breast and colorectal cancer screenings. Two practices focused solely on breast and colorectal cancer screening. This year, no practices focused only on cervical cancer screening efforts, however, one practice did start offering Papanicolaou (Pap) smears at their practice. Eight practices focused on data cleaning to improve the accuracy of their registries for these cancer screenings, with one targeting colorectal screening and another on both colorectal and cervical cancer screening registries. When asked about their approaches to colorectal cancer screening, participants from all twelve practices indicated increased use of FIT in their office; two commented that FIT is the preferred colorectal cancer screening method when considering their patient populations. Participants from five practices noted a policy of annually mailing FIT kits to patients who had completed one in the past. Two practices noted that postage cost was a barrier to their patients returning the completed FIT test. One of these practices maintained an intervention to provide prepaid postage, while the second practice offered to have staff pick up completed FIT tests from patients' homes. Another practice has continued offering Cologuard as another option alongside FIT testing for patients who refuse a colonoscopy.

Representatives from 10 practices reported implementation of individual-level interventions among patients at their practices, mainly focusing on education, outreach, and reminders. Five practices aimed to improve efforts on patient education. Two of the practices utilized patient navigators and community health care workers to increase literacy on colorectal cancer screenings during patient home visits and one on one work. All 12 practices utilized one or more strategies to remind patients that they are due for cancer screening or to follow up on screening test orders. Participants from 10 practices discussed contacting patients by phone to follow up on screening while participants from six of the practices mentioned mailing reminder letters. Four practices continued with patient incentives, offering gift cards or small gift bags.

Practices also discussed their efforts on practice-level and system-level interventions. Participants from 8 practices described efforts to collect cancer screening reports and data from outside providers and/or regional health information organizations (RHIOs). All practices worked to further developed approaches to identify patients due for screening using registries and reports, whether it was at their own practice or partnering with services like the mobile mammography units. Four practices prioritized data clean up during the project year to increase the accuracy of patient records. Participants spoke of these improvements to their EHRs as necessary to the use of point of care reminders, with seven practices utilizing EHR alert systems and five using pre-visit planning to remind providers to address cancer screening with their patients during appointments.

Participants also shared their efforts to address structural barriers. Most practices utilized approaches to improve access to screening services, such as mobile mammography (eight practices) and dedicated screening days for breast and/or cervical cancer (two practices). Another practice began an agreement with a mobile mammography service which began screenings in August 2019. One practice has implemented an intervention in which their outreach worker visits patients from her community, in their homes to answer questions and explain colorectal cancer screening procedures in their native language. Another practice has developed a team of cancer screening patient navigators through support from a New York State grant. A third practice has updated their EHR in order to track social determinants that affect their patients' health.

When asked about staff involvement in project efforts, participants from eight practices indicated that their office demonstrated a multi-disciplinary team approach towards cancer screening interventions. Several of these participants commented on the engagement of all types of providers, nurses, care teams, and front desk staff. Participants from five of the practices utilized computer prompts or computer-generated flow sheets to monitor screening rates and encourage staff involvement. See Appendix D for site specific intervention details.

III. Summary of Academic Detailing Activities

In person academic detailing (AD) and a webinar curriculum were available to all practices. All the continuing practices participated in academic detailing in either Year 3 or Year 4; none of the practices participated in academic detailing in Year 5, Year 6, or Year 7. The new practice did not have a formal academic detailing session but components were integrated into their facilitation efforts

IV. Summary of Practice Facilitation Activities

Review of Practice Facilitation Working Items

This year, three practice facilitators worked with the participating practices from the Buffalo, Rochester, and Syracuse regions. Two facilitators were based in Buffalo, and worked with practices in Buffalo and Rochester, while the third facilitator was based in Syracuse and worked solely in that region. The following is a brief summary of the primary activities conducted by the practice facilitators,

Practices primarily focused on utilizing the practice facilitators' skills to implement the following:

- Evidence-based patient outreach and education

- Creating connections with organizations like the American Cancer Society and Western New York Breast Health (Mammography Coach)
- Assessing gaps in patient knowledge regarding cancer screening
- Increasing efficiencies in practice workflow assessments to standardization of cancer tracking processes

V. Project Findings and Outcomes

Cancer Screening Rates

Based on information from the practice characteristics survey, approximately 10 of the 12 practices were confident that the numbers reported through their registries accurately reflected the number of patients who were up to date with breast, cervical, and colorectal cancer screening at the time of data collection. The few practices that believed their registry data was inaccurate identified two main problem areas: 1) differences in screening rates between pre and post measurements, and 2) inaccurate reflection of their post measurements due to constraints from COVID-19.

It is important to note that the definition of denominators and numerators varied from practice to practice, and at times, from pre- to post-measurement within the same practices. Oftentimes, practices evaluated screening numbers based on specific metrics preferred by clinic staff or based on the capabilities of their EHR software. It is possible that practice staff overestimate the reliability of their data, although rigorous verification of the difference is beyond the scope of the current project.

Table 15 summarizes the major organizational and EHR reporting changes or issues experienced by the practices during the Year 7 project period as well as the pre- and post-rates for breast, cervical, and colorectal cancer screening. Practice eight (P8) had a screening guideline change during Year 7 of the project, a factor that may have influenced changes in their screening rates from pre- to post-practice facilitation.

Table 15. Notable Practice Changes/Issues and Pre-Post Breast, Cervical, and Colorectal Cancer Screening Rates

Practice	Breast		Cervical		Colorectal	
	Pre	Post	Pre	Post	Pre	Post
P1	59.27%	50.91%	22.81%	21.03%	40.59%	35.45%
P2	60.24%	56.34%	2.04%	1.47%	69.89%	62.71%
P3	52.26%	54.84%	26.38%	24.59%	50.56%	50.53%
P4	81.86%	86.87%	59.83%	66.82%	75.85%	75.29%
P5	9.22%	5.30%	10.84%	12.00%	5.23%	4.12%
P6	37.34%	23.86%	19.25%	18.61%	15.59%	18.21%
P7	43.09%	52.60%	16.03%	17.18%	74.48%	72.84%
P8	41.18%	47.58%	61.75%	54.15%	52.11%	52.14%

P9	52.79%	56.96%	42.22%	46.49%	65.33%	62.99%
P10	41.23%	30.54%	26.80%	24.65%	35.90%	37.54%
P11	56.94%	57.27%	52.05%	51.06%	61.31%	57.67%
P12	37.78%	60.66%	40.23%	38.17%	48.81%	45.99%
P8 – change in breast guidelines pre-post						

Breast Cancer Screening

All 12 participating practices were able to generate breast cancer screening rates from EHR-based registries. Table 16 displays the pre- and post-practice facilitation screening rates for breast cancer. Five of these practices generated these reports based on the American Cancer Society breast cancer screening recommendation of annual mammography for women ages 45 and older, while six other practices used the USPSTF guideline for a mammogram to be performed once every two years for women ages 50 – 74. One practice used the HEDIS guideline, which recommends a mammogram to be performed once every two years for women in the age range of 50 – 74 years old. The average pre- and post-screening rates across the 12 practices were 47.77% and 48.64% respectively, with an increase of a 0.88% percentage point.

Five of the 12 practices had decreases in their breast cancer screening rates. Feedback from the practice facilitator for P1, P2, P5, P6, and P10 indicated that their decrease may be due to the changes that began in March. All of the practices said that with COVID-19, mammography screening either stopped completely or reduced significantly for approximately two months. This was in part due to the focus on testing for COVID-19, but also to prepare for new requirements to offer screening that is safe for patients and staff as new information about COVID-19 continuously emerged. The mobile mammography units have slowly begun to resume screening and began to reschedule screening days at practices in the end of May and early June. It should also be noted that P6 and P10 did have difficulties pulling the rates in the post-period, which could contribute to the larger change. Practice 12 (P12) experienced the most significant change in breast cancer screening rates, with an increase of 22.88%. There were a few factors that could have influenced this change, including a mobile mammography van on site and insurance companies offering patient incentives. This practice also includes these rates on several contracts with insurance companies and on another major annual report, making it one of the most audited measures out of all this practice tracks.

Table 16. Pre- and Post-Project Completed Breast Cancer Screening Rates at 12 Participating Practices

Practice	Pre-Breast Rate	Data Period	Post-Breast Rate	Data Period	Raw Change in % Points	Guideline
P1	59.27%	1 year	50.91%	1 year	-8.36%	USPSTF
P2	60.24%	1 year	56.34%	1 year	-3.90%	USPSTF
P3	52.26%	1 year	54.84%	1 year	2.59%	USPSTF
P4	81.86%	1 year	86.87%	1 year	5.01%	USPSTF
P5	9.22%	1 year	5.30%	1 year	-3.92%	ACS
P6	37.34%	1 year	23.86%	1 year	-13.48%	ACS
P7	43.09%	1 year	52.60%	1 year	9.51%	ACS
P8*	41.18%	1 year	47.58%	1 year	6.40%	USPSTF
P9	52.79%	1 year	56.96%	1 year	4.17%	USPSTF

P10	41.23%	1 year	30.54%	1 year	-10.69%	ACS
P11	56.94%	1 year	57.27%	1 year	0.33%	ACS
P12	37.78%	1 year	60.66%	1 year	22.88%	HEDIS (women age 50-74 every 2 years)
Average	47.77%		48.64%		0.88%	(5) ACS
†Practices with major reporting changes (EHR transition, calculation method, etc.) *Practice changed guidelines from Pre-Post						

Cervical Cancer Screening

All 12 of the participating practices were able to generate post-cervical cancer screening rates from EHR-based registries. Practice two (P2) began to offer Pap smears in office this year, however, P1 did not offer cervical cancer screening prior to Y7, so patient screenings in this practice were not actively tracked in past project years. During Year 7, P1 continued their agreement with a nearby OB/GYN office to receive their patients' screening records, however, this is not the actively tracked still and the focus at this practice includes other cancer screening services. Practice five (P5) does offer Pap smears in office, but this is an ongoing challenge at this practice as many providers there are not full-time staff, and there are a very limited number of female providers available. Seven of the eleven practices that were able to produce raw percentage changes in the table below reflected a decrease in their cervical screening rates. All 12 of the practices followed the American Cancer Society and USPSTF joint recommendation of screening women age 21-65 every three years with a PAP test, or screening women age 30-64 every five years with the HPV-PAP co-testing option. Table 17 displays the pre- and post-practice facilitation screening rates for cervical cancer screening.

The average pre- and post- cervical cancer screening rates across the 12 practices with both rates were 31.69% and 31.35%, respectively, with an overall screening rate decrease of 0.34%. Four practices had increases in cervical cancer screening rates. Practice four (P4) increased rates by nearly 7% over Y7, representing the largest change within the 12 practices. This was most likely due to the practice's focus on cleaning up cervical cancer screening data by conducting a large EHR cleanup where old records were removed, and others updated with screenings that were completed outside the practice. P5, P7 and P9 experienced the only other increases in cervical cancer screening rates, with percentages of 1.16%, 1.14% and 4.26%, respectively. All other practices have shown a decrease in their cervical cancer screening rates, with P8 having the largest decrease of 7.60%. Cervical cancer screenings have proven to be the most difficult of the three cancers in this project to track accurately due to the number of screenings that are completed at local OB/GYN clinics and practice EHR records not being up to date. Due to these difficulties and the fact that some practices do not offer the screenings on site, practices like P1 did not track or run registries on their patients' cervical cancer screenings until recently.

Table 17. Pre- and Post-Project Completed Cervical Cancer Screening Rates at 12 Participating Practices

Practice	Pre-Cervical Rate	Data Period	Post-Cervical Rate	Data Period	Raw Change in % Points	Guideline
P1	22.81%	1 year	21.03%	1 year	-1.79%	ACS/USPSTF
P2	2.04%	1 year	1.47%	1 year	-0.57%	ACS/USPSTF
P3	26.38%	1 year	24.59%	1 year	-1.80%	ACS/USPSTF
P4	59.83%	1 year	66.82%	1 year	6.99%	ACS/USPSTF

P5	10.84%	1 year	12.00%	1 year	1.16%	ACS/USPSTF
P6	19.25%	1 year	18.61%	1 year	-0.64%	ACS/USPSTF
P7	16.03%	1 year	17.18%	1 year	1.14%	ACS/USPSTF
P8	61.75%	1 year	54.15%	1 year	-7.60%	ACS/USPSTF
P9	42.22%	1 year	46.49%	1 year	4.26%	ACS/USPSTF
P10	26.80%	1 year	24.65%	1 year	-2.15%	ACS/USPSTF
P11	52.05%	1 year	51.06%	1 year	-1.00%	ACS/USPSTF
P12	40.23%	1 year	38.17%	1 year	-2.06%	ACS/USPSTF
Average	31.69%		31.35%		-0.34%	(12) ACS/USPSTF
[†] Practices with major reporting changes (EHR transition, calculation method, etc.) [*] Practice changed guidelines from Pre-Post						

Colorectal Cancer Screening

All 12 participating practices were able to generate colorectal cancer screening rates from EHR-based registries. Seven of the 12 practices generated colorectal cancer screening reports based on the USPSTF colorectal cancer screening guidelines, which recommend screening adults ages 50 to 75. The other five practices utilized the ACS screening guidelines, which recommend screening adults starting at age 45 to age 75. All 12 practices offer FIT/FOBT/Cologuard testing at their practices, while only one of them stated that they offered flexible sigmoidoscopy. Table 18 displays the pre- and post-practice facilitation screening rates for colorectal cancer.

The average pre- and post- colorectal screening rate across the 12 practices were 49.64% and 47.96%, respectively, with a decrease in screening rates of 1.68%. Only three practices (P6, P8 and P10) experienced increases in completed screening percentages, both no higher than 3%. All other practices had decreases in their colorectal cancer screening rates. Practice one (P1) and P2 had the largest decreases with 5.14% and 7.18%. Almost all practices who experienced decreases in screenings likely attributed to the inability to conduct screening for a large part of the reporting period, and redirected focus on other priorities. The small increases in three practices could be attributed to cleaning up records in their shifts in priorities, as some practices had more time to focus on this with the temporary changes in their day to day process.

Table 18. Pre- and Post-Project Completed Colorectal Cancer Screening Rates at 12 Participating Practices

Practice	Pre-CRC Rate	Data Period	Post-CRC Rate	Data Period	Raw Change in % Points	Guideline
P1	40.59%	1 year	35.45%	1 year	-5.14%	USPSTF
P2	69.89%	1 year	62.71%	1 year	-7.18%	USPSTF
P3	50.56%	1 year	50.53%	1 year	-0.03%	USPSTF
P4	75.85%	1 year	75.29%	1 year	-0.56%	USPSTF
P5	5.23%	1 year	4.12%	1 year	-1.11%	ACS
P6	15.59%	1 year	18.21%	1 year	2.62%	ACS
P7	74.48%	1 year	72.84%	1 year	-1.64%	ACS
P8	52.11%	1 year	52.14%	1 year	0.03%	USPSTF
P9	65.33%	1 year	62.99%	1 year	-2.34%	USPSTF

P10	35.90%	1 year	37.54%	1 year	1.64%	ACS
P11	61.31%	1 year	57.67%	1 year	-3.64%	ACS
P12	48.81%	1 year	45.99%	1 year	-2.82%	USPSTF
Average	49.64%		47.96%		-1.68%	(5) ACS (7) USPSTF
[†] Practices with major reporting changes (EHR transition, calculation method, etc.) [*] Practice changed guidelines from Pre-Post						

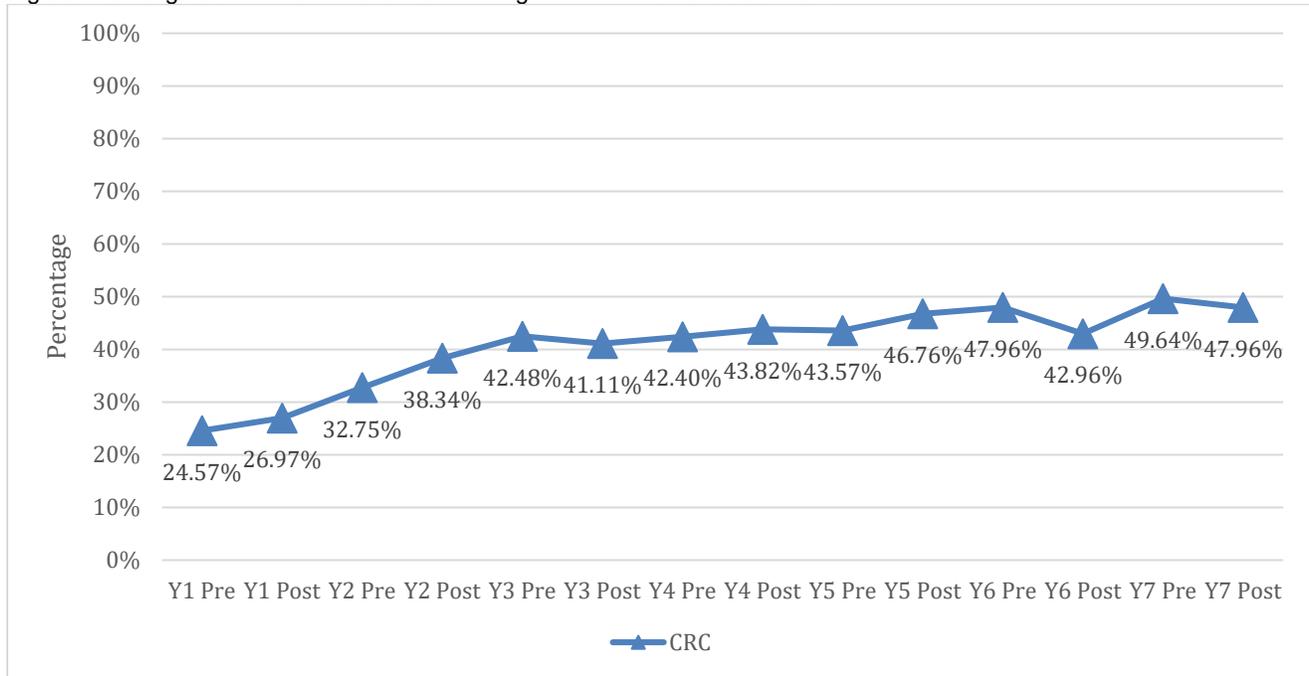
Comparisons of Practices by Project Period

Longitudinal analyses were conducted to assess change in cancer screening rates over time among practices that have been participating in the project on a continuous basis since Year 1 (total of three practices) and Year 2 (total of five practices). It is important to note that screening rates were reported twice for each project year, once before the practice facilitation period began (“pre”) and once following the practice facilitation period (“post”), during Year 1 to Year 3. During Year 4, the pre-measurement of screening rates was eliminated among continuing practices, and their post-measurements from Year 3 were considered their pre-measurements for Year 4. Similarly, during Year 5, the post-measurement from Year 4 was considered the pre-measurement for Year 5. In Year 6 and Year 7, all participating practices were once again required to report their screening rates twice each year.

Year 1 to Year 7 Participants

During the Year 1 project period, the focus was to collect and evaluate colorectal cancer screening rates. Five practices began participation during the Year 1 project period. Figure 6 illustrates the change in average colorectal cancer screening rates across time and show that screening rates increased with nearly all pre to post periods, except in Year 3, Year 6, and now Year 7. However, Year 7 post rates still increased from Year 6 post rates. The average colorectal screening rate started at 24.57% for the Pre-Year 1 time point and ended at 47.96% for the Post-Year 7 time point, with an overall increase of 23.39%. The greatest increase in colorectal cancer screening between two consecutive time points for this group was from Post-Year 1 to Pre-Year 2, with a 5.78% increase.

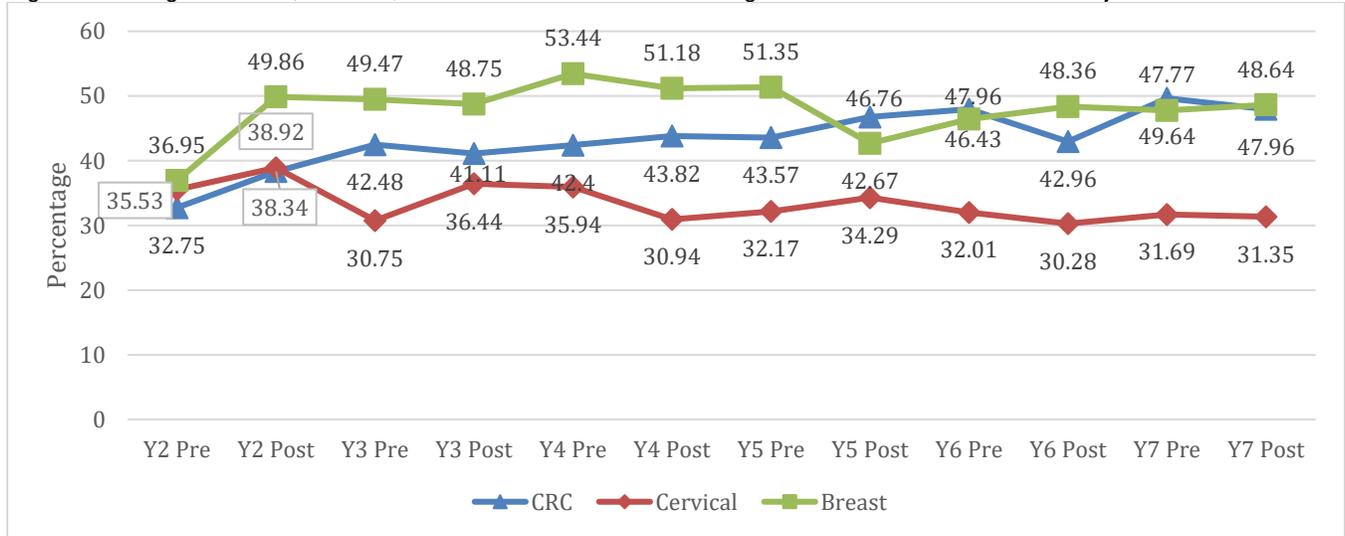
Figure 6. Change in Colorectal Cancer Screening Rates from Year 1 to Year 7



Year 2 to Year 7 Participants

Eight of the 12 practices in the Year 7 project either joined the project in Year 1 or began participation in Year 2. Figure 7 displays the changes in screening rates for colorectal cancer as well as breast and cervical cancer, which were collected and evaluated starting in Year 2. The rates displayed begin with Pre-Year 2 and conclude with post Year 7. The colorectal cancer screening rates increased with nearly each time point, except from Pre-Year 3 to Post-Year 3, Post-Year 4 and Pre-Year 5, Pre-Year 6 and Post-Year 6, and Pre-Year 7 to Post-Year 7. Breast cancer screening rates increased from Pre-Year 2 to Post-Year 2, with another increase from Post-Year 3 to Pre-Year 4, then a subsequent plateau, followed by another increase from Post-Year 5 to Post-Year 6 (5.69%), and Post-Year 6 to Post-Year 7 (0.28%). Overall, the average breast cancer screening rate increased by 11.69% and the average colorectal cancer screening rate increased by 15.21% from Pre-Year 2 to Post-Year 7. The average cervical cancer screening rates increased and decreased with each consecutive measurement point, with no consistent trend. Cervical cancer screening continues to be difficult for primary care practices to target, as many patients seek this service at outside OB-GYN facilities. Sharing information across practice sites requires dedicated effort, and it is possible that participating practices shifted focus while not engaged with the project team. Many of the practices who participated in Year 7 of the project stated that they were not comfortable with their cervical screening rate reports because they are more difficult to update and track than the other screening types.

Figure 7. Change in Breast, Cervical, and Colorectal Cancer Screening Rates from Year 2 to Year 7 Project Periods



Practice Interview Findings

In years past, focus groups were conducted with practices at the end of the project to obtain in-depth information about the unique experiences of each practice within the project, feedback on project processes, and insight on how to make efforts to increase cancer screening rates more sustainable. This year, practices were asked a series of questions during their monthly check in calls with the practice facilitators. Topics included what has worked best for them over the years on this project, sustainability of implemented interventions, and the impacts of COVID-19 on cancer screening. This process seemed to work well to systematically gather feedback and engage practices in a consistent manner, most practices missed one or two meetings throughout the project period because of other urgent and competing demands. Missed questions were included in the next monthly meeting.

Methods

The project Principal Investigator, Co-Investigators, and Quality Improvement Consultant jointly developed the original script for the interviews. The script was updated this year to include questions on best practices, lessons learned, directions for future programming, barriers to sustainability, and impact of COVID-19. (see [Appendix B: Data Collection Materials](#)).

Practice facilitators conducted the interviews in their own sites during monthly meetings with the practice champion since the focus of the interviews were on best practice interventions and sustainability rather than the impact of the facilitation. Due to COVID-19, all interviews were conducted via conference call. Not all practices were able to participate in interviews every month so questions were rolled over to the next meeting.

Interviews lasted no more than 25 minutes All interviews were audio recorded and transcribed verbatim for analysis; no names or otherwise personally identifiable information was recorded in the transcripts. One member of the project team at SUNY University at Buffalo, Caroline Horrigan-Maurer, BS, conducted a content analysis on the transcripts. This team member reviewed the transcripts to identify generalized concepts, then organized

according to topic areas discussed during the focus groups; summaries of each topic area were reviewed by the larger project team.

Participants

The participants targeted for inclusion in the interviews were the practice champions. Those individuals most directly involved in the implementation of the project. All practices had one or more individuals who participated in these interviews. The majority of participants were practice medical directors, practice managers, quality improvement specialists, and clinic staff (e.g., practice nurse, practice physician, care coordinator).

Main themes identified included successful programs, challenges, and plans for future programming.

Successful Programs

Chart Audits

At a systems level, the most successful intervention reported by practices were chart audits. Taking time to go through all charts and ensure that they are up to date helped practices accurately identify who was due for screening. This allowed practices to preplan for visits by knowing which patients have been historically noncompliant with screenings. Registries for specific cancer screenings were generated and the practices were able to target specific patients for outreach activities.

Patient Outreach

Most practices reported that patient outreach was a key activity to increase screening rates. Calling campaigns and mailings were the most common interventions used by practices to reach out to patients. Practice staff would call to remind patients of upcoming screenings and to link them to screening facilities. Some practices had the ability to schedule screenings March 2020 through May 2020 when screening was itself unavailable due to COVID-19.

Mailings were especially useful for colorectal cancer screening, specifically to send patients FIT kits. Practices found that having a point person responsible for following up with patients to find out why kits had not been sent back was the most successful approach to assuring patient follow through.

In practices with capacity, combining a call campaign and a mailing campaign was most successful and allowed practices to engage with patients with multiple touchpoints. Additionally, utilizing these strategies allowed staff to focus on face to face interactions with the more noncompliant patients and focus in-clinic time on those patients.

Programming

Across all practices, on-site screening was the most successful program to increase screening. Examples of on-site screening include linking with mobile mammography units and in-house Pap smears. Mobile mammography was made successful through utilizing patient registries to let patients know about the upcoming screening event. In-house Pap smears were successful due to co-scheduling for a well visit and a Pap smear at the same time. No practice reported a successful on-site screening strategy for colorectal cancer screening, however, one practice reported that demonstrating how to use a FIT kit showed an increase in compliance. Additionally, on-site navigation was reported as a successful strategy to increasing screening compliance. However, all practices reported issues with capacity and were not able to have a single staff person dedicated to only cancer screening.

Challenges

Across all practices, challenges to increasing cancer screening for breast, colorectal, and cervical cancers were lack of capacity and resources to dedicate to initiatives. Practices recognize the need for dedicated staff to carry out campaigns, but are unable to bring this concept to fruition due to competing demands. Instead, most practices reported that team huddles can be used to identify priorities and assign a point person for specific cancer screening related tasks. Another challenge for some practices was having the capacity to track the FIT kits throughout the entire screening process.

Table 24. Common Barriers to Increasing Cancer Screening Expressed During Focus Groups/Interviews

Barriers to Increased Screening	Catalysts of Increased Screening
<i>Patient-Level</i>	
Transportation Social determinants Insurance/financial constraints Cultural and linguistic barriers Comprehension/health literacy Refusal/Non-compliance	Education and outreach Case management and follow up Lifestyle-amenable screening methods Reduction of structural barriers Trusting relationship with providers and staff COVID-19 concerns/uncertainty
<i>Staff-Level</i>	
Lack of time EHR data and documentation errors Lack of investment in quality improvement interventions Staff turnover Differing levels of engagement/awareness	Shared responsibility to discuss and document screening with patients Standardized data entry and/or EHR technical assistance Performance assessment and feedback Point-of-care reminders
<i>Practice-Level</i>	
Lack of personnel Workflow inefficiencies EHR data errors and reporting limitations Two-way communication with specialists Reduced capacity to screen due to COVID-19	Team-based care Quality improvement coaching Workflow assessment and adjustment EHR “workarounds” and technical assistance Access to health information systems PCMH certification requirements

Future Programming

Practices were asked what programs they would implement if funding and resources were not an issue. All practices reported that on-site screening, whether through mobile units, on-site facilities or a hybrid of the two, would be among their top choice for future programming. Additionally, a full-time patient navigator dedicated to patient outreach for cancer screening was named as a needed service to maintain the momentum that each practice has created.

Other ideas mentioned include creating a patient accountability system where patients would be paired with either another patient or a cancer survivor to complete screening together. Practices reported that having a peer

support system for cancer screening would help diminish structural barriers and allow patients the opportunity to have a specific individual to rely on for support. Another idea mentioned was hosting monthly cancer screening events. A few practices mentioned that having a consistent monthly cancer screening event for all three cancers would normalize cancer screening and create a fun, welcoming atmosphere that would encourage individuals to invite friends and family to join them.

COVID-19 Impacts

During the project period, the COVID-19 pandemic began during the month of March 2020 and continued throughout the end of the project. Primary care and other health care services were heavily impacted, and many practices experienced temporary or permanent loss of staff due to a decrease in patient visits, and an increase in the use of telehealth. Breast, colorectal, and cervical cancer preventive screening was impacted by COVID-19 to different degrees. Mammography and colonoscopies were ceased whereas, some practices continued to offer FIT tests. Some practices experienced a large increase in patient visits once in-office visits were being encouraged again. However, practices are still working with the continuous changes to keep their cancer screening services safe.

Loss of staff impacted nearly all practices. Several practices had their staff completely reassigned to COVID-19 assistance, and were unable to perform any tasks at the primary care level. Other practices experienced a large decrease in office visits, so many staff were working from home or not working reduced hours. In one practice, care coordinators were furloughed during the few months of COVID-19. Practices working with unique populations faced difficulty reaching their patients during this time as well. Specifically, a practice that works with the homeless population was unable to provide cancer screening and normal care for their patients since shelters were quarantined. As a result, this practice experienced a large decrease in patient visits.

All practices experienced a decrease in patient visits. Healthy people were encouraged to stay home, and only to come to the practices for necessary appointments or for sick visits. Most practices reported that their patients expressed a concern for having in-office appointments due to uncertainty surrounding the contagiousness and seriousness of COVID-. The few practices that were reassigned completely were not able to focus on cancer screening efforts at all during this time. One practice that had returned from being reassigned to COVID-19 stated that so many patients at their practice began scheduling appointments, that they were prioritizing regular appointments and visits until caught up, at which their focus would return to cancer screening.

Telehealth was incredibly useful for practices during these initial months of COVID-19. All practices worked to use telehealth in order to keep healthy people out of the office. Nearly all the practices had used telehealth before COVID-19, but not in the capacity they did when the pandemic began. One practice claimed their telehealth visits comprised about 80% of their office visits during the initial months, and another claimed about 30% of their visits were telehealth during this time. Telehealth remains an option for other unique populations, however, some transient populations still struggle as they do not have the means to do telehealth. It is important to note that although telehealth is incredibly beneficial, patients who do not have the financial or technological ability to use this service still need to be accounted for.

Breast cancer screening experienced a large setback due to COVID-19. Mobile mammography was temporarily shut down from the middle of March 2020 until May 2020. Many local community screening sites were not available during this time, as well. Practices that offered breast cancer screening either temporarily stopped screenings, or limited the number of patients and appointments they could accommodate. All of these practices are now back-logged with patients who need screenings.

Cervical cancer also experienced some changes as well, however, it still continues to be the most difficult cancer of these three to complete. COVID-19 contributed to even less screening than what was already being done at the practices. Most of these practices still encouraged referrals and/or other OBGYN services. Even when offered in primary care, the majority of patients received cervical cancer screening at a GYN office. Most OB/GYN offices were not seeing patients in office, especially for screening and preventative care. Challenges maintaining enough staff, specifically female staff, also continued to be an issue for some practices. One practice that had just recently started offering Pap smears in office was reassigned to COVID-19 priorities, and was unable to focus on

improving their screening rates during this portion of the project period. As offices have slowly began bringing healthier patients into the office, scheduling has begun but practices are still limiting office visits and scheduling less often than before.

Colorectal cancer screening was more consistent during this time compared to breast and cervical cancer screening. All practices were offering FIT kits to their patients before COVID-19, and they continued this process, especially since they were unable to schedule individuals for colonoscopies during this time. Practices who were still able to focus on primary care and cancer screening worked on outreach and mailing of FIT kits and Cologuard to individuals who were due at this time. One practice did, however, pull back on mailing FIT kits because the results are run by an internal lab and there were concerns about exposure to COVID-19 when receiving a returned sample. Two practices still scheduled for colonoscopies and/or offer referrals for upcoming months if requested by the patient.

VI. Lessons Learned & Implications

Practice Recruitment, Enrollment and Engagement	
Organizational Disruption	<ul style="list-style-type: none"> Organizational and system-level changes, such as transitions in EHR or practice ownership, impede the ability of practices to sustain focus on cancer screening efforts Leadership and staff turnover often delay progress towards screening goals, and staff often feel overwhelmed with competing demands and priorities COVID-19 demands and evolution
Project and Practice Staff Relationship	<ul style="list-style-type: none"> Practice facilitators work primarily with one person or a small team within the practice to provide guidance and motivation for QI projects Practice facilitators mainly contribute by providing guidance and services around cancer screening interventions, quality improvement, and data support Practices strongly prefer working with the same individual across time
Staff Participation and Buy-In	<ul style="list-style-type: none"> Practices increase efficiencies and engagement when QI activities align with existing priorities (e.g., PCMH, DSRIP) Project champions are an important source of encouragement for practice-wide investment in QI projects Multi-disciplinary team approach improves accountability towards cancer screening efforts
Quality Improvement to Track Patient Screening	
Data validity and reliability concerns	<ul style="list-style-type: none"> Improvement in EHR data reliability and validity will require extended time, documentation fidelity, and consistent staff engagement Lack of valid and reliable data can be a significant barrier to implementing QI initiatives Inconsistency in report metrics impacts ability to assess practice progress
Closing the loop	<ul style="list-style-type: none"> All practices experience issues in obtaining screening completion reports across all cancer screening targets, but particularly for cervical cancer screening Success in closing the loop partially contingent on office operations and policies of specialist providers
Implementation of new office policies	<ul style="list-style-type: none"> Promotion of strategies that reduce structural barriers are commonly pursued to ease the burden of cancer screening completion Workflow adjustments to data entry, referral processes, and follow-up streamline efforts to track screening Staff training and incentives are needed to encourage implementation of practice-level workflow and policy changes
Barriers to Screening Completion	
Factors of patient non-compliance	<ul style="list-style-type: none"> Transportation is a significant structural barrier for patients needing breast and colorectal cancer screening. However, increasing use of mobile mammography buses is helping to address the barrier for breast cancer screening.

	<ul style="list-style-type: none"> • Lack of referral follow-through, fear of screening procedures, lack of knowledge/awareness, and inadequate insurance contribute to patient non-compliance • Special populations that face unique barriers include homeless, low-income, and refugee patients, as well as those with psychological disorders
Specialist provider supply and communication	<ul style="list-style-type: none"> • Lack of local specialists (particularly GI) to accept referred patients is a structural barrier primary care practices cannot address • Lack of clinical integration between primary care and specialist offices inhibits timely follow up, and much of the burden is placed on primary care offices

Practice Recruitment, Enrollment, and Engagement

Organizational disruption

Practices continued to face organizational changes that disrupted their progress on cancer screening initiatives. This began in Year 4, when four practices were absorbed by a regional health system in their region, and one was incorporated into a university health system. Challenges with transition continue, causing difficulties requesting the data reports that are required for this project due to changes in how such requests are processed. The larger health organizations also have other screening/health benchmarks that these practices must now achieve. This has put stress on some of the site coordinators because they have to meet competing demands. One site closed and reopened under new leadership requiring the provider and staff teams to be completely rebuilt, adaption to a new EHR, and creating new workflows that coordinate with a sister practice (also located in an underserved community) that has extensive infrastructure. During Year 6, a practice moved to new offices and had very limited time available for the project while they prepared for their operational site visit. In Year 7, one practice morphed into a new entity with a new governance structure, which was no longer affiliated with a larger hospital system.

Staff Turnover and added responsibility

In previous years, staff changes made communication and progress very difficult. In the past two years, six site coordinators were new to the role and/or project, during the project period, another site coordinator stepped down due to time constraints and was replaced by a team member. There was also staff turnover within the practices, which preoccupied the site coordinators. In Year 7, communication was much more consistent than in the past. This could be contributed to participating in the project over longer periods of time, no major staff changes, and potentially the monthly interviews. Only one practice, who had recently switched project coordinators, had notable communication issues. Feedback from the participants during interviews indicated that staff turnover can create multiple barriers to quality improvement, ranging from understaffing to the reallocation of resources towards hiring and training new staff. Practices also indicated a need for additional staff to fulfill roles in data management and patient engagement to aid in achieving their cancer screening targets and improve overall patient care.

Project and Practice Staff Relationship

Following the trends from previous years of the project, practice facilitators worked with one or two members from each practice and these were often practice managers or the head of a QI team. Feedback from practice facilitators indicated that it was difficult to involve other staff members due to the competing demands of a busy office. Competing demands at practices impeded efforts by both the facilitator and the practice. The practice facilitators' role was predominantly focused on providing guidance and services towards cancer screening interventions, quality improvement, and data support. Practice facilitators also acted as a catalyst for cancer screening QI efforts within their assigned practices.

Issues with screening due to competing demands was reflected in some of the discussion conducted through the interviews. In a few interviews, participants stated that they did not have sufficient staff to dedicate time to sustained quality improvement activities. Other practices were maintaining interventions that had been continuing for a few years, and one practice even had two more staff members join her team and assist with cancer screening activities. Data management, in particular, was an area practices recognized as key but which they were understaffed to support. Several participants expressed interest in having practice facilitators fulfill that role, though this would fall outside the project's focus on sustainable interventions.

Feedback from project participants during the interviews revealed that they interfaced with their practice facilitators in a variety of ways; some practices preferred to hold regular in-person meetings, while others chose to communicate primarily via email or phone. Halfway through March 2020, all interviews were held either over the phone or through a video chat via Zoom, Webex, or Uber Conference.

Staff Buy-In and Participation

As in previous project years, participants aligned their quality improvement activities with existing practice priorities, including PCMH and DSRIP. This was viewed as an efficient utilization of personnel time and practice resources, and enhanced buy-in among practice staff.

Feedback obtained from previous years and the participant interviews illustrated the importance of having invested project champions. Project champions were individuals within a practice who took a lead role in QI activities and provided encouragement across other staff members to work toward shared goals. While these individuals were not universally in positions of authority, most project champions were physicians or care managers. Due to competing priorities, including those of COVID-19, levels of engagement continued to decrease among several project champions, which impacted practice momentum on project initiatives.

Several project participants also indicated that a multi-disciplinary team-based approach helped to maintain accountability towards cancer screening efforts. Practices that included a combination of care coordinators, nurses, and providers in their project initiatives reported a sense of overall increased engagement.

Quality Improvement to Track Patient Screening

Data Validity and Reliability Concerns

As in previous project years, all of the practices enrolled in the Year 7 project period had concerns with the validity and reliability of the data stored in their EHR systems. All of the participating practices recognized the value of making continual improvements to EHR system functionality. Two practices dedicated specific time to systematically improve the accuracy of their records, while 10 of the 12 practices reported increased efforts to locate and collect missing cancer screening reports and data. Many of these efforts were seen in the beginning of the reporting period in January and did end up changing with COVID-19. A few practices experienced no time to dedicate to cancer screening as they were reassigned to tasks surrounding COVID-19. On the contrary, other practices found extra time due to less patient visits in office in general and worked on cleaning up their records when they could. Several practices experienced issues around inconsistent reporting methods and metrics (i.e., screening guideline change, varying numerator and denominator definitions, staff turnover among data management personnel), which impacted their ability to accurately assess practice progress towards cancer screening targets. Four practices expressed difficulty due to understaffing for data management roles, and one

practice had a change in staff prior to the post data report. Reporting and data management require ongoing efforts to train and support practice personnel.

Data clean up and validation was a focus for nine of the practices participating in Year 7 of this project. One participant stated that they spent a majority of their project stipend to pay staff for extra time, utilized in cleaning up and updating records for the past two years. Many other practices used the decrease in patient visits to clean up their records and continue with outreach. Some staff also called patients who had not been at the practice in order to update their records and track down any results that needed to be entered.

Closing the Loop

As in previous project periods, the issue of closing the loop on patient screening (i.e., securing screening completion reports for patients) was ubiquitous across the practices enrolled in the Year 7 project period. Practices reported issues securing colonoscopy reports, mammography reports, and cervical cancer screening pathology reports from specialist providers outside of their health system or care network. Multiple practices noted that cervical cancer screenings are the most difficult to track. One practice that did not offer cervical cancer screening services in-house has continued using a registry to track patient screening completion for cervical cancer. In the past, they chose not to due to the inability to obtain screening documentation from outside specialist providers. COVID-19 made closing the loop more difficult during this reporting year because all practices lost the opportunity to complete screening in the second half of the reporting period. Many practices claimed to have great efforts in the first couple months of the project, but their rates do not reflect that effort because of the inability to screen for this period of time.

In years past, practices worked to address the issue of missing screening documentation by assigning staff to call specialist providers and search insurance company databases and their regional health information organization (RHIO) to obtain reports for individual patients on screening tests performed outside of the primary care office. However, this approach requires significant personnel time and is difficult to implement on a long-term basis. Furthermore, practices without dedicated care coordinators do not have the resources necessary to maintain a consistent focus on reaching out to specialist providers. Some practices had the opportunity to do this due to COVID-19, whereas others experienced less time and ability to clean up their records.

Sustainability in Office Policies and Strategies

In Years 6 and 7, sustainability was a target focus throughout the project periods in order to prepare for the potential termination of the project. Key components to maintaining program continuity include: team support, staff and administrative buy-in, and time/resources. Together, these components create a system of quality improvement that promotes sustainability for cancer screening initiatives.

Practices that demonstrated a team approach demonstrated the most ability to sustain their programs after conclusion of this project. Team-based approaches allowed practices to create a workflow that integrated cancer screening into day to day activities and create multiple touchpoints with a single patient. This enabled practices to be able to conduct outreach, education, and linkages to screening. Team-based approaches were especially successful in practices with administrative buy-in and a practice champion. Practice champions worked closely with administration in order to prioritize cancer screening initiatives and create a practice culture focused on cancer screening. In many practices, support from administration promoted systems-level changes and allowed the practice champions to carry out multiple interventions.

Finally, identifying resources to implement quality improvement initiatives is a vital aspect of sustainability. Many practices would identify additional funding opportunities that aligned with their programming goals. This allowed practices to be able to secure staff time to dedicate to specific interventions, while also assuring the continuity of programming, exclusive of the stipends they received through this project. Additionally, practices utilized partnerships with other entities, such as mobile mammography, to bring outside resources in house and leverage existing resources.

Barriers to Cancer Screening

Factors of Patient Noncompliance

Practices participating in the Year 7 period emphasized both patient-related barriers and system-related barriers as primary concerns for increasing cancer screening. The primary perceived patient-related barriers identified include:

- Failure to follow through with screening referral
- Fear of screening procedures and/or results
- Lack of health literacy, knowledge, and awareness
- Lack of transportation support
- Inadequate insurance coverage
- Co-morbidities

The primary systems-related barriers identified include:

- Inability to track patient progress in completing screening tests
- Inability to track down the date of a prior screening
- Not enough time to discuss screening with patients
- Delay in scheduling procedures
- Delay in receiving screening results
- Concurrent care provided by specialist
- COVID-19 based restrictions

Every practice instituted some form of patient outreach and/or education to address these patient-related barriers during the project period. Over the past two years, participants in interviews directly commented that many patients do not follow through with screening, and while education, testing options, and resource support do help some patients access services, others continue to present compliance issues. Patient non-compliance is consistently noted by practice staff as a significant issue for practices as they work to increase cancer screening among their patients. Whether this reflects patient unwillingness to comply, patient inability to adhere due to practice, system, or societal barriers, or whether this is a reflection of practice staff frustration, remains an open question.

One barrier that continues to receive particular emphasis during Year 7 was lack of transportation. Many of the practices focused their efforts on decreasing patient barriers, in particular for breast and colorectal screenings. One method of decreasing barriers to screening that was heavily emphasized this year was the use of the local mammography coaches. Many of the practices involved in this project have agreements with the coaches in Rochester or Buffalo. The mammography coach in Buffalo was already established in the area and has existing relationships with participating practices. During Year 5, Rochester practices were linked with a newly funded

mammography coach in Rochester through connecting contacts. In Year 6, four Rochester practices were utilizing the mammography coach and a fifth practice had an agreement in place to start offering the service in August. Unfortunately, due to relocation of one of the participating practices, one Buffalo practice was unable to partner with the mobile mammography unit for Year 7. This practice is continuing to work with their new office administration to allow the mobile unit to consistently come to their new offices.

As in previous years of the project, there has been continued focus on providing FIT kits to patients at the practices. FIT kits are now available to patients at all the practices involved in this project so the goal has shifted to increased utilization. Some practices are attempting to increase the use of FIT kits by continually training staff on their use so they can inform patients. Many other practices have directly mailed out FIT kits to patients due for CRC screening, rather than waiting until they come in for an appointment. During interviews, several participants said this was useful for patients who are due for a rescreen since they are more likely to complete the FIT test after already doing it once.

Patients with limited transportation have difficulty arranging plans to travel to and from colonoscopy services. Patients who routinely rely on public transportation cannot use mass transit after a colonoscopy due to the effects of anesthetic medication used during the procedure. Additionally, many patients do not have the economic resources or social network of relatives or friends who can assist them with travel to and from colonoscopy and mammogram service locations. FIT testing was commonly utilized by practices as an alternative to colonoscopy for colorectal cancer screening, especially among patients that are more likely to face transportation barriers. Additionally, the Buffalo and Rochester practices with access to mobile mammography units have ongoing efforts to coordinate breast cancer screening services for their patients, which also eases the burden of traveling to outside clinics. Despite these efforts, transportation remains a significant structural barrier to cancer screening for many patients.

Social determinants as a whole were a concern for practices this year. Practices reported that along with transportation and health literacy, childcare, housing insecurity, and food insecurity were also barriers to preventive care in general and to cancer screenings in particular. Several practices provided case managers and social workers to help patients address such barriers, while another practice used their health home to refer patients to care management outside their practice. A participant suggested that to have the most impact on cancer screening rates, they needed to “have a one-stop shopping thing for patients, so having like a medical village or having something where patients can go and not only meet their healthcare needs but also meet their food needs, transportation needs, childcare needs.”

One practice participating in the Year 7 project period serves a predominantly homeless population, and this practice struggled to address cancer screening since, for many of their patients, concerns over housing, substance abuse, and chronic disease care take precedence during an office visit. Additionally, due to the transitory history of their patients, the practice is not always able to obtain records of prior screenings, which creates issues for documentation and insurance coverage. This practice experienced another barrier with COVID-19, as the shelters were in quarantine during part of the project period and screening could not be conducted. Another practice serves exclusively refugee populations; this presents a range of unique issues such as health literacy as well as cultural and linguistic barriers. Some refugee patients are more likely to be averse to certain cancer screening procedures due to their cultural beliefs or traumatic events. In general, low-income populations

are especially affected by transportation and financial barriers. This practice was fortunately able to continue functioning fairly normally during COVID-19, although like many other practices, patients visits and in office visits did decrease during this year.

Specialist Provider Supply and Communication

As in previous project years, practices continued to view the lack of available GI specialists in their area as a significant barrier to colorectal cancer screening for their patients. Patients from these practices routinely waited several months for colonoscopy appointments. This not only negatively impacted patient compliance with screening recommendations, but also impeded the ability of the primary care practices to track screening completion among their referred patients. While this is a structural barrier that primary care practices are unable to address, many practices are turning to FIT as an alternative colorectal cancer screening option. The lack of clinical integration between primary care and specialist offices has been a significant barrier to closing the loop on patient screening. Cervical cancer, in particular, was an issue for all practices, as even practices that offer Pap smears find that many of their patients prefer to visit an OB/GYN for the service. The lack of bi-directional communication places a heavy burden on primary care offices to proactively contact specialists for patient information, therefore increasing the chance that a patient may not receive appropriate care in the form of screening.

During interviews, practice managers highlighted the difficulty of coordinating and communicating with specialists who provide screenings to patients. One practice mentioned that they have an OB/GYN inside of their building, but still have difficulty getting the results from cervical screenings back into their EHR. Another practice with a large refugee population stated that they had trouble scheduling patients with specialists in the same health system due to a stigma that refugees would be difficult to work with. Lastly, practices noted the long wait times once a patient has agreed to a colonoscopy, which can lead to the patient not complying. These challenges make it difficult to get patients screened, and to keep accurate records of their completed screenings. Many practices attempt to provide Pap smears at their primary care office, with preference to female providers, but it is still evident that women prefer specialist for this screening.

VII. Recommendations

Assessment of Influential Factors on Screening Rate Data

A major component of this project is tracking screening rates for the three cancers that are the focus of this project. Yet the varied quality of screening rate data from participating practices has been an ongoing issue. As discussed in VI. Lessons Learned & Implications, there are several factors adding to the variability of the data, from changes in screening guidelines or the calculation method to major practice changes in management or in their EHR system. Another factor is the difficulty closing the loop with specialist practices, which necessitates workarounds to accurately track patient screenings. While practices have added new workflow and strategies to combat these issues, problems remain.

An important quality assurance step that may be pursued is the calculation of an estimate of the size of discrepancies between observed and true screening rates. We recommend that a protocol to retrospectively re-

collect information from practices, using a variety of screening rate calculation methods and data queries, is appropriate, to determine the amount of variance that is contributed by calculation and query choice. Additionally, systems change (EHR, ownership, etc.) may have contributed to variability, and the effects of system changes on observed screening rates should be estimated as well through the retrospective re-collection of screening rates and several past time points.

These steps should be taken in the context of a separately-developed protocol. It is also likely that participating practices will need to be compensated for this step explicitly, in addition to typical quality stipends for the regular quality improvement work the team does with each practice each year.

Longitudinal Data Reporting

A more proximate step that can be taken is to work more closely with practices in defining their patient panel. During this project year, many of the practices had difficulty not only with data variability in their EHR system, but with the process of defining their denominator and numerator for their data pull. A prime example of this difficulty is Practice 4, who experienced a change in the staff person who pulled data and calculated their rates for this project between the pre and post practice facilitation period. The staff turnover resulted in a change in denominator and numerator, revealing what is likely a change in the definition of their patient panel rather than a sharp drop in cancer screening rates. Other practices experienced some issues pulling their data in the post reporting period, either presenting some data that was the same as the pre-data, or large changes in numerators and denominators even with the inability to complete cancer screening from March 2020 to May 2020. Such difficulties are not limited to changes in staff and screening guidelines, as changes in the patient population itself also increase the difficulty of defining patient panels for practices without population health expertise. Providing more guidance to practices in defining their patient panels is necessary to improve the reliability of measurements such as cancer screening rates.

A guide for reporting screening rates is strongly recommended. It is important to provide specific guidelines for each rate because practices have differing definitions of their “eligible” screening population. Since there is often a gap in time between speaking with site contacts and their processing the data request, verbal instructions can be forgotten. Further complicating data reporting is the recent transition of the Rochester practices to the larger Rochester Regional system, as many of these requests are filled by an IT team. These place the busy site coordinators in the middle between practice facilitators and their IT department, forcing them to relay questions and answers on data specifications for their IT department. An instructional guide would be an efficient solution to this situation.

Additionally, over the seven years on this project, there have been changes in the practices that have participated in this project. Our longitudinal reporting is limited to those that have completed all years. The last few years represent a more consistent group of practices.

A Team Approach to Sustaining Cancer Screening QI

Another important component of this project is practice engagement. As discussed in the previous section, staff turnover and competing demands are ongoing challenges for the practices, and can often be barriers to the completion of activities for this project. We recommend the development of increased provider and staff engagement with quality improvement within the practices, especially through a team approach. The majority of

the practices in Rochester and Buffalo had limited project involvement from practice staff besides a primary site contact who worked with the practice facilitators. This placed a large burden on a single staff member that was involved in the project. Many practices maintain that over the years, some staff has been willing to participate in these quality improvement interventions, however, maintaining their strong efforts consistently is an issue even when a couple staff members are involved. This was especially apparent during deadlines when the site contact had to balance providing data reports with managing the interventions at their practice. Creating workflows that involve multiple team members will alleviate burden on a single person and enhance sustainability of interventions that are put in place. Having greater involvement from other staff members at the practice could relieve some of this burden on the primary site contact. It would also benefit the project to have insight from other staff members on the practice. Developing a stronger team approach to quality improvement among providers and staff would not only increase engagement and sustainability of QI practices as a whole, but could also maintain momentum on project specific activities when the project champion is pulled away by competing demands.

Primary care practices, particularly those providing care to underserved communities facing many social determinants, are in a constant state of chaos, with ever changing patient panels, systems changes, few resources, and staff changes. One recommendation is to offer guidance on how to build QI teams, assist in identifying who in the practice has the necessary skills sets to contribute to the team. Ideally, the team would need leadership to ensure screening activities remain a priority, clinical expertise to interpret and implement guidelines, management/administration to design the queries, enforce workflows, etc., and IT support to ensure information systems and queries are optimized according to the specifications set by the rest of the team. Guidance can be given to development of workflows and communication strategies to engage the team around these efforts.

Overall Evaluation

In Year 7, the team focused the evaluation of the longitudinal quality improvement program with special attention on best practices and potential for sustainability. This evaluation accommodated for the complexity and evolution of conducting quality improvement within the ever-changing health care system. The evaluation considered process, formative, impact, and outcomes aspects of the program.

Methods

Longitudinal quantitative and qualitative data were assessed to show the impact of a longitudinal quality improvement program. Data was reconfigured to conduct longitudinal analysis. The annual reports were an important tool used to identify best practices over time. Results are disseminated in a series of best practices briefs, a webinar, and three manuscripts. These manuscripts detail the process by which the quality improvement program was designed and implemented, screening outcomes, and barriers and facilitators faced over time.

Best Practice Briefs

The Annual reports were reviewed to identify best practices that evolved over time. A working group brainstormed ideas for the briefs and did an initial prioritization. The prioritization was presented to the larger project team to review and refine the briefs selected for development.

The content of the briefs underwent an iterative process of review with the larger team as well as with the New York State Department of Health to hone in on content and presentation. Effort was given to developing a series, Cancer Screening in Primary Care, that could be used independently but were still integrated. The five best practice briefs consisted of two interventions specifically targeting colorectal and breast cancer, and three others that included special populations and overall team dynamic. A consistent format was developed that includes a summary of the project, data from the project, and a guide on how to implement best practices. Scannable codes and links to resources, the project, and the New York State Cancer Consortium are included for each brief for easy reference. All briefs can be found in Appendix G.

Five Best Practice Briefs were finalized:

- Cancer Screening in Primary Care: Effective Use of Fecal Immunochemical Tests (FIT KITS)
- Cancer Screening in Primary Care: Mobile Mammography
- Cancer Screening in Primary Care: Addressing Homelessness
- Cancer Screening in Primary Care: Refugee Health
- Cancer Screening in Primary Care: Basics for a Team-Based Approach

Webinar

A webinar has been outlined to showcase the project and disseminate the best practice briefs. The webinar will include an overview of the program highlighting the challenges encountered and the strategies used to address them. Two panel presentations will be prepared. The first will have staff or clinicians from the practices to share their direct experiences implementing strategies for increasing cancer screening rates. The second panel will be comprised of the program team and will discuss barriers to screening. Significant time will be available for questions and answer from participants.

We will apply for CME credit for attending the webinar. An information flyer will be disseminated widely to generate broad interest in the topic. All participants will be asked to complete an evaluation of the webinar. Best practice briefs will be made available to all participants.

This webinar will be planned for the fall/winter of 2020 if feasible. Due to COVID-19, the team decided to hold on hosting the webinar to a time when practice teams were more likely to attend. A more detailed outline of the webinar can be found in Appendix G.

Development of Three Manuscripts

After review of the annual reports, the team decided on three manuscripts. These papers focus on the process of implementation, the impact the program had on screening outcomes, and the barriers and facilitators encountered. The manuscripts include qualitative and quantitative data collected during the project. The three papers are in final stages of preparation. The qualitative paper was presented at the North American Primary Care Research Group in 2019 and the quantitative screening paper was submitted for consideration to be presented at the 2020 North American Primary Care Research Group. Abstracts for the three paper and the presentations are included in Appendix G.

Implementation of a Longitudinal Multi-Site Quality Improvement Project to Increase Breast, Colorectal, and Cervical Cancer Screening in Primary Care

The purpose of this manuscript is to describe the process of implementing a multi-practice longitudinal quality improvement project to increase colorectal, breast, and cervical cancer screening in underserved safety-net

practices in Syracuse, Rochester, and Buffalo, New York and to make recommendations for future quality improvement efforts.

This paper allows us to look at data presented annually in our reports and assess changes over time. Special attention is paid to the pivoting that occurred within the projects and the practice sites and the role of the Practice Facilitators. The following table shows how the role of the facilitators evolved over the duration of the project. This often aligned with challenges being faced at the sites that year.

Average hours spent by Practice Facilitators on various activities

Activity	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Quality Improvement	188.26	88.33	94.61	103.48	30.45	101.03
Cancer Screening Support	44.20	32.91	23.78	45.46	72.10	43.69
Data Support	165.36	303.66	115.14	31.00	13.38	125.71
Scheduling/Administrative Support	135.45	117.58	94.12	98.00	120.38	113.11
Travel	194.48	78.28	86.58	57.70	48.42	93.09
Preparation	78.93	66.16	51.75	54.91	153.37	81.02
Other	82.21	0.00	0.00	0.00	158.53	48.15
Total	888.89	686.92	465.98	390.55	596.63	

Improving Cancer Screening Rates in Primary Care Practices via Practice Facilitation: A Multi-PBRN QI Project

This manuscript assesses barriers and promoters of practice-based interventions identified through annual focus groups and key informant interviews, and recommends strategies to promote successful interventions in other clinics working with underserved patients.

The goal of this paper was to look at changes in screening rates over time collectively and by region. The figures below display this data. The focus of the Y1 project period was to collect and evaluate colorectal cancer screening rates. Nine practices began participation during the Y1 project period. The average colorectal screening rate started at a mean of 24.57% for the Pre-Y1 time point and ended at a mean of 47.96% for the Post-Y7 time point, with an overall increase of 23.39% over 7 years across all practices, and a positive and significant linear trend over time ($\beta=1.538$, $p<.001$). The greatest increase in colorectal cancer screening between two consecutive time points for this group was from Post-Y1 to Pre-Y2, with a 5.78% increase. Screening rate interventions began in Y2 for breast and cervical cancer. Breast cancer screening rates increased from a mean of 37.32% to 48.64% from Y2 to the final measurement at Y7, with a slightly positive but non-significant trend ($\beta=.401$, NS). Mean cervical cancer

screening rates decreased from the initial period, at 35.52%, to 31.35% at Y7, with a slightly negative and non-significant trend ($\beta=-.494$, NS).

Region 1 saw significant increases in both CRC (17.68%-56.00%, $\beta=2.957$, $p<.001$) and breast cancer (31.34%-62.24%, $\beta=2.652$, $p<.001$) screening rates, as well as a small but non-significant mean increase in cervical cancer screening (25.91%-28.48%, $\beta=.691$, NS). Region 2 saw decreases in the average screening rates for all cancer sites, with the largest decrease occurring among cervical cancer screening. Region 3 realized positive mean screening rates for all three cancer sites, with the strongest, and only significant, change in colorectal cancers (13.41%-55.55%, $\beta=2.957$, $p<.001$). More detailed results are shown in **Table 4**. As a visual comparison, **Figure 1a-b** (CRC), **Figure 2a-b** (breast), and **Figure 3a-b** (cervical) illustrate the mean rates over time, comparing overall and regional screening rates, side-by-side.

Figure 1a-b: Colorectal Cancer Screening Rate – a) Means over time and b) over time across regions

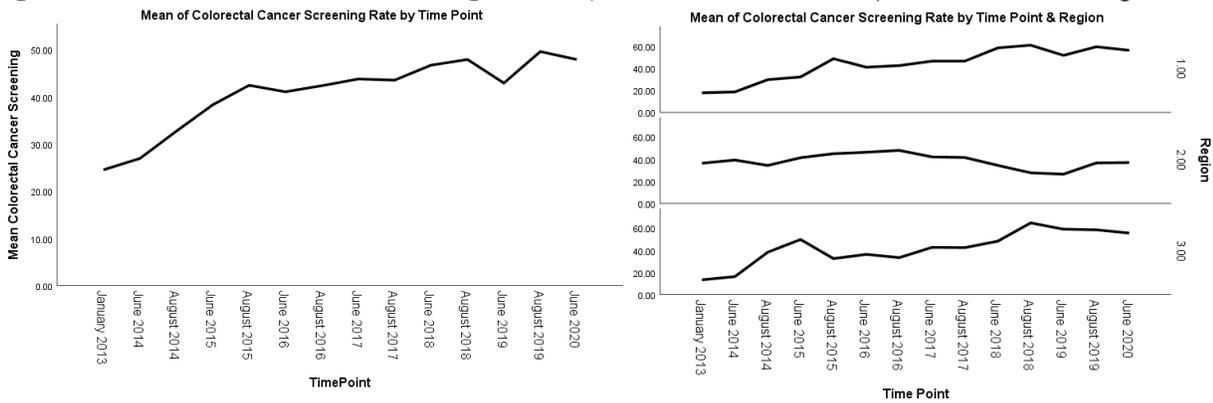


Figure 2a-b: Breast Cancer Screening Rate – a) Means over time and b) over time across regions

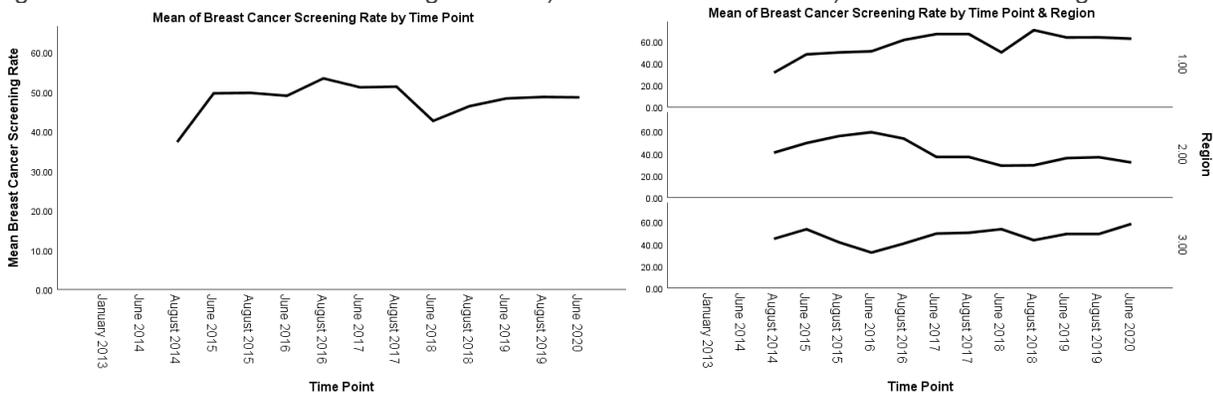
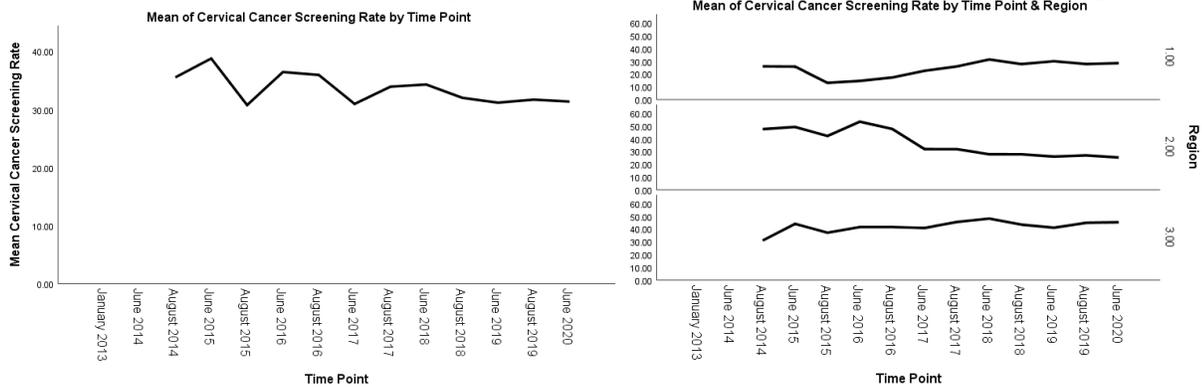


Figure 3a-b: Cervical Cancer Screening Rate – a) Means over time and b) over time across regions



Increasing Breast, Cervical, and Colorectal Cancer Screenings: A Qualitative Assessment of Barriers, Promoters in Safety-net Practices

This manuscript evaluates the impact of a practice facilitation and academic detailing regional quality improvement intervention, conducted in safety-net primary care practices, to increase breast, cervical and colorectal cancer screening by assessing longitudinal screening rates. Barriers and facilitators were identified at the system/practice level, the staff level, and the patient level.

System and Practice Level

Several types of barriers were present at the system and practice level. Within the practices, common barriers were lack of personnel, workflow inefficiencies, and inconsistent EHR data entry. Within the larger health care system, two other barriers were common: difficulty in two-way communication with specialists such as gastroenterologists, and screening guideline changes.

Two promoters related to general quality improvement strategies are quality improvement coaching and workflow assessment and adjustment. Similarly, two promoters that are part of larger initiatives to improve patient care are team-based care and Patient-Centered Medical Home (PCMH) certification requirements. Finally, perhaps the most important promoter of intervention success day-to-day in a busy primary care practice was the “workaround,” most commonly with EHR issues.

Staff Level

The barrier of lack of personnel at the system and practice level was most often referenced at the staff level as provider and staff turnover. Another reoccurring barrier was the differing levels of engagement or awareness in quality improvement interventions.

The standardization of EHR data entry and technical assistance were important strategies for overcoming inconsistencies in the practice EHR. Likewise, a focus on team-based care was important across both levels, with staff emphasizing a shared responsibility to discuss and document screening with patients.

Patient Level

At the patient level, the barriers described by the focus group and interview participants looked very different. Interestingly, in the early years of the project the practices emphasized patient noncompliance and refusal as barriers to cancer screening. More recently, at least in focus groups and interviews, the practices have shifted their focus to social determinants and other barriers to care that might explain a patient’s noncompliance or refusal.

The main promoters of intervention success at the patient level match these barriers, focusing on strategies to increase patient access to care and understanding of cancer prevention. A similar promoter is lifestyle-amenable screening methods, which refers to the need to adapt screenings to better fit the needs of

different populations. Case management and following up with individual patients are also promoters of intervention success. A final promoter that emerged in the last years of the project is a trusting relationship between patients and their providers and staff.

Appendix A: Project Logic Model

Mission: Increase breast, cervical and colorectal cancer screening in New York through evidence-based interventions in targeted primary care practices		Proximal Outcomes	Distal Outcomes
Core Component	Activities	Measurement Tool	Proximal and Distal Outcomes
Administration	<ul style="list-style-type: none"> Manage & coordinate core activities and programs Recruit primary care practices serving low-income, diverse populations AD session designed by Detailing Panel and designated as live activity with CME credit under AAFP AD session adapted to enduring electronic material with CME credit under AAFP Screening guidelines, tools and explanatory materials uploaded to EducareCE online learning system under CNY-AHEC AD session and durable goods delivered to participant primary care practices 	<ul style="list-style-type: none"> Management & administrative structures and databases in place CME attendance sign-in sheets CME certificates distributed Post-CME evaluation forms Volume of durable goods distributed (administrative databases) 	<ul style="list-style-type: none"> Number of practices enrolled Number of practices completed Number of PCPs receiving AD session Increase in knowledge of current CRC screening guidelines among PCPs participating in AD sessions Increase in knowledge of CRC screening resources available in New York for under/uninsured patients among PCPs participating in AD sessions
Academic Detailing	<ul style="list-style-type: none"> Distribute and collect survey materials Assist practice in use of EHR to track cancer screening Implement practice facilitation methodologies to coach practices on cancer screening quality improvement Track all practice facilitation activities Facilitate focus groups 	<ul style="list-style-type: none"> PF Logs PF Notes Survey forms Focus group transcripts TRANSLATE rubrics EBI worksheets Baseline breast, cervical and CRC screening rate per practice (administrative databases) Volume of small media distributed (administrative databases) 	<ul style="list-style-type: none"> MMIS or physician NPI numbers of participating practices Pre-post intervention difference in patients screened per participating practice Number and description of new practice workflows developed for cancer screening quality improvement Number and description of new practice policies developed for cancer screening quality improvement Number, type and approximate cost of investment for practice facilitation activities Existing EHR report/registry function capabilities and barriers in practices Existing practice-level, physician-level and patient-level barriers to cancer screening as experienced by participating practices Existing barriers to tracking patient cancer screening as experienced by participating practices
Practice Facilitation			<ul style="list-style-type: none"> Increase use of evidence-based interventions targeting breast, cervical and colorectal cancer screening in primary care practices Increase guideline-recommended cancer screening among patient populations in New York Increase utilization of screening resources in New York for under/uninsured patients Reduce incidence of preventable new cases of breast, cervical and colorectal cancer Reduce disparities in cancer screening among New York residents Observe trends in cancer screening using MMIS or NPI numbers (by NYS-DOH)
		Immediate Outputs	
		Inputs	

Appendix B: Data Collection Materials

- I. Practice Characteristics Survey
- II. Interview Script and Structured Guide

I. Practice Characteristics Survey

PRACTICE INFORMATION

1. Practice Name: _____
2. Please list the provider Medicaid Management Information System (MMIS) ID(s) of this practice. If you cannot provide the MMIS number, please provide the individual NPI number for each primary care provider at this practice. (If you need more room, please write in the space by question 11)
MMIS ID: _____
3. Which of the following categories best describes this practice?
 - Physician-owned practice
 - Large medical group or health care system
 - University hospital or clinic
 - Non-profit clinic
 - Federally Qualified Health Center
 - Other (please specify): _____
4. Is this practice in a single specialty or multi-specialty setting (multi-specialty practice includes specialists other than primary care physicians)?
 - Single specialty
 - Multi-specialty
5. Which specialties are employed at your practice? (check all that apply)
 - Family Medicine
 - Internal Medicine
 - Gastroenterology
 - OB-GYN
 - Other (please specify): _____
6. How many primary care physicians work in this practice?

7. Approximately how many nurse practitioners work in this practice? _____
8. Approximately how many physician assistants work in this practice? _____
9. Making your best guess, about how many patients are served by your practice? _____
10. What is the name of your practice's medical record system?

11. Is this practice recognized/certified for any of the following? (check all that apply)
 - Patient Centered Medical Home
 - Patient Centered Specialty Practice
 - Meaningful Use
12. IF YOU CANNOT PROVIDE AN MMIS ID FOR YOUR PRACTICE, PLEASE LIST NATIONAL PROVIDER IDENTIFIER (NPI) NUMBERS FOR ALL PRIMARY CARE PROVIDERS IN YOUR PRACTICE:

PATIENT DEMOGRAPHICS

13. Approximately what percentage of the patients in this practice is insured by:

	% of Patients
Uninsured	%
Medicaid	%
Medicare	%

14. Approximately what percentage of the patients in this practice is female? _____%
15. Approximately what percentage of the patients in this practice is Hispanic/Latino? _____%

16. Approximately what percentage of the patients in this practice is:

	% of Patients
White	%
Black/African American	%
Asian	%
Native Hawaiian/ Pacific Islander	%
American Indian/ Alaska Native	%

17. Approximately what percentage of the patients in this practice is:

	% of Patients
Age 20 and under	%
21 – 29 years	%
30 – 49 years	%
50 – 74 years	%
75+ years	%

CANCER SCREENING

18. Do you provide mammography services at your practice?

- Yes
- No

19. Do you provide cervical cancer screening services at your practice?

- Yes
- No

20. Do you provide colorectal cancer screening services at your practice (If "Yes," please go to Question 21. If "No," skip to Question 22?)

- Yes
- No

21. Which of the following colorectal cancer screening services are provided at your practice? (check all that apply)

- Fecal testing kits (FIT or FOBT)
- Colonoscopy
- Flexible sigmoidoscopy

22. Does this practice utilize a patient registry to track patient screening for any of the following?

	Yes	No
Breast Cancer Screening		
Cervical Cancer Screening		
Colorectal Cancer Screening		

23. Has this practice implemented guidelines for any of the following?

	Yes	No
Breast Cancer Screening		
Cervical Cancer Screening		
Colorectal Cancer Screening		

24. Are the patient screening rates generated from these cancer screening registries viewed as an accurate measure of the number of patients screened within your practice?

- Yes
- No, Please explain:

25. Does this practice have a mechanism to remind members of the care team that a patient is due for breast, cervical and/or colorectal cancer screening? (check all that apply)

- Yes, special notation or flag in patient chart
- Yes, computer prompt or computer-generated flow sheet
- Yes, practice policy to review this item in patient medical records at the time of visit
- Yes, other mechanism (please specify):

- No

26. Does this practice have a mechanism to remind patients that they are due for breast, cervical and/or colorectal cancer screening? (check all that apply)

- Yes, reminder by US mail
- Yes, reminder by telephone call
- Yes, reminder by e-mail
- Yes, personalized web page
- Yes, practice policy to provide a verbal prompt from a member of the care team during an office visit
- Yes, other mechanism (please specify):

- No

II. Focus Group/Interview Structured Guides

I. January:

- a. During the years on this project, what has been the most successful strategy that your practice used to increase breast cancer screening?
 - i. For cervical?
 - ii. For colorectal?
- b. What about the least successful?
 - i. For cervical?
 - ii. For colorectal?
- c. What would you say is the key piece(s) to these interventions? Why? (PROBE: Staff involvement? Administrative buy in? Monetary support? Standardized implementation?)
- d. How has this success influenced your current interventions?

II. February:

- a. What would you do to increase cancer screening rates if you had unlimited resources? All the staff, money, time, whatever you needed, you had.
 - i. What would you implement for breast cancer?
 - ii. For cervical?
 - iii. What about for colorectal?
- b. What impact would this intervention have?
 - i. For breast cancer?
 - ii. For cervical?
 - iii. For colorectal?
- c. Are there ways we could work to achieve this impact with fewer resources?

III. March:

- a. What will happen at your practice after this project ends in terms of cancer screening initiatives?
- b. Does/how does your practice plan to continue the work you've done during this project?
 - i. Is there a particular champion in the practice for this work?
- c. What has been the biggest impact on your practice through participating in this project?
 - i. For example, did you implement any new policies? Permanently change workflow?

IV. April/May:

- a. What is the most unexpected barrier(s) that you face with encouraging people to get cancer screening done?
- b. Where should we be focusing our efforts to increase cancer screening? Or is there a different area of cancer prevention that we should focus on next?
- c. In thinking about the next 2 to 3 years, what could you do to have the largest impact on improving cancer screening rates?

Appendix D: Site Specific Interventions

I. Practices in the Buffalo Region

Practice Region	Buffalo	Buffalo	Buffalo	Buffalo
Practice	P 1	P 2	P 3	P 4
Cancer 1	Breast	Breast	Breast	Breast
Cancer 2	Colon	Colorectal	Colorectal	Colon
Cancer 3	Cervical	Cervical	N/A	Cervical
Intervention Summary	<p>Breast: Mobile Mammography Colon: Offers FIT Kits Cervical: Patients are referred out to nearby OBGYN Breast, Colon, & Cervical: Patient surveys on attitudes & barriers</p>	<p>Breast: Mobile Mammography, info sessions on importance of breast cancer Cervical: Began offering paps at the practice Colon: Offers FIT Kits Breast & Colon: Two staff members clean records (8 hrs/wk), patient reminders</p>	<p>Breast: Mobile Mammography, info sessions on importance of breast cancer Colon: Offers FIT Kits Breast & Colon: Two staff members clean records (8 hrs/wk), patient reminders about screenings.</p>	<p>Breast: Still working to provide Mobile Mammo bus at new location Cervical: Offer paps but usually refer out for OBGYN Colon: Offers FIT Kits and Cologuard Cervical & Colorectal: clean and verify records.</p>
Challenges with Implementation	<p>Colon: Cultural barriers increase patient reluctance</p>	<p>Colon: Difficulty with patients completing screening or at home testing</p>	<p>Colon: Difficulty with patients completing screening or at home testing</p>	<p>Breast, Colon, & Cervical Limited time to search RHIO for screenings.</p>

II. Practices in the Rochester Region

Practice Region	Rochester	Rochester	Rochester	Rochester
Practice	P 5	P 6	P 7	P 10
Cancer 1	Breast	Breast	Breast	Colorectal
Cancer 2	Colorectal	Colorectal	Colorectal	Cervical
Cancer 3	Cervical	Cervical	Cervical	Colorectal
Intervention Summary	<p>Breast: Mobile Mammography Colon: FIT incentive (\$20), FIT test in exam room for demonstration Cervical: Have OBGYN in same suite, nurses clean and verify records to update registries.</p>	<p>Breast: Mobile Mammography, patient incentives Colon: FIT Tests Breast, Colon, & Cervical: Patient reminder calls and outreach, community health care worker</p>	<p>Breast: Mobile mammography Colon: FIT tests with prepaid postage Breast, Colon, & Cervical: EHR reminders, monthly patient reminder calls.</p>	<p>Breast: Mobile mammography unit Colon: Nepali case manager does home visits to teach prep or FIT kit Cervical: Close the loop with OBGYN specialists.</p>
Challenges with Implementation	<p>Colon: Difficult to complete FIT kit in public bathroom at shelters. Breast, Colon, & Cervical: Hard to follow up with housing insecure people after screening, Providers are part time.</p>	<p>Colon: Transportation to colonoscopy, colonoscopy difficult to track when referred out</p>	<p>Breast, Colon, & Cervical: Hard to track testing done outside of practice.</p>	<p>Colon, & Cervical Specialist offices are not prepared/reluctant to work with this specialized population. Practice has limited resources to send translators/navigators to screenings.</p>

III. Practices in the Syracuse Region

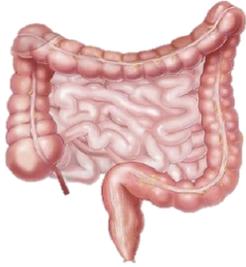
Practice Region	Syracuse	Syracuse	Syracuse	Syracuse
Practice	P 8	P 9	P 11	P 12
Cancer 1	Breast	Breast	Breast	Colorectal
Cancer 2	Colorectal	Colorectal	Colorectal	Cervical
Cancer 3	Cervical	Cervical	Cervical	Breast
Intervention Summary	<p>Breast: Mobile mammography</p> <p>Colon: Mailed FIT tests</p> <p>Cervical: Improved same-day cervical screening</p>	<p>Colon: Improve data capture for colorectal result and ensure accurate data</p> <p>Breast & Cervical: Sustained outreach to OB providers for pap and mammography results</p>	<p>Colon: Mailing FIT program</p> <p>Cervical: Improve collaboration with local primary OB provider for record sharing, growing newly started internal ob services</p>	<p>Breast: Mobile mammography</p> <p>Colon: Mailing FIT tests, improvement in appt conversation by provider and outreach</p> <p>Cervical: Improved data capture and utilization</p>

Appendix G: Durable Materials

As discussed with the project management team at the NYS Department of Health, the project team (PI, Morley) subaward PIs (Tumiel-Berhalter, Noronha, Swanger), and coordinators, managers & consultants (Brady, Bentham, Horrigan-Mauer, Schad, Vitale, Norton) discussed several approaches to the production of durable materials for the purpose of distribution to other contractors, partners and grantees engaged in practice change. The following concepts warrant further discussion between project and program management:

- The creation of videos (6 – 8), each describing an element of practice improvement. These would roughly follow the operational topics covered at the previous three learning collaborative conferences, although content can be addressed in these discussions. The videos could be hosted on a web server at one of the participating universities, a third party, or (deferring to the judgement of DOH staff) directly from the NYS DOH.
- A series of manuscripts that summarize the learnings from this project and looks more in depth at the data and the processes to implement sustainable cancer screening workflows into practice.
- Implementation of the intervention matrix as a QI tool for practices.
- An additional option would be to conduct “Project ECHO” style telehealth seminars in real-time, record those seminars, and host and store. This forum would be interactive with participants (e.g. case presentations, question/answer periods, etc.) in real-time at the time of the live conference, and unidirectional afterward (where as pre-produced videos would be unidirectional). Following an ECHO model would likely be substantially more costly.
 - I. Cancer Screening in Primary Care: Effective Use of Fecal Immunochemical Tests (FIT KITS) (pg. 47 - 48)
 - II. Cancer Screening in Primary Care: Mobile Mammography (pg. 49 - 50)
 - III. Cancer Screening in Primary Care: Addressing Homelessness (pg. 51 - 52)
 - IV. Cancer Screening in Primary Care: Refugee Health (pg. 53 - 54)
 - V. Cancer Screening in Primary Care: Basics for a Team-Based Approach (pg. 55 - 56)
 - I. Webinar Outline (pg. 57)
 - VI. Increasing Breast, Cervical, and Colorectal Cancer Screenings: A Qualitative Assessment of Barriers, Promoters in Safety-net Practices (pg. 59)
 - VII. Improving Cancer Screening Rates in Primary Care Practices via Practice Facilitation: A Multi-PBRN QI Project (pg. 60)
 - VIII. Implementation of a Longitudinal Multi-Site Quality Improvement Project to Increase Breast, Colorectal, and Cervical Cancer Screening in Primary Care (pg. 61)

Cancer Screening in Primary Care: Effective Use of Fecal Immunochemical Tests (FIT Kit)



During the Cancer Screening in Primary Care Quality Improvement Project, 100% of the practices implemented FIT testing as an option to improve colorectal cancer screening.

An average overall increase was seen during the duration of this project for colorectal cancer screening (24.57% to 42.96%, $p < .001$)

12 practices fully implemented FIT Kits for colorectal cancer screening.

Utilizing FIT Kits in Primary Care

Step 1: Planning

- Identify patients 50 and older who are in need of colorectal cancer screening
- Develop practice guidelines to determine which patients are appropriate for FIT
 - No family history, no personal history, etc
- Provide FIT Kits in office, especially during regular check-up appointments
 - Make this process part of the patient's vital check at the beginning of a visit
- Create a system for Kit distribution and monitoring, including who enters data on order date, distribution date into EHR, follow-up on incomplete tests, and completed kits
- Identify and train members of care team (nurse, medical assistants, patient navigator, etc) to educate patients

Step 2: In Office Education

- Show. Explain. Demonstrate.
 - Display kit in room & explain how to use it – kits can vary, but most include cards/tubes, brushes or collection tools, bags & envelopes
 - Utilize informational brochures & show videos on tablet and/or send links to instructional videos
- Encourage patients to call the office/doctor if they have questions about the test
- Encourage screening with family or friends who also need testing to help improve screening compliance
- Ask patient about family history, start the conversation about how many people the patient knows could have been affected by these cancers
- Educate patients on the importance of annual screening

Step 3: Follow-up Strategies

- Follow up with patients by phone within a week of providing the test
 - Answer questions
 - Encourage compliance
- Provide incentives such as gifts cards
 - Partner with insurance companies or plans who offer any incentives
- Send a FIT Kit via mail the following year to all who participate – call patient prior to mailing as a reminder and to confirm address



The Cancer Screening in Primary Care Quality Improvement Project was conducted over 7 years in safety-net practices in Buffalo, Rochester, and Syracuse, New York. Academic detailing and practice facilitation were provided to support efforts to implement evidence-based interventions to increase breast, cervical, and colorectal cancer screening.

For Additional Information:



USPSTF CRC



NYS CRC Resources



The longitudinal project is a partnership between SUNY Upstate Medical University, SUNY University at Buffalo, and the University of Rochester, with their local Practice Based Research Networks. ADPF is supported with funds from Health Research, Inc. and the New York State Department of Health with funds from the CDC.



**Project Background: A Practice
Facilitation & Academic Detailing
Intervention Can Improve
Cancer Screening Rates in
Primary Care Safety Net Clinics**



NYS Cancer Consortium



**UCLA FIT Kit Video
Instructions**



ACS CRC Guidelines



**Multi-Language FIT
Kit instructions (CCO)**

Cancer Screening in Primary Care: Addressing Homelessness



During the Cancer Screening in Primary Care Quality Improvement Project, one practice provided primary care to the homeless community.

Working with the homeless population poses unique barriers such as difficulty locating patients to complete testing or follow-up.

Addressing Barriers to Cancer Screening

Specific Barriers

- Locating patients for follow-up
 - Transient populations are not easy to track; they may not have or want to give addresses
- Ability to follow-up with diagnostic tests and cancer treatment
 - Feeling ill from treatment without a secure place to recuperate
- Accessibility to a private restroom to complete testing (stool-based tests)
- Ability to prep for a colonoscopy
- Screening and diagnostic tests may trigger past trauma experiences

In-Office Strategies

- Offer stool-based colorectal cancer screening tests
 - Explain thoroughly, offer instructions using pictures
- Use of patient navigators to encourage screening
 - In-person education on the importance of screening and follow-up
- Offer as much screening as possible on-site
 - Breast cancer – partner with a mobile mammography unit
 - Cervical cancer – offer pap smears in office (female nurse)
 - Colorectal cancer – single-sample stool-based FIT tests for in-office collection
- Make use of office champions and pre-visit planning
 - A champion can motivate staff & encourage consistent efforts
 - Pre-visit planning keeps screening at the fore of visits & outreach

Follow-up Strategies

- Use text messages
 - Most can receive texts even if they do not have minutes on phone
- Offer \$20 prepaid cards for completing tests (FIT kit)
- Collaborate with shelters to locate people for follow-up
- Meet as a team (monthly, bi-monthly, or quarterly) to discuss improvement opportunities
- Champions & Administrative buy-in – show staff how to
 - Encourage/Motivate others and demonstrate workflow in process
 - Help organize staff and set them up to do the work



The Cancer Screening in Primary Care Quality Improvement Project was conducted over 7 years in safety-net practices in Buffalo, Rochester, and Syracuse, New York. Academic detailing and practice facilitation were provided to support efforts to implement evidence-based interventions to increase breast, cervical, and colorectal cancer screening.

For Additional Information:



Rochester
Regional Health



The longitudinal project is a partnership between SUNY Upstate Medical University, SUNY University at Buffalo, and the University of Rochester, with their local Practice Based Research Networks. ADPF is supported with funds from Health Research, Inc. and the New York State Department of Health with funds from the CDC.



Coordinating Primary Care
and Behavioral Health
Services Among People Who
Are Homeless



NHCHC Resources



Access to Primary Care
Services Among the Homeless



Case Studies in Cultural
Competency (pg. 10)



SAMHSA Homelessness
Programs and Resources

Cancer Screening in Primary Care: Refugee Health



During the Cancer Screening in Primary Care Quality Improvement Project, one practice served refugees from all over the world: countries of origin include Bhutan, Burma, Cuba, Democratic Republic of Congo, Ethiopia, Eritrea, Haiti, Somalia, and Ukraine.

Refugee populations pose unique barriers such as language, strong cultural beliefs, and different experiences with health and wellness.

Addressing Barriers to Cancer Screening

Specific Barriers

- **Cultural**
 - Idea of preventive screening is nonexistent in some populations
 - Certain screenings viewed as invasive or uncomfortable
- **Trauma-related**
 - Experience with cancer screening in country of origin and at refugee camps
 - Bad experience in life or with invasive procedure in past
- **“I don’t want to know” response to screening**
 - Some cultures avoid screening because they do not feel sick, or they simply do not want to know if they have cancer or other chronic diseases

In-Office Strategies

- **Use of Translators/Patient Navigators**
 - Explain/answer questions about what the procedures involve
 - Try to offer as many screening options on site where trust and comfort is already built (mobile screening, in office test kits & paps)
- **Gender concordant providers** (e.g. Female providers for pap smears)
- **Explain WHY it is important to know about your health and complete screening**
 - Rationalize how/why insurance is recommending certain testing, emphasize that screening can save lives, it does not need to be done often, etc.
 - Host screening days specifically for that population; promote idea of community

Follow-up Strategies

- **Outreach Health Workers**
 - Answer additional questions and provide hands on explanation for testing either in office or at patients home
 - For colonoscopy, pick up test prep and explain how/when to take it
- **Incentivize**
 - Offer small gifts, gift cards to encourage completion
 - Allow/encourage children or other family members to come to screening day, especially if patient has childcare concerns



The Cancer Screening in Primary Care Quality Improvement Project was conducted over 7 years in safety-net practices in Buffalo, Rochester, and Syracuse, New York. Academic detailing and practice facilitation were provided to support efforts to implement evidence-based interventions to increase breast, cervical, and colorectal cancer screening.

For Additional Information:



CDC Immigrant and
Refugee Health



The longitudinal project is a partnership between SUNY Upstate Medical University, SUNY University at Buffalo, and the University of Rochester, with their local Practice Based Research Networks. ADPF is supported with funds from Health Research, Inc. and the New York State Department of Health with funds from the CDC.



Cultural Orientation
Resource Center



Cultural Clues



Why there is a need for
Cultural Competency



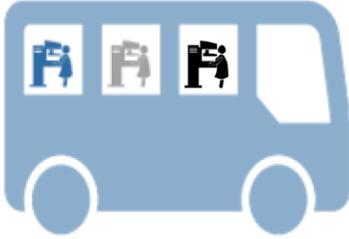
Cultural Competency Tips
and Guide



Cultural Competency &
the Importance for people
with Chronic Conditions

Cancer Screening in Primary Care: Mobile Mammography

Breast Cancer in New York State:



In the Cancer Screening in Primary Care Quality Improvement Project, 100% of the practices that do not have on-site imaging facilities implemented mobile mammography as an option to improve breast cancer screening.

An average overall increase was seen during the duration of this project for breast cancer screening (37.32% to 48.36%).

Integrating Mobile Mammography into Primary Care

Step 1: Identify Your Practice's Capacity to Host Screening Days

- Identify a practice champion and QI team.
- Ability to identify women in need of screening.
- Determine frequency of screening days, mobile unit location, staff ability

Step 2: Plan

- Select guidelines for breast cancer screening (USPSTF, ACS, etc).
- Reach out to your local mobile unit
- Create a system to collaborate with the mobile unit and decide:
 - Outreach strategies, how to manage mammography orders, and follow-up protocols

Step 3: Outreach and Marketing

- Identify methods to market the mobile unit to your patients
 - Create flyers for common spaces, waiting rooms, and exam rooms.
 - Reach out to insurance that offer incentives for screenings.
 - Engage staff in outreach efforts and have them promote screening day and schedule patients
 - Eg.) Actively reach out to women in need to schedule them

Step 4: Host Screening Day

- Be creative- wear pink, have refreshments, offer incentives, giveaways (pink beads).
- Educational goodie bags stressing importance of breast health, inform about cancer care resources

Step 5: Follow-up

- Follow up with screened patients, especially those in need of additional screening
- Debrief with mobile unit staff and make changes as needed.



The Cancer Screening in Primary Care Quality Improvement Project was conducted over 7 years in safety-net practices in Buffalo, Rochester, and Syracuse, New York. Academic detailing and practice facilitation were provided to support efforts to implement evidence-based interventions to increase breast, cervical, and colorectal cancer screening. [For Additional Information:](#)



The longitudinal project is a partnership between SUNY Upstate Medical University, SUNY University at Buffalo, and the University of Rochester, with their local Practice Based Research Networks. ADFP is supported with funds from Health Research, Inc. and the New York State Department of Health with funds from the CDC.

Tools and Resources

Important Questions to Ask Your Mobile Unit

- Is the Unit equipped to accommodate our Patient Population?
 - Is your unit able to accommodate individual's with special needs or who may be physically disabled?
- What type of mammography screening does your unit provide?
 - Does your unit provide 3D imaging?
 - Are there specific screening questions we need to ask our patients before we schedule them?
- Do you provide Clinical Breast Exams on your screening days?
- Are you connected to the local Cancer Services Program (for those without health insurance)?
- How many patients do you expect to screen in a day?
- How physician orders for a mammogram will get to the Mobile Unit?
- Where will the mobile unit park?
- Who will be responsible for greeting patients the day of screening?
- How will patients receive their results and about how long will it take?

Resources



NYS Community
Cancer Programs



Susan G. Komen
Foundation



ACS Breast
Cancer

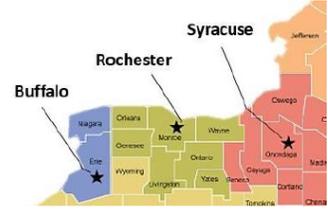


NYS Cancer
Services Program



Cancer Screening in Primary Care: Basics for a Team-Based Approach

Every member of your office staff can play a pivotal role to improve cancer screening rates among eligible patients. A team-based approach integrates multiple staff members who work together to assure patient understanding and promote compliance. Practices in the Cancer Screening in Primary Care Project used a team-based approach to quality improvement.



The Cancer Screening in Primary Care Quality Improvement Project was conducted over 7 years in safety-net practices in Buffalo, Rochester, and Syracuse, New York. Academic detailing and practice facilitation were provided to support efforts to implement evidence-based interventions to increase breast, cervical, and colorectal cancer screening.

Build Your Quality Improvement Team

Step 1: Create Quality Improvement (QI) Team

- QI Teams are not one size fits all, however it is important to have at least:
 - Clinical Champion: This is someone who can bring influence, motivation, and expertise to an area.
 - Coordination Champion: This is someone who understands the nuances of day-to-day workflow and can identify ways to create change.

Step 2: Define Quality Improvement Goals

- Select guidelines for cancer screening and create practice policies (USPSTF, ACS, etc).
- Identify standards, criteria, or regulations you follow for insurance plans and accreditations.
- Create a system to educate staff on new goals and programs.

Step 3: Identify Best Practices

- Utilize existing resources such as the NYS Cancer Control Plan or the American Cancer Society to identify best practice for cancer screening.
- Identify goals and objectives to work towards within your practice.
 - Be SMART!
 - Specific, Measureable, Attainable, Realistic, Timely

Step 4: Implement and Evaluate

- Create a workflow that integrates QI goals into daily workflow.
 - EHR reminders, reminders in exam rooms, accessible staff education materials
- Hold project meetings to evaluate barriers and facilitators in real time. Make changes as needed.
- Keep your entire practice up to date on goals and objectives by sharing metrics in common areas, such as the staff breakroom or meeting rooms.

For Additional Information:



Institute for Healthcare Improvement



The longitudinal project is a partnership between SUNY Upstate Medical University, SUNY University at Buffalo, and the University of Rochester, with their local Practice Based Research Networks. ADPF is supported with funds from Health Research, Inc. and the New York State Department of Health with funds from the CDC.

Cancer Screening in Primary Care: Building Your Team

Helpful Tools



CDC Cancer Guidelines and Resources



American Academy of Family Physicians QI Basics

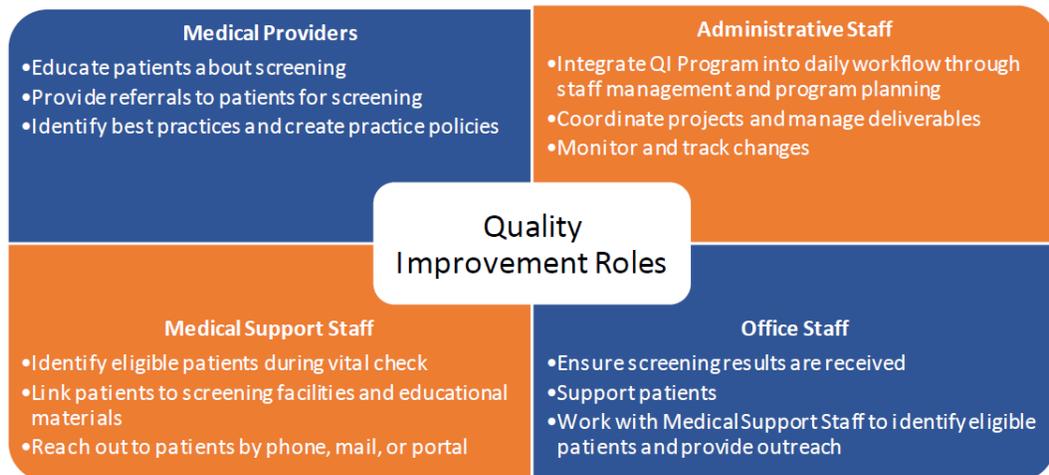


HHS Evaluation and Quality Improvement

Characteristics of Quality Improvement Champions



Using Skills and Abilities of Existing Team Members to Implement QI



Improving Cancer Screening in Primary Care
Quality Improvement Project:
Best Practices to Improve Cancer Screening

Webinar Outline

Date: TBD

Time: 2 hours in duration

Agenda

Purpose of the webinar: to describe best practices implemented in a longitudinal quality improvement program, the role of the team in implementation, and the sustainability of such efforts. This session will align with the one-pagers created.

- Welcome and Introduction (Christopher P. Morley PhD) 10 min
- Remarks from NYSDOH (Heather Dacus DO MPH) 5 min
- Overview of the Project (Dr. Morley) 10 min
- Best practices (Laura Levon Brady, PhD) 10 min
- Challenges Identified and resulting solutions (Dr. Brady) 10 min

- Panelist Discussion (Dr. Morley) 50 min
 - Panelist representing best practices:
 - Mammography
 - Colorectal
 - Cervical
 - Refugee Health
 - Homeless

 - Barriers to Screening (Proposed Panel)
 - Laurene Tumiel-Berhalter PhD
 - Dr. Brady
 - Dr. Morley
 - Amanda Norton, MSW
 - Laura Schad, MPH
 - Practice Facilitators

 - Discussion points
 - What did you do-Describe your best practice?
 - Describe your team and the role of the Practice Champion.
 - How did the facilitators support your work?
 - Describe the sustainability of your program.
 - How has COVID impacted your work, or might impact their work in screening?

- Q&A Session for the panelists (Dr. Tumiel-Berhalter) 20 min
- Wrap-up and Dissemination of one-pagers (Dr. Morley) 10 min

Improving Cancer Screening Rates in Primary Care Practices via Practice Facilitation: A Multi-PBRN QI Project

Context: In the United States, screening rates for breast, cervical, and colorectal cancers are of 10 below national targets. This project implemented practice facilitation and academic detailing quality improvement (QI) strategies to increase screening rates in primary care practices. Longitudinal tracking of screening rates can be used to identify the collective best practices that led to improvements in screening.

Objective: To evaluate the impact of a practice facilitation and academic detailing regional quality improvement intervention, conducted in safety-net primary care practices, to increase breast, cervical and colorectal cancer screening by assessing longitudinal screening rates.

Study Design: Three practice-based research networks (PBRNs) administered across New York State (NYS) in Syracuse, Rochester and Buffalo partnered to provide QI strategies on breast, cervical and colorectal cancer screening through practice facilitation and academic detailing over a 6-year period. Population studied: NYS Primary care practices connected to three PBRNs.

Outcome Measures: Pre vs. Post intervention cancer screening rates for all three PBRNs, annually, as well as averages across all practices over the 6-year period. Results: An average overall increase in screening rates was seen throughout the duration of this project for breast (37.32% to 48.36%, NS) and colorectal cancer (24.57% to 42.96%, $p < .001$). However, cervical cancer screening rates showed an overall decrease (35.52% to 31.17%, NS). Success in increasing screening rates varied across regions of NYS.

Conclusions: Practice facilitation and academic detailing were successful in demonstrating an average overall increase in colorectal and breast cancer screening rates throughout the duration of this project. Cervical cancer screening showed an overall decrease, likely due to difficulties for primary care practices to track and implement as many patients seek this service at outside OB-GYN facilities. Regional differences, guideline changes, and practice reorganization processes may each have played a part in observed trends. A standardization of queries being used to pull cancer screening rates is an important step in increasing the reliability of these data.

Increasing Breast, Cervical, and Colorectal Cancer Screenings: A Qualitative Assessment of Barriers, Promoters in Safety-net Practices

Laura A. Brady,¹ Laurene M. Tumiel-Berhalter,^{1,2} Laura A. Schad,³ and Christopher P. Morely³

¹State University of New York University at Buffalo Department of Family Medicine, ²University at Buffalo's Clinical and Translational Science Institute, ³State University of New York Upstate Medical University Department of Public Health and Preventive Medicine

ABSTRACT (currently at 244 words, max is 250)

Purpose: Breast, cervical, and colorectal cancer screening are still suboptimal in underserved populations. For the past 6 years, a regional quality improvement project was implemented in urban safety-net primary care practices to promote the use of evidence-based interventions to increase breast, cervical and colorectal cancer screening rates. This manuscript assesses the barriers and promoters to intervention success.

Methods: Primary care practices in the Buffalo, Rochester, and Syracuse, NY regions were recruited that provided care to patients who are low-income, uninsured, or under-insured. Enrollment totaled 31 practices with 12 practices continuing to participate longitudinally for 6 years. The annual intervention was a 6-month period of Practice Facilitation (PF) services to support the tailored development and implementation of evidence-based interventions to the practice with the goal of increasing breast, cervical, and colorectal cancer screening. Focus groups and key informant interviews were conducted with participating practice personnel. Content analysis was performed to identify barriers and promoters to screening.

Results: Identified barriers included system-level challenges—closing the loop with specialists, EHR system transitions, ownership transitions—and practice-level challenges—guideline changes, provider and staff turnover, inconsistent EHR data entry—that compound the patient level challenge of compliance. Successful implementation was promoted by adapting the intervention to multiple areas of health maintenance and by enacting office-wide policies.

Conclusions: The six-year evaluation period made it possible to identify cyclical barriers that combine to reduce the accuracy of practices' screening rates and increase the risk of patients falling through the cracks.

Implementation of a Longitudinal Multi-Site Quality Improvement Project to Increase Breast, Colorectal, and Cervical Cancer Screening in Primary Care

Abstract:

Purpose: The purpose of this manuscript is to describe the implementation of a 6-year longitudinal quality improve project involving practice facilitation and academic detailing, to improve cervical, colorectal, and breast cancer screening in underserved primary care practices in Buffalo, Rochester, and Syracuse, New York. Methods: This is a narrative description of a quality improvement program. Practice characteristic forms are used to describe participating practices, practice facilitator logs detail the activity of the facilitators. Brief evaluations of academic detailing, and interventions are summarized across years of the program. Results: Characteristics of the practices have changed as ownership and structure of practices have changed and EMR systems have changed. More practices have become FQHCs. More time was spent on quality improvement and data support in year 1 and 2 where time was spent on preparation of intervention and tool kit development in anticipation of sustainability. Practice facilitator roles adapted over the year and reflect changes in the interventions described. Conclusions: Long term multi-site project is challenging because of the ever-dynamic health care system. However, practice facilitation can assist a practice in adapting to these changes to result in improvement of cancer screening over time.