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

Project Summary Report

AUGUST 2016

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This is a modified version of the report submitted in August 2016 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 Emily Mader, MPH MPP, and the final submission authored by Ms. Mader, Morgan A. Pratte, MPH and Christopher P. Morley, PhD, 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 August, 2020.

Executive Summary

Introduction

In June 2015, 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, 2015 - June 29, 2016). 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, 2015.

The primary goals of the current project were to implement an intervention 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. Under this project, three practice-based research networks (PBRNs) administered from SUNY Upstate Medical University, University at Buffalo SUNY, and University of Rochester Medical Center partnered to provide academic detailing and practice facilitation services on breast, cervical and colorectal cancer screening to 13 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.

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)

Eleven practices from the Y2 project re-enrolled for continued participation in the Y3 project period. Two new practices enrolled in the project, totaling 13 participating practices for the current project year. The two new practices and one continuing practice received the academic detailing session, and all 13 practices completed the remaining project components. Of the enrolled practices, three were part of a larger health system, three were part of a university or hospital clinic, three were Federally Qualified Health Centers, two were physician-owned, and two were non-profit clinics. All practices were clinical sites that provide care to underserved patients.

Academic Detailing and Practice Facilitation

The academic detailing session was delivered in-person for the two new practices enrolled in the project, while one continuing practice elected to receive the academic detailing session via webinar format. A total of 25 individuals attended the academic detailing sessions.

Approximately 687 service hours were delivered to the participating practices by the practice facilitators. This translates to an average of 53 hours per practice over a 6-month period. Across all regions and practices served,

the practice facilitators dedicated an approximately even distribution of service hours to quality improvement support, data support, and general administrative activities. Practices primarily focused on utilizing the practice facilitators' skills to implement the following:

- Evidence-based patient outreach and education
- Practice workflow assessments to increase efficiencies in and standardization of the cancer tracking processes
- Medical chart review assistance
- Workflows to improve data collection and maintenance among practice staff
- Consultations with Information Technology (IT) personnel regarding patient registry parameters and data mapping

Overall, most practices experienced consistent support and engagement from administrators and site coordinators across the project period. However, support and engagement from clinician champions decreased slightly from pre- to post-practice facilitation for some practices, due largely to lack of time and competing demands among these personnel. After working with the practice facilitators, 12 of the 13 practices had developed clear and measureable goals related to increasing breast, cervical, and/or colorectal cancer screening.

Notable Project Findings and Outcomes

Practice facilitators worked primarily with one person or a small team within the practice to provide guidance and motivation for quality improvement projects. Having practice facilitators working in-house at their assigned practices consistently acted to help build rapport and buy-in for the project among practice staff. Additionally, the existence of invested project champions was an important source of encouragement for practice-wide investment in quality improvement projects.

Validity and reliability issues for data stored in electronic health record (EHR) systems presented common barriers to implementing quality improvement for the majority of practices. A few practices worked specifically on efforts to improve their EHR data system, which took precedence over other available evidence-based interventions. Adjustment of report metrics to increase accuracy resulted in decreased screening performance for several practices, but has subsequently improved confidence in the validity and reliability of patient data. The success of primary care practices in closing the loop on patient screening (i.e., securing screening completion reports for patients) is also 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.

Lack of staff engagement is a barrier to system-level change for many practices; providing incentives to practice staff is a potential solution to successfully implement quality improvement initiatives and demonstrate appreciation of their efforts. Practices were more likely to successfully implement workflow adjustments among practice staff if these changes were adopted in the form of new office policies and if the workflows were adaptable to multiple areas of health maintenance, including those outside of cancer screening.

Alignment of quality improvement activities with existing practice priorities, such as Patient Centered Medical Home (PCMH), Delivery System Reform Incentive Payment (DSRIP), and/or Meaningful Use (MU), was viewed as an efficient utilization of personnel time and practice resources, and enhanced practice staff buy-in.

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Acknowledgements

A number of individuals were pivotal in the successful completion of this project and to the composition of this final report, through comments offered on the final draft. These include Chester H. Fox, MD FAAFP FNK (*University at Buffalo SUNY)*; Gary J. Noronha, MD, Carlos M. Swanger, MD, and Karen Vitale, MSEd (*University of Rochester Medical Center*); John W. Epling MD, MSEd, FAAFP (*SUNY Upstate Medical University*), and Amanda L. Norton, MSW (*A. Mandatory, Inc*., *consulting for SUNY Upstate Medical University*).

In addition to practice facilitation conducted by Ms. Norton and Ms. Mader in the Syracuse region, three practice facilitators from the University at Buffalo contributed to the project in the Buffalo and Rochester regions, including Jennifer Aiello, MS, Victoria M. Hall, RN MPH, and Linda Franke, BS. Leslie Kohman, MD (*Upstate Cancer Center, SUNY Upstate Medical University*) consulted with the core project team during the creation of the academic detailing material.

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 PBRN (GR-PBRN - University of Rochester Medical Center), under the auspices of the Upstate New York 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 13 participating practices for their dedication to this project and their commitment to improving the lives of their patients.

Introduction

In June 2015, 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, 2015 - June 29, 2016). This contract was supported by the Cooperative Agreement Numbers DP003879 and DP006102 between the Centers for Disease Control and Prevention (CDC) and the NYSDOH.

The current project is an extension of the previously funded project *Increasing Cancer Screening through Academic Detailing and Practice Facilitation*, supported by the Cooperative Agreement Numbers DP2029 and DP3879 between the Centers for Disease Control and Prevention (CDC) and the NYSDOH the contract for which concluded June 29, 2015; 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.

The primary goals of the current project were to implement an intervention 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 (PBRN) administered from SUNY Upstate Medical University, University at Buffalo SUNY, and University of Rochester Medical Center partnered to provide academic detailing and practice facilitation services on breast, cervical and colorectal cancer screening to 13 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.

This report provides a summary of the major activities and outcomes of this project.

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[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

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 Figure 1 of Appendix A. Core project staff at SUNY Upstate Medical University provided the primary administrative services for the project. 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 Y2 was updated 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 in January 2016, and was 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

Practice facilitation activities represented the bulk of the work completed with the practices under this project. The Practice Facilitator Log was used to record information about each encounter the practice facilitator had with a practice and collect information on the following items for each encounter:

- Method of contact with the practice (e.g., telephone, in-person, e-mail)
- Service/activity provided to the practice
- Person providing service/activity to the practice
- Time devoted to completing the service/activity
- Travel time
- Preparation time for the service/activity
- Notes/next steps from the encounter

All facilitators received an orientation prior to initiating services at the participating practices (August 2015). This orientation included instructions on how to complete the Practice Facilitator Log and other data collection activities under the project.

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 are detailed in Table 1.

Table 1. Data Collection Materials Designed to Evaluate Project Impact

Project Component	Activity	Measurement Tool
Practice Recruitment	Practices serve project priority populations	• Practice characteristics survey
Academic Detailing Session	Attendance of primary care providers to academic detailing session	• CME sign-in sheets • HWApps registrations
	Usefulness of academic detailing session	• CME evaluation survey • HWApps post-webinar quiz • Focus groups/interviews
Practice Facilitation	Change in perceived barriers to breast, cervical and colorectal cancer screening	• Pre- and post-practice facilitation surveys • Focus groups/interviews
	Change in perceived barriers to use of breast, cervical and colorectal cancer screening registry	• Pre- and post-practice facilitation surveys • Focus groups/interviews
	Change in patient screening rates for breast, cervical and colorectal cancer	• Pre- and post-practice facilitation screening rates for each cancer type
	Implementation of evidence-based interventions to increase breast, cervical and colorectal cancer screening	• Pre- and post-TRANSLATE evaluation rubric
	Practice readiness and planning for practice improvement	• Pre- and post-TRANSLATE evaluation rubric
	Practice adoption or realignment of practice workflows and policies	• Pre- and post-TRANSLATE evaluation rubric • Focus groups/interviews

The practice characteristics form was delivered to the practices at the commencement of the project period. Most practices required extended time to complete the practice characteristics survey and often returned the surveys four to six weeks after they were administered.

The pre-post facilitation provider surveys were collected using a paper-based form and were anonymized through the use of unique individual identifiers. The collection of the survey data was managed by the PFs and practice champions.

The practice facilitators evaluated their assigned practices on nine elements of a practice improvement model, as represented in the TRANSLATE evaluation rubric, in a pre-post format. The TRANSLATE rubric was also used to capture the implementation of evidence-based interventions, workflows, and policies within the practices, as identified through the CDC's Community Guide to Preventive Services.[3] The initial assessment was conducted at the start of practice facilitation activities (November 2015 to December 2016) and the post-assessment was conducted at the end of the practice facilitation period (June 2016).

The practice facilitators collaborated with the appropriate personnel at their assigned practices to collect screening data for breast, cervical, and colorectal cancer in a pre-post format. 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. Further detail regarding cancer screening rate data collection can be found under the *Notable Project Findings and Outcomes* section.

[3] http://www.thecommunityguide.org/cancer/index.html

The focus groups and interviews were conducted by the project coordinator and quality improvement consultant, who have specific training in qualitative data collection and analysis. The focus groups and interviews were conducted through either in-person meetings or phone-based conference calls, based on timing, availability, and convenience for participants. 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. Practice facilitators assisted in the scheduling of the focus groups and interviews, but were otherwise not involved in the qualitative data collection process.

Copies of the practice characteristics survey, pre- and post-practice facilitation surveys, and TRANSLATE evaluation rubrics listed in Table 1 can be found in Appendix B.

II. Summary of Practices and Populations

Practice Recruitment and Enrollment

Practice recruitment activities were completed between July and November 2015. 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 PRBN, along with study site coordinators, contacted practices within their regions that had participated during the Y2 project period. Of these, 11 enrolled for continued participation in the project. Two new practices were recruited for participation from the SALT-Net PBRN (13 total practices: 11 continuing, 2 new).

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, 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, as well as project expectations, benefits, and deliverables, was provided to and completed by each enrolled practice. The enrollment form asked each practice to provide 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 several items of information on the participating practices, including information on practice personnel and patient mix. The following information reflects the practice characteristics of the 13 practices that participated in the Y3 project period.

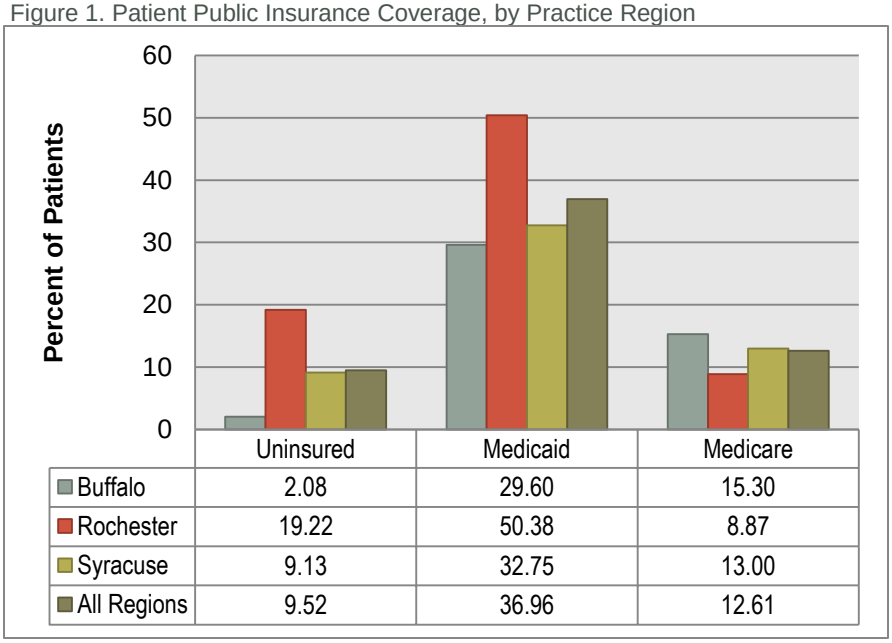
Practice Information

Of the enrolled practices, three were part of a larger health system, three were part of a university or hospital clinic, three were Federally Qualified Health Centers (FQHCs), two were physician-owned, and two were non-profit clinics. Seven of the enrolled practices were single-specialty family medicine clinics. The six multi-specialty practices included a mixture of internal medicine, family medicine, OB/GYN, pediatrics, and dentistry. One multi-specialty clinic also included podiatry, ophthalmology, urgent care, and mental health/substance abuse services. The six multi-specialty practices included the three FQHCs, as well as three non-FQHC practices. Table 2 displays a summary of selected practice characteristics, including staff composition and patient volume. Ten of the practices were Patient-Centered Medical Homes, and 11 practices followed Meaningful Use recommendations. Four of the 13 practices (P1, P2, P3, and P5) host resident physicians.

Table 2. Practice Staff Composition and Patient Volume

Practice ID	PCPs Employed	NPs Employed	PAs Employed	Total Patient Population	Practice Categorization	EMR Vendor
1	8	0	0	5,395	Non-profit clinic	Allscripts Enterprise
2	5	1	0	9,000	University hospital or clinic	Allscripts Enterprise
3	5	1	1	12,790	University hospital or clinic	Allscripts Enterprise
4	3	2	1	12,000	Physician-owned	MedEnt
5	3	0	2	3,957	University hospital or clinic	Allscripts Enterprise
6	3	1	0	761	Large medical group/health care system	NextGen
7	1	0	0	11,968	Large medical group/health care system	NextGen
8	2	0	1	8,561	Large medical group/health care system	NextGen
9	7	4	0	3,000	FQHC	eClinicalWorks
10	7	2	0	6,800	Physician-owned	EPIC
11	2	1	1	9,667	Non-profit clinic	MedEnt
12	33	12	4	39,945	FQHC	NextGen
13	5	4	6	13,439	FQHC	Centricity
TOTAL	**84**	**28**	**16**	**137,283**		

Figure 1. Patient Public Insurance Coverage, by Practice Region

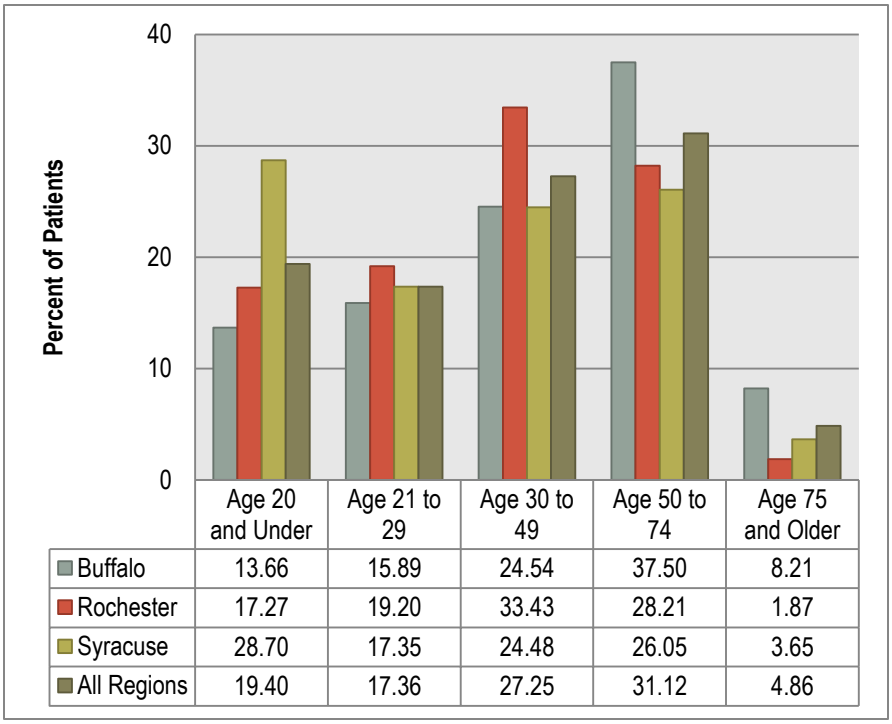


Across the 13 practices, approximately 56% of the patients served were female. Additional patient demographics are summarized in Figures 1 to 3. Information on patient demographics, such as race and ethnicity, was not always considered reliable by the participating practices. The practices placed a disclaimer 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. Furthermore, some practices mentioned that practice staff does not routinely ask patients for race/ethnicity information. It is also possible that some practice staff enter assumed race/ethnicity information in the patient record without confirming their determination with the patient.

Four of the enrolled practices provided mammography services; these practices were a mixture of FQHCs and university clinics. Three practices also indicated they provide colorectal cancer screening services; these practices included one FQHC, one university clinic, and one non-profit clinic. Eleven of the participating practices provided stool cards for colorectal cancer screening at the time of data collection (pre-practice facilitation). Four practices indicated they did not provide cervical cancer screening services.

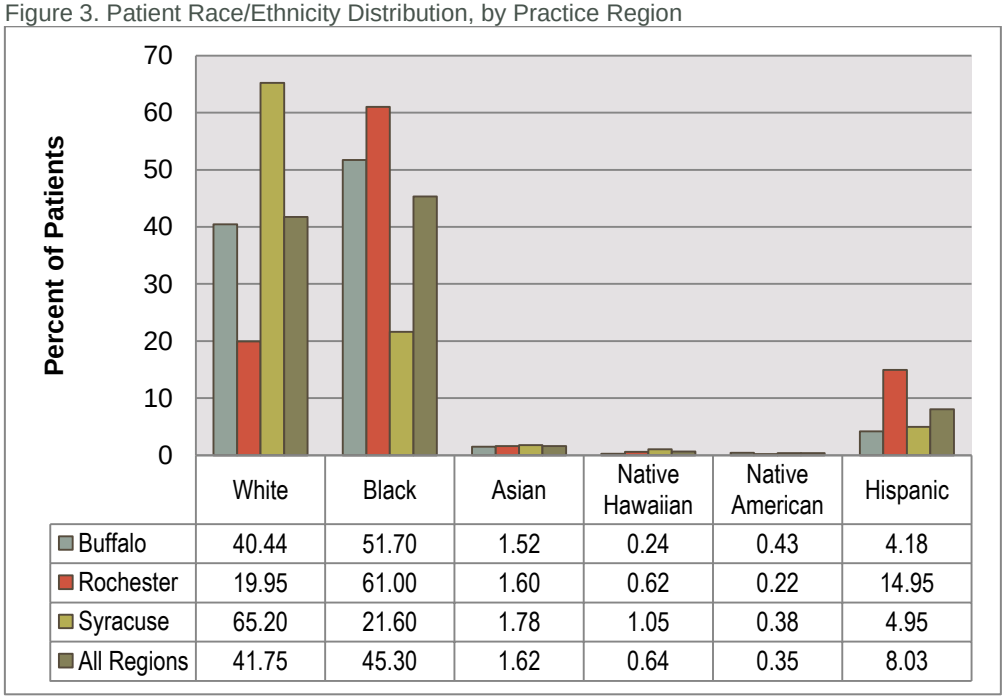
All of the practices enrolled had established practice-wide guidelines for breast and colorectal cancer screening; however, only nine practices had established guidelines for cervical cancer screening at the time of data collection (pre-practice facilitation). The four practices without cervical cancer screening guidelines did not provide cervical cancer screening services. Nine of the enrolled practices utilized patient registries to track breast, cervical and/or colorectal cancer screening. The remaining four practices did not use a registry for any of the three cancer screening targets at the time of data collection (pre-practice facilitation).

Figure 2. Patient Age Distribution, by Practice Region



	Age 20 and Under	Age 21 to 29	Age 30 to 49	Age 50 to 74	Age 75 and Older
Buffalo	13.66	15.89	24.54	37.50	8.21
Rochester	17.27	19.20	33.43	28.21	1.87
Syracuse	28.70	17.35	24.48	26.05	3.65
All Regions	19.40	17.36	27.25	31.12	4.86

Figure 3. Patient Race/Ethnicity Distribution, by Practice Region



	White	Black	Asian	Native Hawaiian	Native American	Hispanic
Buffalo	40.44	51.70	1.52	0.24	0.43	4.18
Rochester	19.95	61.00	1.60	0.62	0.22	14.95
Syracuse	65.20	21.60	1.78	1.05	0.38	4.95
All Regions	41.75	45.30	1.62	0.64	0.35	8.03

Tables 3 and 4 display the use of reminder systems within the participating practices for both patients and providers at the time of data collection (pre-practice facilitation).

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	6
Computer prompt or computer-generated flow sheet	3
Practice policy to review cancer screening in patient medical records at time of visit	3
None	0
Other – appointments with registry reports	4
Other – Pre-visit planning	1
Other – during annual well visits	1

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

Reminder Mechanism	Number of Practices
Reminder by US mail	5
Reminder by telephone call	3
Reminder by e-mail	1
Personalized web page or patient portal	2
Practice policy to provide a verbal prompt from a member of the care team during an office visit	3
None	3
Other – Phytel outreach / eClinical Messenger	4

III. Summary of Academic Detailing Activities

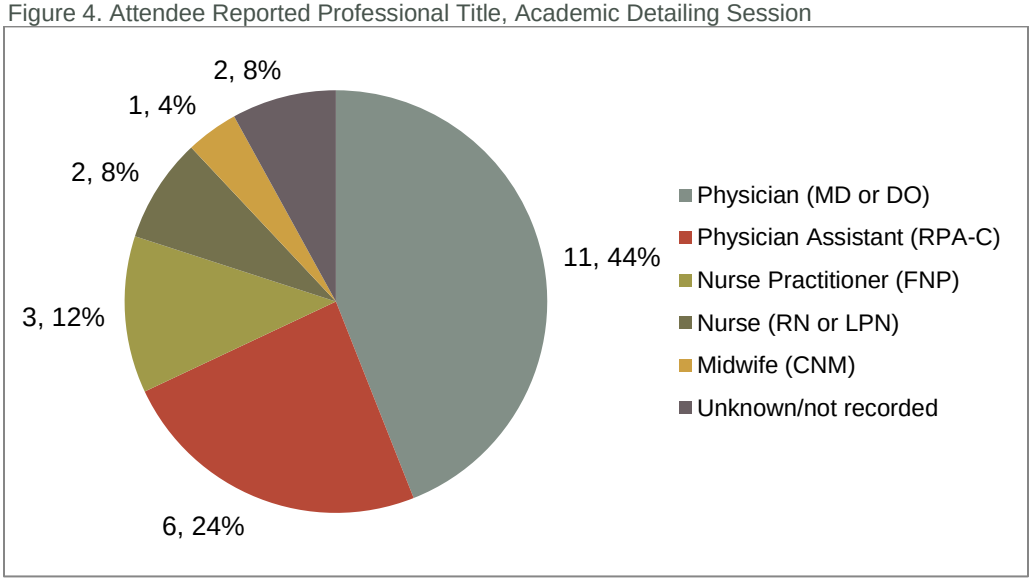
Attendance

The 11 practices that participated in the AD-PF project during Y2 were offered the ability to participate in the AD webinar curriculum rather than an in-person delivery of the AD session. This option allowed those individuals at these practices who did not receive the course during Y2 to have the ability to do so while avoiding time constraints among staff at the practices who had already received the material. The two practices that were new to the project in Y3 were offered the choice between the online AD webinar and an in-person delivery of the AD session; both practices opted for the in-person delivery of the AD session. Table 5 and Figure 4 present a summary of the academic detailing attendance through both delivery methods.

Table 5. Summary of Academic Detailing Delivery

Practice	Date of AD Session	Format	Number of Attendees
P2, University hospital/clinic	March 2016	Webinar	2
P12, FQHC	January 2016	In-person	6
P13, FQHC	January 2016	In-person	16
External physician	January 2016	Webinar	1
Total # AD Session Attendees: 25			

Figure 4. Attendee Reported Professional Title, Academic Detailing Session



Three individuals participated in the online AD session webinar. Two individuals were physicians from one participating practice in the Buffalo region specializing in internal medicine. The remaining individual was a physician practicing in New York City.

While the webinar availability was shared with participating practices via their practice facilitators and project team, it is likely that the lack of a concerted advertising campaign for the online webinar contributed to low enrollment and participation.

A total of 22 individuals attended the two in-person AD sessions.

Evaluation

The CME evaluation forms were completed by attendees to determine the suitability and efficacy of the academic detailing sessions. However, only those providers seeking AAFP CME credit for attendance were required to complete the CME evaluation forms, resulting in a response rate of 78% (18 respondents). A distribution of respondent professional areas is listed in Table 6.

Table 6. CME Evaluation Respondent Reported Profession

Credentials and Job Description	Number of Respondents
Physician (MD or DO)	7
Nurse Practitioner (FNP)	3
Physician Assistant (RPA-C)	6
Nurse (RN or LPN)	1
Certified Nurse Midwife (CNM)	1
Total	**18**

The CME evaluation respondents were asked several questions assessing the value and appropriateness of the academic detailing session content. All respondents felt the academic detailing session was scientifically sound and free of commercial bias. All, except one respondent, felt the topic of the session was appropriate to their professional needs and that the session had a practical clinical value. All survey respondents also reported that the session met the following stated objectives:

- Physicians will be able to broaden and enhance their clinical knowledge of colorectal cancer screening guidelines
- Physicians will be able to describe specific strategies to identify and track patients who meet eligibility criteria for colorectal cancer screening
- Physicians will be able to describe specific concepts that will increase compliance with screening recommendations and improve patient outcomes

The CME evaluation respondents were also asked to describe how the academic detailing session impacted their knowledge, competence, performance and patient outcomes. Of the 18 respondents, 88.9% reported increased knowledge, 77.8% reported increased competence, 83.3% reported increased performance, and 55.6% reported expected improvement in patient outcomes.

IV. Summary of Practice Facilitation Activities

Review of Practice Facilitation Working Items

Two practice facilitators operated in the Buffalo region, one in the Rochester region, one in the Syracuse region, and one in both the Rochester and Syracuse regions. The following is a brief summary of the primary working items conducted by the practice facilitators, based on the information recorded in the Practice Facilitator Logs. The data presented below should be interpreted with the understanding that variations in reporting practices may exist across the individual practice facilitators. Table 7 displays a breakdown of the primary activities performed by the practice facilitators at their locations, and Table 8 displays a breakdown of time spent in the various service delivery modalities.

Table 7. Summary of Primary Activities Performed by Practice Facilitators

Service	Activity Summary	Service Time (hours)
Quality Improvement Support	• Assistance with education and outreach interventions	24.26
	• Quality improvement training and planning	52.49
	• Review of practice workflows	11.58
	Total Time Devoted to Quality Improvement Support	***88.33***
Cancer Screening Support	• Review of screening methods	10.58
	• Training and informational sessions	22.33
	Total Time Devoted to Cancer Screening Support	***32.91***
Data Support	• Chart review assistance	246.41
	• Collection of practice-related data for project purposes	43.66
	• EHR-related IT support	13.59
	Total Time Devoted to Data Support	***303.66***
Administrative Support	• General administrative tasks	84.41
	• Scheduling	33.17
	Total Time Devoted to Administrative Support	***117.58***
Travel	• Time spent traveling to practice sites	78.28
Preparation	• Time devoted to preparation for project activity	66.16
Overall Services	**Total Time Devoted to Practice Facilitation Activities**	**686.92**

Table 8. Summary of Practice Facilitation Service Modalities

Service Modality	Number of Encounters	Service Time	Travel Time	Service Prep Time	TOTAL Time
Email	245	113.48	0.00	16.91	130.39
Site Visit	133	326.42	75.58	37.75	439.75
Phone Call	44	28.00	0.00	6.50	34.50
Remote/Other*	37	74.58	2.70	5.00	82.28
TOTAL	**459**	**542.48**	**78.28**	**66.16**	**686.92**

The practice facilitators dedicated a total of 459 encounters and 686.92 hours across all participating practices. This translates to an average of 53 practice facilitation hours of service per practice over a 6-month period. Across all regions and practices served, the practice facilitators dedicated the most service hours to data support (approximately 300 hours). This was primarily driven by the work of one practice facilitator who provided extensive chart review support to a particular practice, about 217 hours-worth of time. Excluding this one practice facilitator's time, the remaining PFs largely targeted an even distribution of quality improvement support, data support, and general administrative activities, spending between 65-80 hours per service category with their

practices. In regards to the practice facilitation service modalities, the greatest number of encounters was dedicated to email interactions, while the most time was dedicated to site visits. Again, this was largely driven by the frequent on-site chart review support performed by one of the practice facilitators. When considering only the remaining practice facilitators, the predominant service modality was more equally distributed between site visits, email, and remote/other services, with PFs spending between 65-75 hours per modality with their practices.

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

- Evidence-based patient outreach and education
- Practice workflow assessments to increase efficiencies in and standardization of the cancer tracking processes
- Chart review assistance
- Workflows to improve data collection and maintenance among practice staff
- Consultations with IT personnel regarding patient registry parameters and data mapping

The practice facilitators frequently worked with practice QI teams, especially for those practices operating under PCMH structures. In roughly half of the practices, the practice facilitators were able to serve as a communication bridge between practice staff and IT support personnel; this is particularly true for those practices operating as part of a greater health system or university clinic.

Some of the practice facilitators faced barriers related to scheduling the kickoff meetings and general site visits with their assigned practices due to time constraints at the participating offices. Additionally, the practice facilitators dedicated a significant amount of time to travel (78 hours). Many of the practices enrolled in the Y3 project period were located in rural areas or otherwise distant locations from the practice facilitators' main office site.

V. Notable Project Findings and Outcomes

TRANSLATE Model Practice Evaluations

The TRANSLATE model was used to evaluate each practice's readiness for change, shortfalls, and strengths. This evaluation occurred in a pre-post format at the beginning of the practice facilitation period and at its conclusion. The TRANSLATE evaluation was completed by each practice facilitator, and was used as a guide for the work completed with each practice and as a measurement tool for system-level change within each practice at the conclusion of the project. The TRANSLATE model follows a scoring rubric wherein each practice is evaluated on nine elements involved in practice improvement (see Table 10). Each element can be scored on a range of 1-4. For more detail on the scoring criteria, please view the example TRANSLATE model evaluation rubric found in Appendix B. Practice facilitators were also required to provide qualitative commentary on each of the nine elements on the TRANSLATE model evaluation rubric.

Table 10. Nine Elements of Practice Improvement in the TRANSLATE Model

Element	Description
Target	Goal setting
Reminders	Actionable information at the point of care (e.g., point of care reports, pop-ups in EHR)
Administrative Buy-In	Commitment of resources by owner/management (e.g., money, time, personnel)
Network Information Systems	Population health management in EHR, paper list, or other program (i.e., registries)
Site Coordinator	Single point of contact for practice facilitator; local accountability. Arranges team meetings, education of staff, and data collection.
Local Clinician Champion	For clinician buy-in. Leader/educator for other providers in practice. Supports quality improvement team.
Audit and Feedback	Practice-, provider-, and patient-level outcome reports generated to show progress over time and/or progress compared to other practices (benchmarking)
Team Approach	Interdisciplinary team meets regularly to review progress, recommend and test workflow changes. Also refers to decision-making structure. Allowing staff to work at top of licensure.
Education	All forms of training; does not need to be formal. Includes CME, academic detailing, collaborative learning groups, and staff training

Quantitative Scores

The scores for each of the nine elements were averaged across all 13 practices for each measurement period. Table 11 displays the changes in the scores across the two measurement periods. The practices, on average, improved in seven of the nine elements measured under the TRANSLATE model and the cumulative average TRANSLATE score increased significantly by 2.31 points (p=0.044). The two elements with average decreases from pre to post-scores were Local Clinician Champion and Team Approach; these decreases were not statistically significant. The average scores for two of the TRANSLATE elements significantly improved from pre- to post-measurement, which included Reminders and Network Information Systems (p=0.008 and p=0.027, respectively). The average score for Education had a marginally significant improvement between the two measurement periods (p=0.054).

During the pre-practice facilitation measurement period, the practices had the highest average scores for Administrative Buy-In and Local Clinician Champion, while the lowest average score for this measurement period was for Education. During the post-practice facilitation measurement period, the practices had the highest average scores for Network Information Systems and Local Clinician Champion, while Education continued to have the lowest average score.

There were no statistically significant differences in practice performance between those practices continuing from the Y2 project period and those practices joining under the Y3 project period.

Site-specific data for both the pre- and post-practice facilitation TRANSLATE data are provided in Appendix C.

Table 11. Pre-Post Practice Facilitation TRANSLATE Element Scores for 13 Practices

TRANSLATE Element	Average Pre-Score*	Median Pre-Score*	Range Pre-Score*	Average Post-Score*	Median Post-Score*	Range Post-Score*
Target	2.615	3	1-4	3.077	3	1-4
Reminders	2.615	3	2-4	3.077	3	2-4
Administrative Buy-In	3.000	3	2-4	3.077	3	2-4
Network Information Systems	2.692	3	1-4	3.154	3	2-4
Site Coordinator	2.769	3	1-4	3.077	3	2-4
Local Clinician Champion	3.231	3	2-4	3.154	3	2-4
Audit and Feedback	2.615	3	1-4	2.923	3	1-4
Team Approach	2.692	3	1-4	2.615	3	1-4
Education	1.846	2	1-2	2.231	2	2-3
CUMULATIVE**	**24.077**	**25**	**15-29**	**26.385**	**27**	**18-33**

*Out of score of 4
** Out of total score of 36

Qualitative Summaries

The content of the qualitative commentary from the TRANSLATE evaluations can be found in Table 12.

Target Measures

Half of the practices (6) entered the project with established targets for quality improvement in cancer screening. Four practices were evaluated to have loosely-defined plans for cancer screening improvement, which needed increased refinement. Two of these practices were also only concentrating on breast and colorectal cancer at the time of Y3 initiation. Three practices were evaluated to not have strong targets related to cancer screening.

After working with the practice facilitators, all but one practice had established targets for cancer screening QI (12 total). Of these 12 practices, four had loosely-defined plans needing refinement, and five overlapped their QI targets with PCMH goals.

Reminders

All of the practices had EHR-based point-of-care clinical decision support capabilities at the start of the project, but most rarely used it. Ten practices had established workflows regarding clinical decision support, but these were only monitored for consistent use in two practices. At project initiation, these practices had concerns over the accuracy of their EMR-based reminder systems. Three these practices implemented alternative methods to provide reminders at the point of care, including pre-visit planning notes and ticklers.

After working with practice facilitators, new EHR-based registry workflows were developed for two additional practices, and two other practices also increased their monitoring of workflow implementation. Confidence in registry accuracy increased for three practices.

Administrative Buy-In

At the start of Y3, administration was viewed as supportive of quality improvement projects in eight of the practices. In the remaining five practices, project-related QI activities were not prioritized by administration due to conflicting priorities (including time constraints, monetary resource issues, and pushback from clinicians).These relationships did not change substantially across the Y3 project period.

Network Information Systems

At the start of Y3, nine practices had the capability to run patient registry reports for breast, cervical and colorectal cancer screening, and four practices had the ability to run registry reports for only breast and colorectal cancer. However, only five of the practices actively utilized patient registries to track their cancer screening targets at the start of Y3. The primary reason cited was a lack of dedicated or implemented workflows to maintain and review the registries. Additionally, for three of these practices, registries were not viewed as useful tools by providers due to data accuracy issues.

After working with practice facilitators, five new practices began using their patient registries consistently (total ten), and four new practices developed formal workflows for the use of the patient registries to track cancer screening (total nine).

Site Coordinator

At the start of Y3, practice facilitators directly referenced time constraints in working with their site coordinators for three practices. Two practices had no identified site coordinator at the start of Y3. The remaining eight practices had regularly engaged site coordinators.

After working with practice facilitators, all practices had assigned site coordinators. However, time constraints remained an issue for site coordinators at four practices.

Local Clinician Champion

At the start of Y3, the local clinician champion at eight of the practices was described as heavily engaged in quality improvement work at the practice. The practice facilitators reported that the local clinician champion experienced heavy time constraints at five of the participating practices; these time constraints increased throughout the Y3 project period.

Audit and Feedback

Eight practices conducted audit and feedback activities at the practice-level, and eight conducted audit and feedback at the provider-level at the start of Y3; most of these practices disseminated results widely across practice staff. Two practices did not conduct any audit and feedback activities at the start of Y3.

After working with practice facilitators, all but one practice conducted audit and feedback activities at the practice-level.

Team Approach

At the start of Y3, six practices had established interdisciplinary teams for quality improvement decision-making; at four of these practices, the teams were considered a PCMH team. Four practices employed dedicated QI staff. Three practices had no regular quality improvement team established at the start of Y3. These measures did not change across the Y3 project period.

Education

At the start of Y3, only four practices offered educational opportunities to staff outside of what is currently offered through participation in this project; this education was informal and limited to targeted staff.

After working with practice facilitators, five new practices began offering educational opportunities (9 total). However, no practice offered education in a formal or consistent manner.

Table 12. Summary of Pre- and Post-Facilitation Qualitative Commentary from TRANSLATE Evaluations

TRANSLATE Element	No. of Practices Pre-Facilitation	No. of Practices Post-Facilitation
TARGET		
Established targets	6	12
Loosely defined targets	4	4
Overlap with PCMH targets	5	5
No targets	3	1
REMINDERS		
EHR-based point-of-care reminders available	13	13
Reminder workflow developed	10	12
Reminder workflow implementation NOT monitored	8	6
Data reliability issues with EHR-based reminders	9	6
Alternatives to EHR-based reminders	3	3
ADMINISTRATIVE BUY-IN		
Administration supportive and engaged	8	9
Administration supportive but little resource allocation	5	3
Administration/staff not supportive of project	0	1
NETWORK INFORMATION SYSTEMS		
Breast, cervical and colorectal cancer screening reports available	9	9
Cervical cancer screening reports NOT available	4	4
Patient registries regularly utilized	5	10
Formal registry workflow developed	5	9
SITE COORDINATOR		
Site coordinator regularly engaged	8	9
Site coordinator faces time constraints	3	4
No site coordinator identified	2	0
LOCAL CLINICIAN CHAMPION		
Local clinician champion regularly engaged	8	6
Local clinician champion faces time constraints	5	7
AUDIT AND FEEDBACK		
Audit and feedback at practice level	8	12
Audit and feedback at provider level	8	8
Audit and feedback results disseminated across practice	7	7
No audit and feedback activities completed	2	1
Audit and feedback on cervical cancer NOT completed	3	4
TEAM APPROACH		
Interdisciplinary QI team	6	6
Same as PCMH team	4	4
Practice has dedicated QI staff	4	4
No regular QI team	3	3
EDUCATION		
No education routinely offered outside current project	9	4
Limited, informal education for targeted staff members	4	9

Patient-Oriented Evidence-Based Interventions

Following the TRANSLATE model scoring system, four evidence-based interventions were also evaluated by the practice facilitators to determine the level of implementation at each practice at the beginning of the practice facilitation period and at its conclusion. The four evidence-based interventions are further described in Table 13. Like the TRANSLATE rubric system, each intervention was scored on a range of 1-4, and practice facilitators were required to provide qualitative commentary on each of the four interventions.

Table 13. Four Evidence-Based Interventions

Evidence-Based Intervention	Description
Client Reminders	Messages advising patients they are due for screening (e.g. written, email, patient portal or telephone messages)
Small Media	Resources to inform and motivate patients to be screened (e.g. videos, brochures, posters)
One-on-One Education	Delivery of information to patients about indications for, benefits of, and ways to overcome barriers to cancer screening
Reducing Structural Barriers	Reduction of non-economic barriers that make it difficult for patients to access screening (e.g. transportation, language, patient navigation)

Quantitative Scores

Table 14 displays the changes in the scores across the two measurement periods for each of the evidence-based intervention (EBI) options targeted within this project. The practices, on average, improved on all four evidence-based interventions, and the cumulative average EBI score increased significantly by 1.46 points (p=0.001). The average score for Small Media significantly improved from pre- to post-measurement (0.028), and the average score for Reducing Structural Barriers had a marginally significant improvement (p=0.054).

During both measurement periods, the practices had the highest average score for Client Reminders. During the pre-practice facilitation measurement period the practices had the lowest average score for Small Media, while during the post-practice facilitation period the lowest average score among the practices was for One-on-One Education.

Site-specific data for both the pre- and post-practice facilitation evidence-based intervention scores is provided in Appendix C.

Table 14. Pre-Post Practice Facilitation Evidence-Based Patient Intervention Scores for 13 Practices

Evidence-Based Intervention	Average Pre-Score*	Median Pre-Score*	Range Pre-Score*	Average Post-Score*	Median Post-Score*	Range Post-Score*
Client Reminders	2.769	3	1-4	3.154	3	2-4
Small Media	2.077	2	1-4	2.615	3	1-4
One-on-One Education	2.231	2	1-3	2.385	2	2-4
Reducing Structural Barriers	2.538	3	1-4	2.923	3	1-4
CUMULATIVE**	**9.615**	**9**	**5-14**	**11.077**	**11**	**7-16**
*Out of score of 4 ** Out of total score of 16						

Qualitative Summaries

The content of the qualitative commentary from the evidence-based intervention evaluations, as recorded in the TRANSLATE rubrics can be found in Table 15.

Client Reminders

At the start of Y3, most practices (10) utilized telephone-based reminder systems for patients; this included both automated reminders and personal calls. Roughly half of the practices used posted mail reminders, and followed up with patients on patient screening reminders during office clinical visits. One practice did not implement any client reminder system at the start of Y3. No changes were observed after the Y3 project period.

Small Media

At the start of Y3, roughly half of the practices used flyers and brochures, as well as posters, within their offices. Four practices did not offer any small media within their offices, and two practices adopted the use of educational videos.

After working with practice facilitations, three new practices began offering flyers and brochures to patients (total 10); only one practice did not offer any small media for patient education at the end of the Y3 project period.

One-on-One Education

At the start of Y3, roughly half of the practices shared the responsibility of providing patient education on cancer screening across multiple members of the care team. Three practices utilized the services of care coordinators to provide patient education. Four practices only provided education on an inconsistent basis, and mostly by physician providers during clinical encounters. Additionally, four practices were able to obtain anatomical models of the breast, colon, and female reproductive system to be used during patient office encounters. No changes were observed after the Y3 project period.

Reducing Structural Barriers

A wide variety of structural barrier targets were addressed by practices at the start of Y3; however, it should be noted that no more than half of the practices addressed any given target. The most-addressed targets included mobile mammography and scheduling assistance. Three practices did not directly target any structural barriers to cancer screening at the start of Y3.

After working with practice facilitations, two additional practices were documented as offering scheduling assistance, and two practices began offering dedicated or extended office hours for in-house cervical cancer screening.

Table 15. Summary of Pre- and Post-Facilitation Qualitative Commentary from Evidence-Based Patient Intervention Evaluations

Evidence-Based Intervention	No. of Practices Pre-Facilitation	No. of Practices Post-Facilitation
CLIENT REMINDERS		
Telephone reminders	10	10
Patient portal messages	2	2
In-clinic follow up reminders	5	5
Posted mail reminders	6	6
No patient reminder system	1	1
SMALL MEDIA		
Flyers and brochures	7	10
Posters	5	5
Educational videos	1	3
Small media inconsistently provided to patients	2	3
No small media utilized	4	1
ONE-ON-ONE EDUCATION		
Provided by multiple members of care team	6	6
Provided by care coordinators	3	3
Provided inconsistently	4	4
REDUCING STRUCTURAL BARRIERS		
Mammography buses routinely offered	5	5
Patient navigation services	3	3
Care coordinators	3	3
Transportation assistance	4	5
Scheduling assistance	6	8
Insurance assistance	2	3
Extended office hours	2	3
Translation services	2	2
Child care services	1	1
Structural barriers not targeted	3	2

Cancer Screening Rates

Based on information from the practice characteristics survey, only three of the nine practices utilizing patient registries felt 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 at the time of data collection (pre-practice facilitation). The primary reasons listed for why the registry data were considered inaccurate include the inability to obtain documentation from outside specialists, and non-standardized data entry of screening results:

- No claims feeds from payers that have been incorporated
- Inability to get outside records into EHR documentation
- Providers put results in different places on EMR so sometimes they get missed in data pull
- Concerns regarding return rate on screening reports, especially for cervical cancer

Of note, the definition each practice used for its denominators and numerators was somewhat variable. The practice facilitators advised practices on the use of Healthcare Effectiveness Data and Information Set (HEDIS) measures for breast, cervical and colorectal cancer screening, as well as the current US Preventive Services Task Force (USPSTF) cancer screening guidelines, to define the eligible screening populations, screening intervals, and codes for these measurements. However, some practices chose to evaluate screening based on specific metrics preferred by clinic staff or based on the capabilities of their EHR software. These variations are listed in each section below. Also, the time intervals used to report pre- and post-screening rates varied from practice to practice.

Breast Cancer Screening

All 13 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. The majority (8) of the practices generated these reports based on the American Cancer Society breast cancer screening recommendation of annual mammography for women over age 40, four practices used the USPSTF guideline of a mammogram performed every two years for women age 50-75, and the remaining one practice utilized a guideline of biannual mammography for women age 42-69. The average pre- and post-screening rates across the 13 practices were 49.47% and 48.75%, respectively, with a decrease in screening rates of 0.72 percentage points; this decrease was not statistically significant. Nine of the 13 practices witnessed increases in their breast cancer screening rates, while practices P3 and P12 experienced substantial decreases in breast cancer screening rates and were flagged as outliers through descriptive analysis.

Feedback from the practice facilitator for P3 indicates that this practice may have witnessed a decrease in breast cancer screening rates due to previous issues with data pulls from their registry, which likely resulted in inaccurate numbers. The practice has improved its ability to capture eligible patients for breast cancer screening during the Y3 project period, which resulted in a greater denominator and likely contributed to the noticeable drop in the breast cancer screening rate from pre- to post-practice facilitation. Feedback from the practice facilitator for P12 suggests that a possible explanation for their dramatic decrease is that this practice used a monthly UDS Quality Improvement reporting sample for its pre-breast cancer screening rate, while the entire eligible patient population was used to generate its post-breast cancer screening rate.

Upon removing these two outliers, the average pre- and post-screening rates across the 11 remaining practices were 48.11% and 51.07%, respectively, with an overall statistically significant increase in screening rates of 2.96 percentage points (p=0.010).

Table 16. Pre- and Post-Project Completed Breast Cancer Screening Rates at 13 Participating Practices

Practice	Pre-Breast Screening Rate	Data Period	Post-Breast Screening Rate	Data Period	Change in Screening Rate	Guideline
P1	45.89%	2 years	45.43%	2 years	**-0.46**	ACS
P2	77.66%	11 months	85.90%	1 year	**+ 8.24**	ACS
P3†	53.96%	1 year	41.65%	1 year	**-12.31**	ACS
P4	41.69%	1 year	47.18%	1 year	**+ 5.49**	USPSTF
P5	46.30%	2 years	48.75%	2 years	**+ 2.45**	ACS
P6	28.89%	10 months	30.21%	1 year	**+ 1.32**	ACS
P7	46.09%	11 months	49.10%	1 year	**+ 3.01**	ACS
P8	69.01%	1 year	69.80%	1 year	**+ 0.79**	ACS
P9	44.31%	1 year	47.78%	1 year	**+ 3.47**	Age 42-69, biannual
P10	64.36%	1 year	71.10%	1 year	**+ 6.74**	USPSTF
P11	16.26%	1 year	19.98%	1 year	**+ 3.72**	USPSTF
P12†	60.00%	1 month	30.38%	1 year	**- 29.62**	ACS
P13	48.75%	1 year	46.51%	1 year	**- 2.24**	USPSTF
Overall Avg.	**49.47%**		**48.75%**		**-0.72**	**(8) ACS (4) USPSTF (1) Other**
Avg. with Outliers Removed	**48.11%**		**51.07%**		**+2.96***	

*Statistically significant at α=0.05
†Outliers

Cervical Cancer Screening

Twelve of the 13 participating practices were able to generate cervical cancer screening rates from EHR-based registries. One practice did not collect patient data on cervical cancer screening; the primary care physicians within this practice are specialized, and do not conduct cervical cancer screening services in-house. Half (6) of the practices that collect cervical cancer screening data generate reports based on the American Cancer Society and USPSTF 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. The other six practices do not include the co-testing option in their data pulls. Table 17 displays the pre- and post-practice facilitation screening rates for cervical cancer screening.

The average pre- and post-screening rates across the 12 practices were 30.75% and 36.44%, respectively, with an overall statistically significant increase in screening rates of 5.69 percentage points (p=0.034). Nine of the 12 practices experienced increases in cervical cancer screening rates. Notably, practices P7 and P8 each improved by about 20%; these practices were not identified as outliers through descriptive analysis.

Interventions conducted by practice P7 that potentially contributed to an increase in cervical cancer screening rates included displaying CDC cervical cancer public service announcements at the practice and utilizing bus

passes to assist with patient transportation for cervical cancer screening appointments. Feedback from the practice facilitator for P8 indicates that this practice may have witnessed a substantial increase in cervical cancer screening rates due to their intervention of dedicating at least one clinic day solely to conduct cervical cancer screening services for patients. Practice P7 was planning to conduct a similar intervention at their clinic as well.

Table 17. Pre- and Post-Project Completed Cervical Cancer Screening Rates at 13 Participating Practices

Practice	Pre-Cervical Screening Rate	Data Period	Post-Cervical Screening Rate	Data Period	Change in Screening Rate	Guideline
P1	12.93%	2 years	11.64%	3 years	**-1.29**	ACS/USPSTF (no co-testing)
P2	Not Collected	NA	Not Collected	NA	NA	N/A
P3	17.36%	1 year	17.76%	5 months	**+ 0.40**	ACS/USPSTF (no co-testing)
P4	14.57%	1 year	18.13%	1 year	**+ 3.56**	ACS/USPSTF
P5	7.47%	2 years	10.89%	3 years	**+ 3.42**	ACS/USPSTF (no co-testing)
P6	39.76%	10 months	47.95%	1 year	**+ 8.19**	ACS/USPSTF
P7	29.40%	11 months	49.45%	1 year	**+ 20.55**	ACS/USPSTF
P8	44.90%	1 year	65.65%	1 year	**+ 20.75**	ACS/USPSTF
P9	54.23%	1 year	49.93%	1 year	**- 4.30**	ACS/USPSTF (no co-testing)
P10	36.07%	1 year	46.97%	1 year	**+ 10.90**	ACS/USPSTF
P11	9.35%	1 year	14.62%	1 year	**+ 5.27**	ACS/USPSTF
P12	65.71%	1 year	62.86%	1 year	**-2.85**	ACS/UDS (no co-testing)
P13	37.21%	1 year	41.45%	1 year	**+ 4.24**	ACS/USPSTF (no co-testing)
Average	**30.75%**		**36.44%**		**+ 5.69***	**(6) ACS/USPSTF (6) Other (1) NA**

*Statistically significant at α=0.05

Colorectal Cancer Screening

All 13 participating practices were able to generate colorectal cancer screening rates from EHR-based registries. The majority (8) generated colorectal cancer screening reports based on the USPSTF colorectal cancer screening guidelines, four practices utilized the ACS screening guidelines, and one utilized ACS/UDS. Eleven of the practices included FIT/FOBT testing in their colorectal cancer screening data pulls, while only five of the practices included flexible sigmoidoscopy in their data pulls. Table 18 displays the pre- and post-practice facilitation screening rates for colorectal cancer.

The average pre- and post-screening rates across the 13 practices were 42.48% and 41.11%, respectively, with a decrease in screening rates of 1.37 percentage points; this decrease was not statistically significant. Practices P2 and P12 experienced considerable decreases in colorectal cancer screening rates, while practice P10 witnessed a substantial increase; these three practices were flagged as outliers through descriptive analysis. Upon removing these three outliers, the average pre- and post-screening rates across the 10 practices were 37.31% and 38.56%, respectively, with an increase in screening rates of 1.25 percentage points; this increase was not statistically significant.

Feedback from the practice facilitator suggests that the major decrease observed for P2 can likely be attributed to this practice improving upon capturing their eligible patient population for colorectal cancer screening within their EHR-based registry report, which considerably elevated their post-screening rate denominator in comparison to the denominator used for their pre-screening measurement. While it is not encouraging to observe a 40% decrease in their screening rate, the practice has determined a way to better capture the data and is now more confident in their colorectal cancer screening rates moving forward.

One potential explanation for the substantial decrease in colorectal cancer screening rates for practice P12 is that this practice used monthly UDS Quality Improvement reporting samples to generate its pre- and post-colorectal cancer screening rates, rather than reporting on rates from the entire eligible patient population. Additionally, the data periods were different for each measurement; the pre-colorectal cancer screening rates were reported for a 3-month period while the post-colorectal cancer screening rates were reported for a 1-year period.

Practice P10 may have witnessed their notable increase in colorectal cancer screening due to intensive care coordination efforts, updates in their EHR-based reports, and staff training on screening through FIT/FOBT that occurred during Y3. P10 devoted substantial effort to care coordination during Y3 (labor equivalent to two FTE), and particularly targeted colorectal cancer screening in these efforts. This practice also partnered with IT support to better capture multiple modalities of colorectal cancer screening, including FIT/FOBT. Prior to these efforts, the practice was not able to include patients screened via stool testing in their EHR-based reports.

Table 18. Pre- and Post-Project Completed Colorectal Cancer Screening Rates at 13 Participating Practices

Practice	Pre-CRC Screening Rate	Data Period	Post-CRC Screening Rate	Data Period	Change in Screening Rate	Guideline
P1	27.50%	2 years	30.12%	10 years	+ 2.62	USPSTF
P2†	85.48%	11 months	45.91%	1 year	-39.57	USPSTF
P3	45.98%	1 year	39.70%	5 months	-6.28	ACS
P4	50.60%	1 year	55.62%	1 year	+ 5.02	USPSTF
P5	32.62%	2 years	32.51%	10 years	-0.11	USPSTF
P6	24.10%	10 months	24.26%	1 year	+ 0.16	ACS
P7	52.11%	11 months	55.10%	1 year	+ 2.99	ACS
P8	68.00%	1 year	67.80%	1 year	-0.20	ACS
P9	35.69%	4 months	37.97%	4 months	+2.28	USPSTF
P10†	53.67%	1 year	80.05%	1 year	+ 26.38	USPSTF
P11	7.44%	1 year	10.34%	1 year	+ 2.90	USPSTF
P12†	40.00%	3 months	22.86%	1 year	-17.14	ACS/UDS
P13	29.08%	1 year	32.20%	1 year	+ 3.12	USPSTF
Overall Avg.	**42.48%**		**41.11%**		**-1.37**	**(4) ACS (8) USPSTF (1) Other**
Avg. with Outliers Removed	**37.31%**		**38.56%**		**+1.25**	

†Outliers

Comparisons of Practices by Project Period

Five of the practices participating in the Y1 project period continued participation through Y2 and Y3 (P1, P6, P7, P10, and P11; Group 1). An additional six practices joined the project in Y2 and continued participation into the Y3 project period (P2-P5, P8, and P9; Group 2). Only two practices were first-time participants in the Y3 project period (P12 and P13; Group 3). Figures 8a-c display the average breast, cervical, and colorectal cancer screening rates for the practices in each of these participant groups. Pre-Y2 screening rates were compared to post-Y3 rates for the practices in Groups 1 and 2 to assess longitudinal changes in screening rates for these groups, while Pre-Y3 screening rates were used for practices in Group 3.

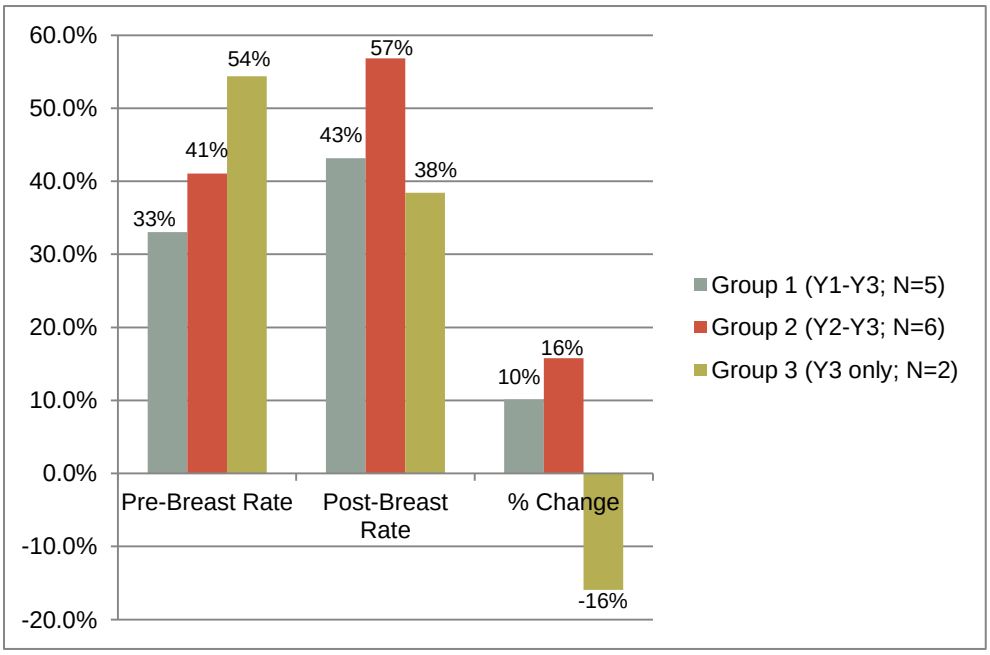
On average, Group 3 (Y3 project period only) had the highest pre-screening rates for all three types of cancer, as well as the highest post-screening rate for cervical cancer. Group 3 experienced an average decrease in screening rates for both breast and colorectal cancer, and nearly no change in cervical cancer screening rates. These findings are driven largely by practice P12, which was treated as an outlier for the assessment of change in breast and colorectal cancer screening rates due to substantial decreases from pre- to post-practice facilitation.

When assessing Groups 1 and 2, it was found that Group 2 (Y2-Y3 project periods) had higher average pre- and post-screening rates for both breast and colorectal cancer compared to Group 1 (Y1-Y3 project periods). Additionally, Group 2 had greater average increases in breast and colorectal cancer screening rates when compared to Group 1. However, Group 1 had a higher average post-screening rate and greater average increase for cervical cancer screening compared to Group 2.

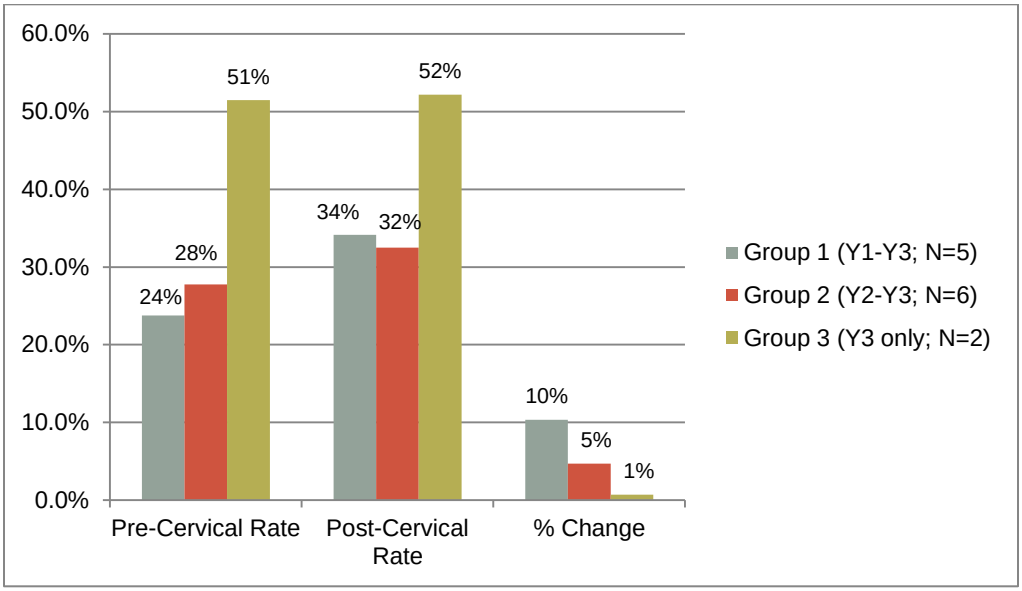
The effects of small sample sizes and outliers should be considered when assessing these findings.

Figure 8. Pre-Post Cancer Screening Rates by Project Contract Period Enrollment from Y1 to Y3

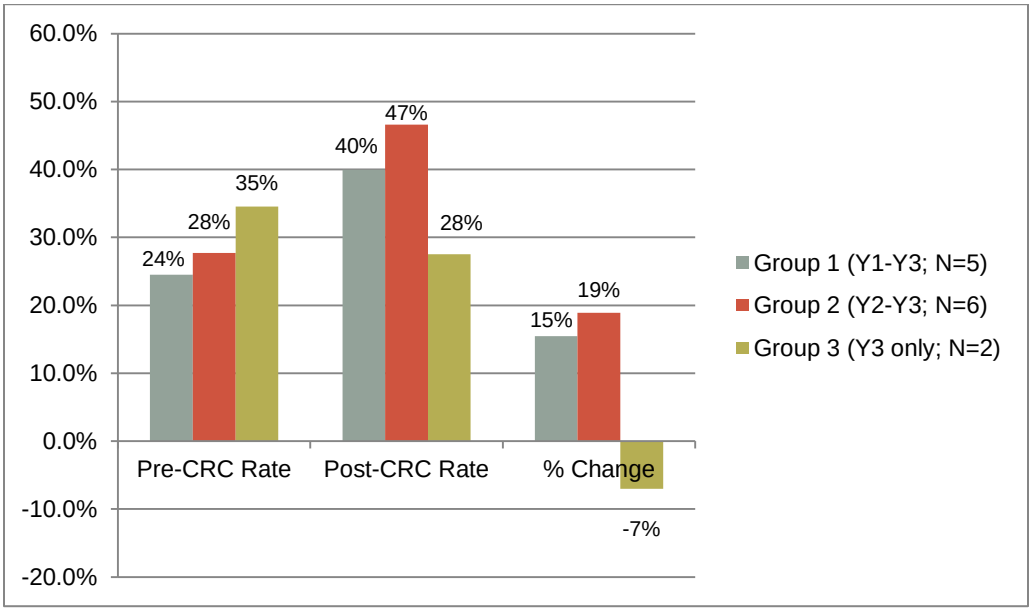
a) Breast Cancer Screening Rates



b) Cervical Cancer Screening Rates



c) Colorectal Cancer Screening Rates

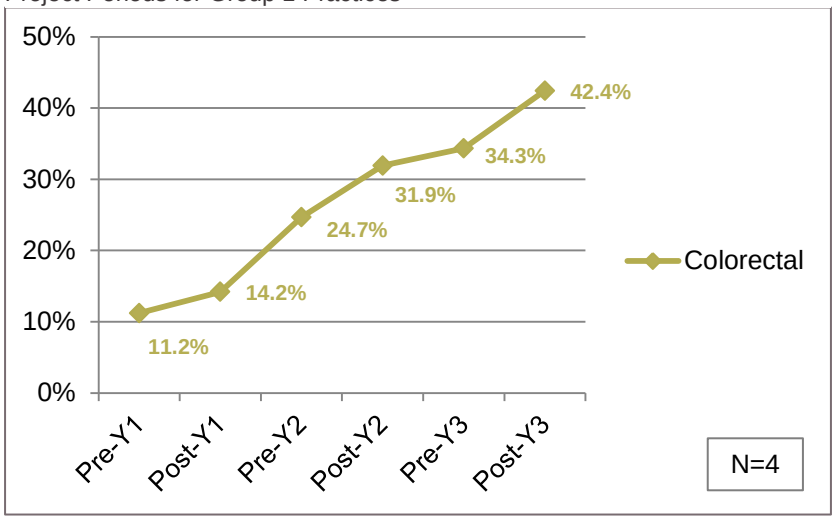


Group 1: Y1 to Y3 Participants

During the Y1 project period, only colorectal cancer screening rates were collected and evaluated. Screening rates were reported twice for each project year; once at the beginning and once at the end of each year. Four of the five practices beginning in Y1 and continuing through Y3 had complete data on colorectal screening rates for all six time points from Y1–Y3. Figure 9 illustrates the change in average colorectal cancer screening rate across time, showing that screening rates increased with each time point. The average colorectal screening rate started at 11.21% for the Pre-Y1 time point and ended at 42.44% for the Post-Y3 time point, with an overall increase of over 30%. The greatest increase in colorectal cancer screening between two consecutive time points for this group was from Post-Y1 to Pre-Y2, with an approximately 10% increase. Overall, there was not a statistically significant difference between the mean colorectal cancer screening rates across the different time measurements for this group of participants.

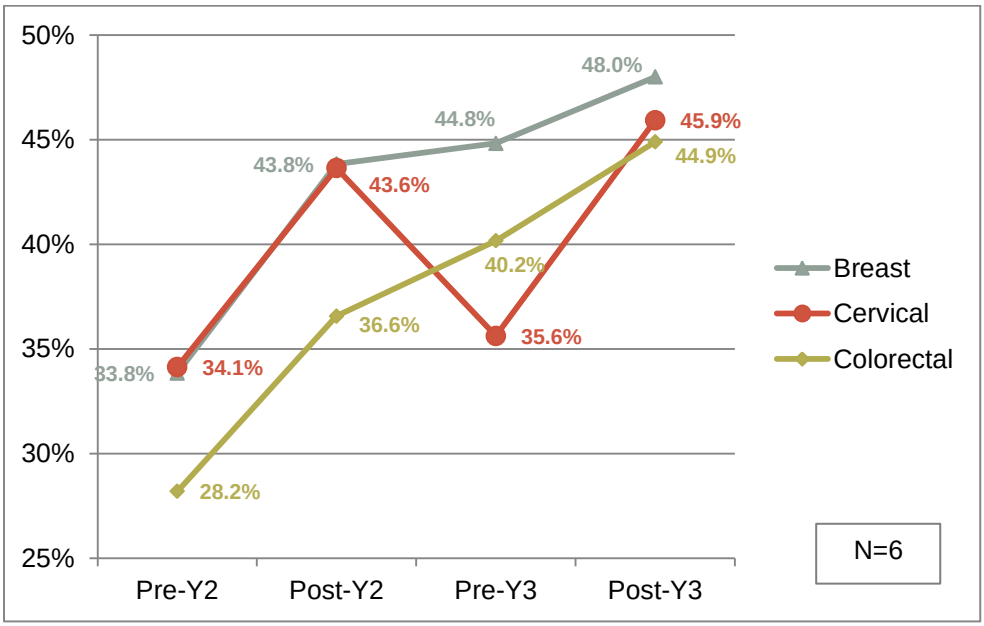
Group 2: Y2 to Y3 Participants

Figure 9. Change in Colorectal Cancer Screening Rates from Y1 to Y3 Project Periods for Group 1 Practices



Of the 11 practices continuing from the Y2 to Y3 project periods, six practices had complete data on breast, cervical, and colorectal cancer screening rates for all four measurement time points. The changes in screening rates across the four time points are presented in Figure 10. Both breast and colorectal cancer screening rates consistently increased with each time point. Overall, the average breast cancer screening rate increased by about 14% (p=0.076) and the average colorectal cancer screening rate increased by about 17% (p=0.012) from Pre-Y2 to Post-Y3. There was no overall statistically significant difference between the mean cervical cancer screening rates across the different time points. However, the average cervical cancer screening rates increased initially from Pre-Y2 to Post-Y2, decreased between Post-Y2 and Pre-Y3, and then climbed again during the project Y3 period. This lull in the cervical cancer screening rate increase between Y2 and Y3 may be attributable to lack of contact with practice facilitators at these practices. Cervical cancer screening QI is often 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.

Figure 10. Change in Breast, Cervical, and Colorectal Cancer Screening Rates from Y2 to Y3 Project Periods



Cancer Screening Rate Correlation Analysis

TRANSLATE Rating Correlations

Correlation analysis using Spearman's Rho was conducted for the pre-practice facilitation cancer screening rates and pre-practice facilitation TRANSLATE evaluation measures, and also for the post-practice facilitation cancer screening rates and post-practice facilitation TRANSLATE evaluation measures among all practices.

Pre-Practice Facilitation

The TRANSLATE rubric element of Site Coordinator was significantly associated with higher screening rates for cervical and colorectal cancer screening targets during the pre-practice facilitation period (see Table 19); practices with a more engaged and responsive site coordinator had higher cancer screening rates at the start of Y3 (Cervical: r=0.846, p=0.001; Colorectal: r=0.553, p=0.050). A statistically significant association also existed between the element of Audit and Feedback and cervical cancer screening rates (r=0.593, p=0.042).

Table 19. Correlation between Pre-Practice Facilitation Cancer Screening Rates and Pre- TRANSLATE Evaluation Scores

TRANSLATE Scores Correlation Coefficient	Pre-Breast Cancer Screening Rate	Pre-Cervical Cancer Screening Rate	Pre-Facilitation CRC Screening Rate
Target	0.381	-0.150	0.138
Reminders	0.324	-0.253	0.538
Administrative Buy-In	0.305	0.212	0.164
Network Information Systems	0.202	0.122	0.436
Site Coordinator	0.497	0.846*	0.553*
Local Clinician Champion	0.230	0.275	0.066
Audit and Feedback	0.349	0.593*	0.485
Team Approach	0.040	0.510	0.001
Education	-0.342	-0.324	-0.114
TOTAL TRANSLATE SCORE	**0.459**	**0.351**	**0.357**

*Statistical significance determined at α=0.05

Post-Practice Facilitation

A statistically significant association continued to exist between post-practice facilitation scores on the element of Audit and Feedback with post-practice facilitation cervical cancer rates (r=0.611, p=0.035). There were no significant associations detected between any of the TRANSLATE rubric elements and breast cancer screening rates or colorectal cancer screening rates. Table 20 presents the post-practice facilitation associations.

Stronger audit and feedback activities were significantly associated with increases in cervical cancer screening. Many of the practices with high scores on audit and feedback activities disseminated provider-level performance data across their practice; it is possible that this provider-level accountability spurred an increased focus on cervical cancer screening

.

Table 20. Correlation between Post-Practice Facilitation Cancer Screening Rates and Post- TRANSLATE Evaluation Scores

TRANSLATE Scores Correlation Coefficient	Post-Breast Cancer Screening Rate	Post-Cervical Cancer Screening Rate	Post-Facilitation CRC Screening Rate
Target	0.283	-0.518	0.303
Reminders	0.074	-0.511	0.250
Administrative Buy-In	0.052	0.237	0.172
Network Information Systems	0.428	0.086	0.469
Site Coordinator	0.158	0.335	0.329
Local Clinician Champion	0.033	0.453	-0.176
Audit and Feedback	0.107	0.611*	0.473
Team Approach	0.210	0.308	0.280
Education	-0.244	0.139	-0.146
TOTAL TRANSLATE SCORE	**0.229**	**0.281**	**0.392**

*Statistical significance determined at α=0.05

A separate correlation analysis was also conducted in which the practices flagged as outliers for breast and colorectal cancer screening rates were removed. There were no differences in the detection of statistically significant associations in this analysis.

Evidence-Based Patient Intervention Correlations

Correlation analysis using Spearman's Rho was conducted between the pre-practice facilitation cancer screening rates and pre-practice facilitation evidence-based patient intervention evaluation measures, and between the post-practice facilitation cancer screening rates and post-practice facilitation evidence-based patient intervention evaluation measures.

Pre-Practice Facilitation

As shown in Table 21, the only significant association detected for the pre-practice facilitation correlation analysis was between colorectal cancer screening rates and the overall evidence-based intervention score (r=0.593, p=0.033). None of the pre-practice facilitation scores for the individual rubric elements were significantly associated with pre-practice facilitation cancer screening rates.

Table 21. Correlation between Pre-Practice Facilitation Cancer Screening Rates and Pre- Evidence-Based Interventions Evaluation Scores

Evidence-Based Intervention Scores Correlation Coefficient	Pre-Breast Cancer Screening Rate	Pre-Cervical Cancer Screening Rate	Pre-Facilitation CRC Screening Rate
Client Reminders	0.332	0.315	0.271
Small Media	0.271	-0.044	0.441
One-On-One Education	0.163	-0.172	0.431
Reducing Structural Barriers	0.268	0.131	0.328
TOTAL EBI SCORE	**0.429**	**0.159**	**0.593***

*Statistical significance determined at α=0.05

Post-Practice Facilitation

There were no significant associations detected in the post-practice facilitation correlation analysis. While the correlation coefficient for the relationship between colorectal screening rates and the overall evidence-based intervention score remained relatively high, this was no longer a significant association in the post-practice facilitation analysis. Table 22 presents the post-practice facilitation associations for cancer screening rates and evidence-based intervention scores.

Table 22. Correlation between Post-Practice Facilitation Cancer Screening Rates and Post- Evidence-Based Interventions Evaluation Scores

Evidence-Based Intervention Scores Correlation Coefficient	Post-Breast Cancer Screening Rate	Post-Cervical Cancer Screening Rate	Post-Facilitation CRC Screening Rate
Client Reminders	0.116	-0.193	0.271
Small Media	0.321	-0.282	0.399
One-On-One Education	0.501	0.014	0.365
Reducing Structural Barriers	0.220	-0.367	0.347
TOTAL EBI SCORE	**0.411**	**-0.204**	**0.530**

*Statistical significance determined at α=0.05

An additional correlation analysis was also conducted between post-practice facilitation evidence-based intervention scores and post-cancer screening rates after removing breast and colorectal cancer screening rate outliers. There were no differences in the detection of statistically significant associations in this analysis.

Practice Personnel Perceptions and Attitudes

Providers and staff working at the participating practices were surveyed both before and after the practice facilitation services were completed to measure their attitudes and experiences with breast, cervical and colorectal cancer screening, EHR-based registries, and quality improvement. The language and question items in this survey were adapted from previously validated and published surveys available from Houser et al.,[4] the National Cancer Institute,[5,6] and the Michigan Department of Community Health.[7] Surveys were tracked by individual and collected through paper hardcopy. Practice facilitators administered the surveys.

A total of 135 individuals responded to the surveys. While the project team attempted to collect every individual survey in a pre-post format, some individuals responded during only one of the two measurement periods. A total of 62 individual surveys have only pre-practice facilitation data, 24 have only post-practice facilitation data, and 49 (36% of those who completed any survey) have both pre- and post-practice facilitation data. One factor that greatly contributed to the discrepancy between pre- and post-survey completion is staff turnover and absence at several of the participating practices. Table 23 provides a full description of survey respondent demographics for all respondents.

Table 23. Demographic Data for 135 Pre- and Post-Practice Facilitation Survey Respondents

Sex	Job Title							
	Physician	NP or PA	Practice Nurse	Medical Assistant	Practice/Clinic Manager	Care/case Manager/ Coordinator	Clerical	Other
Female	20	16	20	9	8	5	4	15
Male	26	4	3	1	0	1	0	0
Prefer not to Answer	1	0	0	0	0	0	0	0
TOTAL	**47**	**20**	**23**	**10**	**8**	**6**	**4**	**15**

[4] Houser SH, Colquitt S, Clements K, Hart-Hester S. The impact of electronic health record usage on cancer registry systems in Alabama. *Perspect Heal Inf Manag*. 2012;9(1f).

[5] http://appliedresearch.cancer.gov/screening_rp/

[6] http://healthcaredelivery.cancer.gov/crc_surveys/

[7] http://www.astho.org/Quality-Improvement/Toolkit/Michigan-Department-of-Community-Health-Quality-Improvement-and-Performance-Management-Survey/

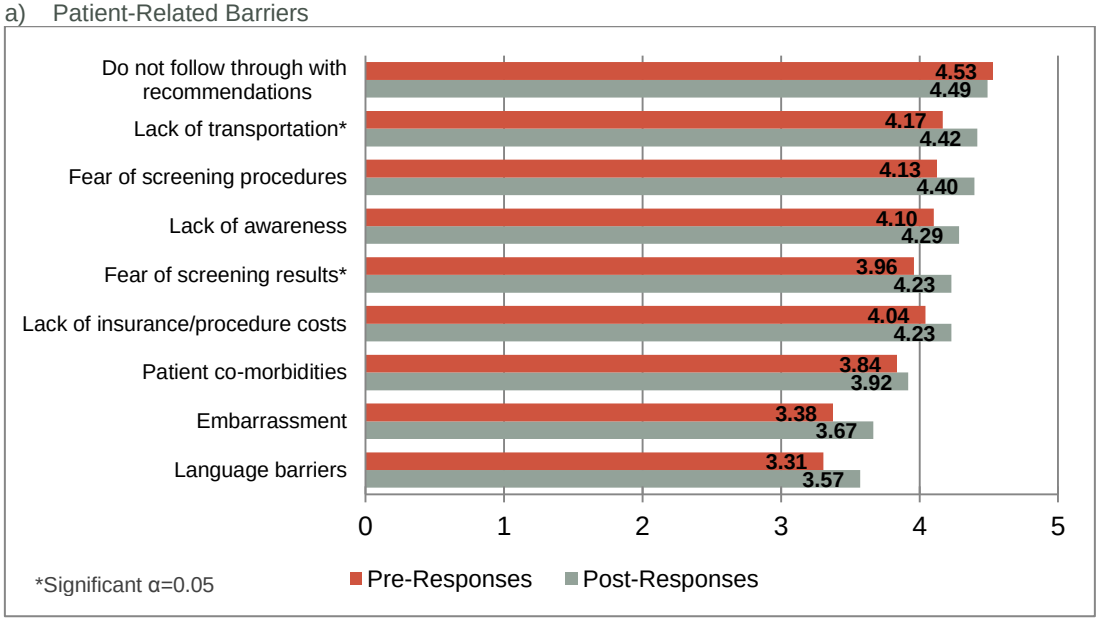
The following findings of the pre- and post-practice facilitation surveys represent the results for only the subset of 49 linked pre-post surveys.

Cancer Screening

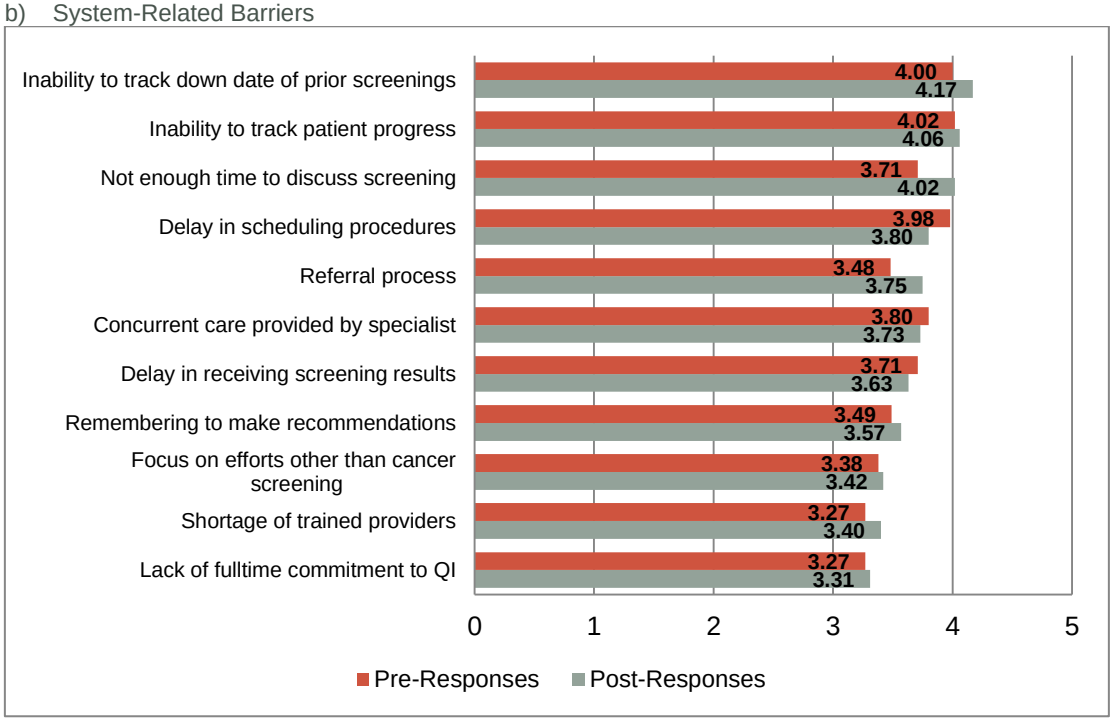
Survey respondents were asked a series of Likert-scale questions assessing the importance of specific patient-related and system-related barriers to increasing cancer screening rates in their practices (see Appendix B for survey text). The Likert scale ranged from a low value of 1 (not important) to a high value of 5 (very important). Mean scores for each question were obtained to estimate the overall relative importance respondents ascribed to the listed barriers in their practice: mean scores of less than 3.0 indicate low importance, and mean scores above 3.0 indicate high importance. Figure 11a-b displays the distribution of pre- and post-practice facilitation mean scores for the questions addressing barriers to increasing cancer screening.

Among the participants surveyed, the top three most important patient-related barriers to increasing cancer screening as perceived by practice staff both before and after practice facilitation were: 1) lack of following through on provider recommendations; 2) lack of transportation; and 3) fear of screening procedures. All of the barriers had an average rate above 3.0 for both pre- and post-scores, indicating that all barriers were considered of high importance among survey respondents. Only two patient-related barriers had a statistically significant change in average rating: patient fear of screening results and lack of transportation, which both increased in mean value (p=0.046 and p=0.027, respectively).). The increase in the importance of fear of screening procedures from pre- to post-measurement was marginally significant (p=0.057).

Figure 11. Mean Scores for Questions on Barriers to Increasing Cancer Screening
a) Patient-Related Barriers



b) System-Related Barriers



The top three most important system-related barriers to increasing cancer screening prior to practice facilitation were: 1) inability to track patient progress in completing screening; 2) inability to track down the date of a prior screening; and 3) long delay in scheduling screening procedures. After practice facilitation, the top three system-related barriers included: 1) inability to track down the date of a prior screening; 2) inability to track patient progress in completing screening; and 3) not enough time to discuss screening with patients. There were no statistically significant changes on importance of system-related barriers between the two measurement periods.

Respondents were also asked to write in any additional barriers to increasing cancer screening not listed in the Likert-scale response options. The following list summarizes the written responses:

- Overall lack of patient compliance and adherence
- Insurance barriers (i.e., variations in coverage, prior authorization, etc.)
- Time and cost associated with colonoscopy preparation, as well as lack of understanding preparation instructions
- Difficult referral and scheduling processes for colonoscopies
- Lack of GI practitioners in the region
- Inability to follow up with patients
- Having to prioritize other patient needs (housing, mental health, uncontrolled chronic diseases) before cancer screening
- Unreliable EHR provider and patient reminders

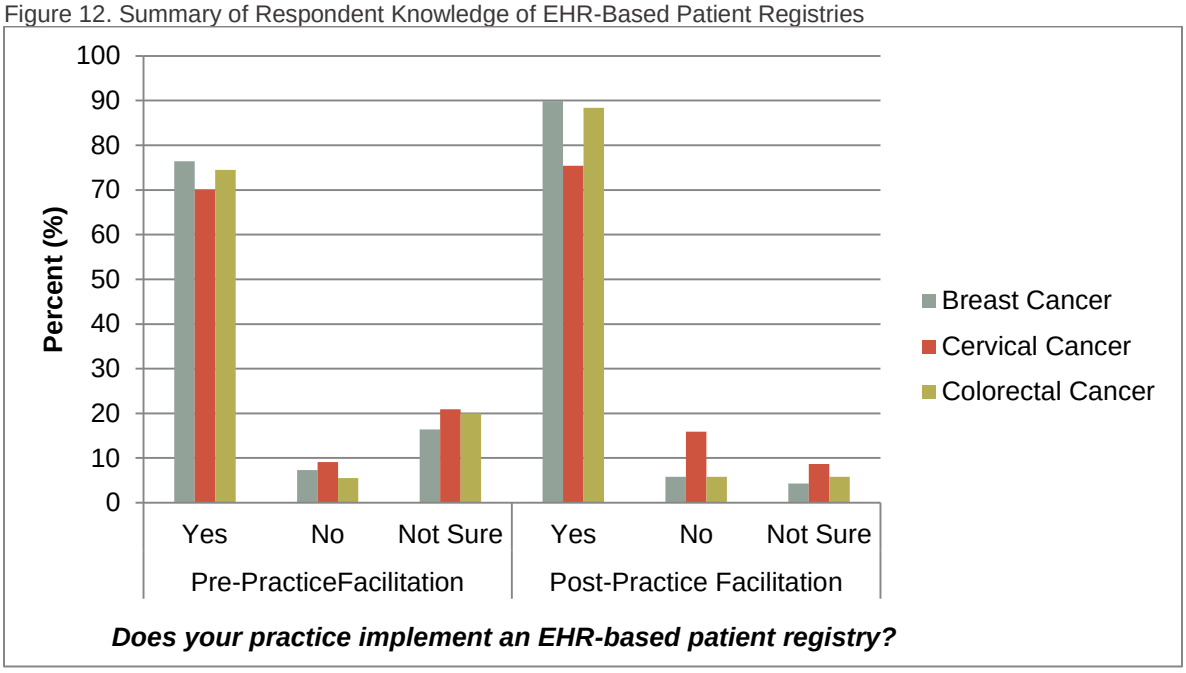
EHR-Based Registry

The majority of respondents indicated that their practice did implement an EHR-based patient registry to identify and track patients eligible for breast, cervical and colorectal cancer screening during both the pre- and post-

practice facilitation measurement periods. Additionally, the number of respondents reporting that their practice did implement an EHR-based patient registry increased between the two measurement periods for all three cancer screenings, indicating an increase in awareness of this capability among survey respondents. A distribution of responses can be found in Figure 12.

Following the information reported in the practice characteristics form, four practices reported that they did not have an operational EHR-based registry for any cancer type at the start of Y3; this was also reflected in the responses to this question item in the pre-post provider surveys. However, the TRANSLATE evaluations conducted by practice facilitators indicated that all 13 practices had the capability to run EHR-based reports, but that this capability was underutilized. Thus, it appears that while the majority of respondents were aware of their practices' EHR-based registry capabilities by the end of the project period, there remains a small gap in knowledge, awareness, and utilization among staff at the participating practices on this EHR feature.

Figure 12. Summary of Respondent Knowledge of EHR-Based Patient Registries

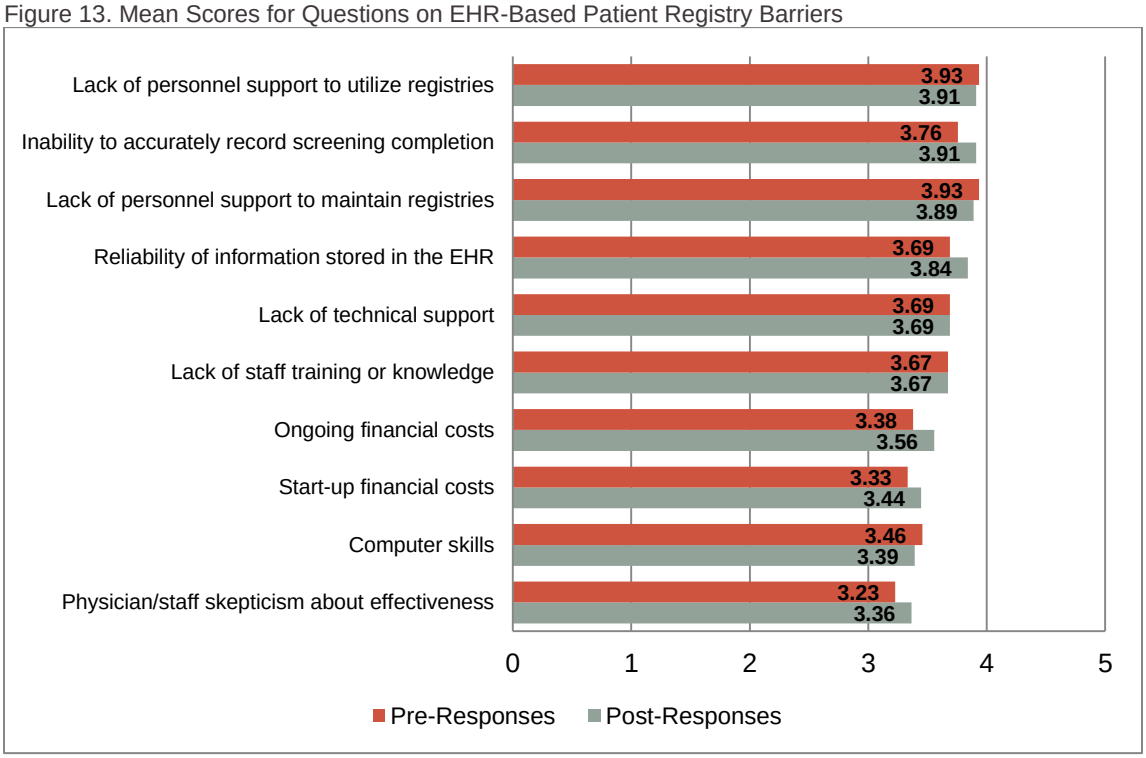


Survey respondents were also asked a series of Likert-scale questions assessing the importance of selected barriers to utilizing EHR-based registries to track patient cancer screening (see Appendix B for survey text). The Likert scale ranged from a low value of 1 (not important) to a high value of 5 (very important). Mean scores for each question were obtained to estimate the overall degree to which respondents felt the barriers to EHR-based were important in their practice: mean scores of less than 3.0 indicate low importance, and mean scores above 3.0 indicate high importance. Figure 13 displays the distribution of pre- and post-practice facilitation mean scores for the questions addressing barriers to EHR-based registry use.

Respondents identified the following as the top three most important barriers to utilizing EHR-based patient both before and after receiving practice facilitation: 1) lack of personnel support to utilize registries; 2) inability to accurately record screening completion; and 3) lack of personnel support to maintain registries. Barriers that received some of the lowest mean scores before and after receiving practice facilitation included lack of staff

computer skills and staff skepticism about the effectiveness of registries in improving patient care. There were no statistically significant changes in mean scores between the two measurement periods.

Figure 13. Mean Scores for Questions on EHR-Based Patient Registry Barriers

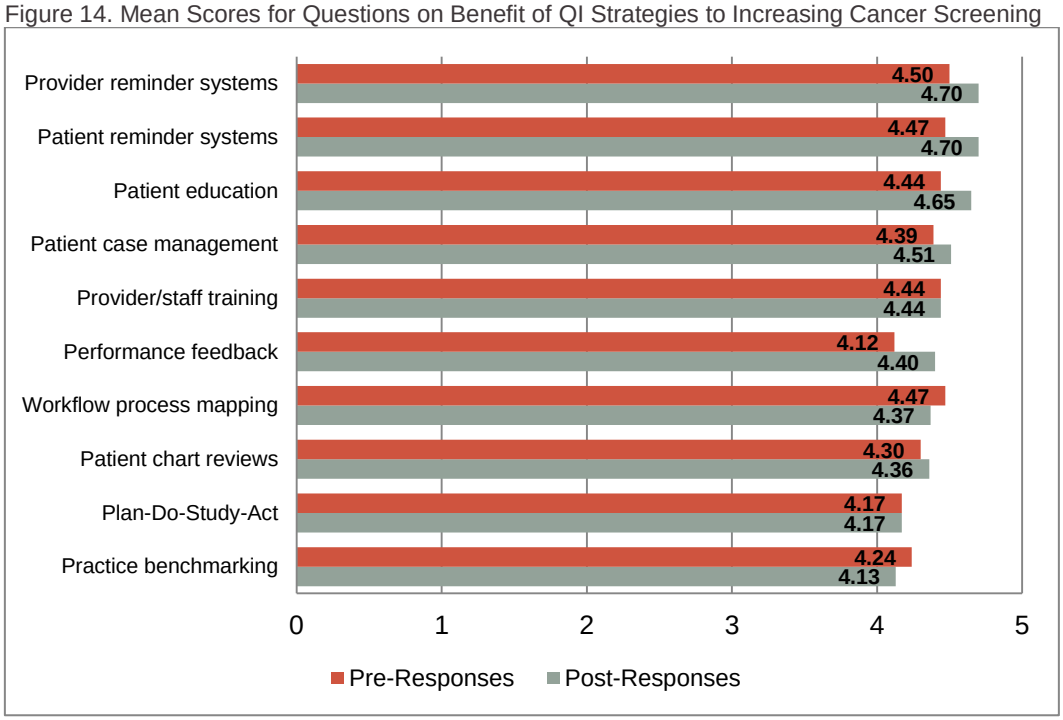


Quality Improvement

Survey respondents were asked a series of Likert-scale questions assessing the level to which selected quality improvement strategies were perceived as beneficial to improving cancer screening rates (see Appendix B for survey text). The Likert scale ranged from a low value of 1 (not beneficial) to 5 (very beneficial); a response option was also available if the respondent was not familiar with the selected quality improvement strategy. Mean scores for each question were obtained to estimate the overall degree to which respondents felt the quality improvement strategies would benefit their practices: mean scores of less than 3.0 indicate low benefit, and mean scores above 3.0 indicate high benefit. Figure 14 displays the distribution of pre- and post-practice facilitation mean scores for the questions addressing quality improvement strategies.

All quality improvement strategies received a mean score above 3.0, indicating that respondents collectively felt that all listed strategies were highly beneficial. The top three quality improvement strategies that respondents felt, on average, would most benefit their practices' ability to increase cancer screening both before and after practice facilitation were: 1) provider reminder systems; 2) patient reminder systems; and 3) patient education. For most quality improvement strategies, perceived benefit either increased or remained the same across the two measurement periods. Patient reminder systems was the only strategy to have a statistically significant increase in perceived benefit (p=0.049). The only two strategies with decreasing perceived benefit from pre- to post-practice facilitation were workflow process mapping and practice benchmarking; these decreases were not statistically significant.

Figure 14. Mean Scores for Questions on Benefit of QI Strategies to Increasing Cancer Screening



Change in Provider Perceptions

The results of the pre- and post-practice facilitation surveys illustrate first that the survey respondents perceived the patient-related barriers to increasing cancer screening as more important than the system-related barriers. These patient-related barriers are both behavioral and structural. Similarly, the quality improvement strategies perceived as most beneficial to increasing cancer screening are targeted toward patient and point-of-care interventions.

The top barriers to utilizing EHR-based patient registries touch on inadequate personnel resources and inadequate technical capabilities. Thus, it appears that while participants recognize the potential of EHR-based patient registries to help track and increase patient cancer screening, their current system and staffing constraints reduce the utility of this tool.

Lastly, the perceived utility of system-level quality improvement strategies, such as workflow process mapping and practice benchmarking interventions, decreased across the project period. While this result could be related to a lack of knowledge or training regarding these specific strategies among survey respondents, it may also be the case that respondents did not achieve desired or expected outcomes through the use of these strategies.

Focus Group and Interview Findings

Focus groups were conducted with six out of the 13 practices; due to scheduling conflicts, the project coordinator held key informant interviews for the remainder of the practices. The goal of the focus groups and interviews was 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.

Methods

The project principal investigator, project coordinator, and quality improvement consultant jointly developed the script for the focus groups/interviews (see Appendix B), and the project coordinator and quality improvement consultant facilitated the focus groups/interviews. The project coordinator worked with practice facilitators to identify participants and schedule the focus groups and interviews. Practice facilitators were excluded from any focus group/interview activities pertaining to their assigned practices in order to reduce bias in participant responses. Focus groups were either hosted at the practice offices at a time convenient for the attendees or conducted via conference call (phone or video). All key informant interviews were conducted via telephone.

All focus groups/interviews were audio recorded and transcribed verbatim for analysis; no names or otherwise personally identifiable information was recorded in the transcripts. Two members of the project team at SUNY Upstate Medical University conducted a content analysis on the transcripts. Each team member independently reviewed and coded the transcripts to identify generalized concepts. These codes were 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 focus groups/interviews were those individuals most directly involved in the implementation of the project, including practice medical directors, office managers, quality improvement specialists and providers.

Eight individuals participated in the key informant interviews, and 16 individuals participated in the focus groups. The majority of individuals participating in the key informant interviews and focus groups were practice medical directors, practice managers, quality improvement specialists, and care coordinators. The credentials of the participants included MD/DO, FNP, RN, and LPN.

Summary of Findings

The following summary briefly describes the main findings of the focus group analysis, grouped by topic area.

Practice Facilitator Relationship

When asked to discuss the working relationship with their assigned practice facilitator, all participants expressed positive remarks about their experience. Most participants felt that they worked well with their practice facilitator and enjoyed the collaboration. One participant remarked that their practice facilitator was “a pleasure to work with,” while another commented that the relationship with their practice facilitator was a “match made in heaven.” Many of the participants expressed that their practice facilitator made beneficial contributions to project ideas and plans. Common feedback from participants included comments that the practice facilitator managed the project well through organization and coordination of project activities, and that it was helpful to have a practice facilitator to maintain a focus on the project and stimulate progress towards project goals. Participants at two practices that were continuing work from previous project years communicated that it was valuable to have had an established relationship with their practice facilitator to move forward with additional plans for the current year.

Many participants stated that their practice facilitator worked mostly with one or a few main contacts throughout the project period, but occasionally had interactions with other practice staff. Most practice facilitators worked primarily with medical directors and practice managers. Some practice facilitators also worked closely with quality

improvement staff, data support staff, and one practice facilitator worked with a medical student who helped to support project activities at one practice. While not considered to be the primary contacts with practice facilitators, nursing staff were also reported to be in close contact with practice facilitators at three practices; one participant specifically stated that a lead LPN had regular interactions with the practice facilitator. All practices had at least some face-to-face interaction with their practice facilitators. Four participants indicated that they had regularly scheduled meetings or check-ins with their practice facilitator; two participants expressed that in-person meetings were important to their working relationship. All practices also had regular communication with their practice facilitators by phone or email.

Participants also discussed the various contributions made by their practice facilitators throughout the project year. All practices received assistance with planning and implementing cancer screening interventions. Five participants indicated that their practice facilitator provided some form of quality improvement support, such as reviewing quality improvement methods or providing informational resources. Another five participants reported that their practice facilitators assisted with data support by helping to address data entry and accuracy, patient registries, and other general issues with practice EHR optimization. Two participants expressed that it was beneficial to receive cancer screening information from their practice facilitators, including a review of screening guidelines as well as information on the different screening tests for each type of cancer. Overall, most participants indicated that their practice facilitators were a motivational force to keep their project efforts in motion.

Project-related Activities and Interventions

Most practices focused their efforts on all three cancer screening types (breast, cervical, and colorectal). One practice (P2) addressed breast and cervical cancer screening only, as they do not collect patient information on cervical cancer screening and do not offer cervical cancer screening services at their site. One of the two new practices to join the project under Y3 (P12) focused solely on colorectal cancer screening because their rates for this type of screening were lowest among the three targets, and they reported that they already had initiatives in place for breast and cervical cancer screening.

All participants reported implementation of individual-level interventions among patients and/or providers at their practices, mainly focusing on education, outreach, and reminders. The majority of practices aimed to improve efforts on patient education. Most (10) utilized small media resources such as posters, videos, and brochures, to increase awareness and knowledge of breast, cervical, and colorectal cancer screening among their patient populations. Four practices also used anatomical models to conduct one-on-one education with their patients. Eight practices utilized outreach strategies to remind patients of their cancer screening status and appointment reminders. Most of the practices that conducted patient reminders mailed letters, and two practices utilized automated telephone messages. Additionally, multiple participants indicated that their practices implemented provider reminders to address cancer screenings with their patients during appointments by using alert systems in EHRs and pre-visit planning.

Participants also discussed their efforts on practice-level and system-level interventions. Many (6) practices aimed to address improvements on data capture and issues with EHRs. Three participants stated that their practices took on initiatives to clean up their databases and streamline data entry processes to improve the accuracy of patient records. Three practices established new approaches to identify patients due for screening through the use of registries and reports. Participants also discussed addressing structural barriers through

interventions such as the use of mobile mammography, providing bus passes for patient transportation, and dedicating certain clinic hours specifically to providing cancer screening services. Improving the referral process for screening services and coordination with specialist offices (i.e. GI and OB/GYN) were additional project activities discussed by participants at four practices.

Cancer Screening Barriers

Patient-related barriers were frequently mentioned by participants during key informant interviews and focus groups. Patient noncompliance for all three cancer screenings was thought to stem from fear of the procedures and results, lack of transportation, insurance costs, lack of follow up, and forgetting the appointment. Several participants also cited education as a barrier for many patients, reporting that patients did not understand the guidelines for screening or the need for regular cancer screening.

Lack of staff time and manpower to carry out quality improvement and screening improvement activities were common barriers expressed by eight of the participants. Two participants explained that these initiatives are sometimes viewed as "just another thing to do" among nursing and other clinic staff; these practices experienced issues with lack of staff engagement.

Communication between the participating practices and specialists for the screening procedures was mentioned by two of the participants as a barrier to tracking the need for patient services. The time required for follow up on patient referrals, as well as patient reminders, was a common issue among the practices. Many of the practices had already worked on or were currently working towards more efficient EHR systems and patient registries to address this issue at the time of the focus groups and interviews.

The barriers to breast, cervical, and colorectal cancer screening observed in the Y3 project period were similar to the screening barriers observed during Y2. A summary of these concepts can be found in Table 24.

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

Barriers to Increased Screening	Facilitators of Increased Screening
Patient-Level	
• Transportation • Insurance/financial constraints • Language/communication issues at the point of care • Comprehension • Refusal/Non-compliance	• Education and outreach • Case management and follow up • Lifestyle-amenable screening methods • Reduction of structural barriers
Staff-Level	
• Lack of time • EHR data errors • Lack of investment in quality improvement interventions	• 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
Practice-Level	
• Lack of personnel • Workflow inefficiencies • EHR data errors & reporting limitations • Two-way communication with specialists	• Quality improvement coaching • Workflow assessment and adjustment • EHR "workarounds" • PCMH certification requirements • EHR technical assistance

Sustainability

Roughly half of the participants indicated that the quality improvement activities implemented at their practices through this project aligned with requirements for PCMH or insurance reimbursement. Participants also noted that the project activities and processes overlapped into their day-to-day management of other patient issues, such as hypertension and hemoglobin A1C testing. Many participants expressed that quality improvement has become ingrained in their operations and that regular staff meetings are held to discuss processes and review progress toward goals. The utility of implementing PDSA cycles was discussed by five of the participants.

Overall, participants reported that the monetary incentive was valuable for launching current cancer screening interventions. Five practices reported that the funds were used to conduct patient reminders, including mailed letters and automated telephone calls. Many practices used the monetary incentive towards staffing hours and administrative support. Stipends were also put toward patient education; four practices used these funds to purchase anatomical models. Three participants reported that they used this money to cover expenses associated directly with providing cancer screening services, such as postage for FIT kits and mammogram bus ambassadors.

Many participants discussed establishing policies at their practices that are anticipated to improve cancer screening rates among their patients. Participants at three practices reported offering FIT testing as an alternative to colonoscopies. Examples of other policy changes included switching which guidelines to follow for breast cancer screening to a two-year interval (USPSTF), altering patient outreach efforts, and establishing a provider alert system within the EHR. Participants at ten practices reported that new workflows were designed and implemented during the Y3 project period. Five participants discussed making improvements in processes for entering and capturing patient data, while four practices emphasized making quality improvement activities a team-based effort in which all staff are involved (i.e., front desk staff, nurses, and providers).

Many (6) participants commented on the importance of training needs and opportunities within their practices in relation to sustaining quality improvement efforts. Two participants reported that they already incorporate regular quality improvement meetings in their ongoing operations, during which they review methods and initiatives. Other participants voiced the need for additional training in certain areas, such as quality improvement processes, strategies to increase cancer screening, and consistent updates on screening guidelines and available tests. One participant stressed that it is critical that all clinic staff receive such trainings, rather than just providers.

Plans to continue initiatives to increase colorectal cancer, cervical cancer, and breast cancer screening were reported from every practice. Some participants discussed facilitating greater opportunities for screening services, such as dedicating clinic hours specifically to a “Pap day.” Other practices were making plans to offer FIT tests for their patients. Participants at four practices discussed creating teams or committees of staff dedicated to quality improvement initiatives. Many participants indicated that they were in the midst of evaluating interventions from the Y3 project period to identify areas for improvement to further expand these strategies to more widespread patient populations and additional preventive services.

Recommendations for Project Administration

Overall, the participating practices were very pleased with their experiences working on the project and looked forward to project continuation. Most participants did not have any particular feedback to share for project administration; however, some participants recommended the following:

- Efforts to make year-to-year project continuation more seamless, thereby avoiding loss of time between grant years
- Creating an avenue for participating practices to collaborate on ideas and experiences within the project
- Expanding what the quality improvement stipends can be used for
- More widespread availability of mammogram buses across counties

VI. Lessons Learned & Implications

Practice Recruitment, Enrollment and Engagement	
Practice and Project Staff Relationship	• Practice facilitators work primarily with one person or a small team within the practice to provide guidance and motivation for QI projects • Face-to-face presence of practice facilitator is the most meaningful form of interaction, followed by frequent and responsive email communication • Practices strongly prefer working with the same individual across time
Staff Participation and Buy-In	• Practices increase efficiencies and engagement when QI activities align with existing priorities (e.g., PCMH, MU, DSRIP) • Project champions are an important source of encouragement for practice-wide investment in QI projects • Broad dissemination of performance data boosts awareness and engagement of staff in the QI process
Quality Improvement to Track Patient Screening	
Data validity and reliability concerns	• 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 • Adjustment of report metrics to increase accuracy resulted in decreased screening performance for several practices, but this has laid a firm foundation from which to plan future QI interventions
Closing the loop	• 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	• Workflow adjustments are more successful when adopted/enforced as a practice policy that can be applied to multiple health maintenance targets, including those outside cancer screening • Inadequate staff training and resistance to change are barriers to practice-level workflow and policy changes
Barriers to Screening Completion	
Factors of patient non-compliance	• Transportation is a significant structural barrier for patients needing breast and colorectal cancer screening • Lack of referral follow-through, patient refusal, lack of knowledge/awareness, and inadequate insurance contribute to patient non-compliance
Specialist provider supply and communication	• Lack of local specialists (particularly GI) to accept referred patients is a structural barrier primary care practices cannot address • Long wait times for colonoscopy, even when GI is available • Lack of clinical integration between primary care and specialist offices on shared patients inhibits timely follow up for no-shows, cancellations, and patients overdue for screening • Much of the burden for initiating two-way communication is placed on primary care offices
Special populations	• Homeless patients and patients with mental disorders face unique barriers to obtaining cancer screening services • Low-income and rural populations particularly impacted by transportation barriers

Practice Recruitment, Enrollment, and Engagement

1. Practice and Project Staff Relationship

Feedback provided during the focus groups/interviews, as well as observations made by the project team and practice facilitators, indicates that practice facilitators worked most closely with one to three staff members at each practice, and did not widely interact with practice staff and providers on a routine basis. **The practice facilitators' role was predominantly focused on providing guidance, sharing knowledge, and acting as a catalyst for cancer screening QI efforts within their assigned practices.**

Feedback from project participants and practice facilitators during the focus groups/interviews also revealed the importance of having practice facilitators working in-house at their assigned practices consistently. **Participants felt that the in-person interactions with practice facilitators helped build rapport and helped to maintain a productive focus on the project.** Consistent email communication was also brought up as an important component of the working relationship between practices and their practice facilitators; emails often served as reminders of project objectives and activities.

Project participants also felt attached to their practice facilitators, and expressed a strong desire to continue working with the same individuals in all future iterations of the project.

2. Staff Buy-In and Participation

As in previous project years, participants in the Y3 project period aligned their quality improvement activities with existing practice priorities, including PCMH, DSRIP, and/or MU. This was viewed as an efficient utilization of personnel time and practice resources, and enhanced buy-in among practice staff.

Feedback obtained from both the participant focus groups/interviews and TRANSLATE evaluations illustrated the **importance of having invested project champions. Project champions were individuals within a practice who took a personal interest in QI activities and provided sustained momentum 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 lead nurses.

Additionally, providing consistent, widely disseminated updates on performance toward practice goals helped practices maintain engagement across all staff members. The regular distribution of this information led staff members to recognize cancer screening QI targets as areas of particular importance within the practice, which enhanced intervention fidelity.

Quality Improvement to Track Patient Screening

1. Data Validity and Reliability Concerns

As in previous project years, all of the practices enrolled in the Y3 project period held 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. Several practices dedicated specific time to work with the practice facilitators and IT staff on data mapping and workflow adjustments in order to obtain both accurate patient panel reports and develop practice policies to enhance long-term data capture. While some

practices witnessed decreases in their cancer screening performance after these efforts were completed, they felt that this was not a great cause for concern. **Increased confidence in the validity and reliability of their patient data provided these practices with a stronger platform from which to develop targeted QI efforts.** It is important to note, however, that no practice fully resolved issues surrounding data entry and management, as this requires an ongoing effort to train and support practice personnel.

2. 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 Y3 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. One practice that did not offer cervical cancer screening services in-house chose not to use a registry to track patient screening completion for cervical cancer due to the inability to obtain screening documentation from outside specialist providers.

To address this issue, some practices assigned the task of calling specialist providers and obtaining reports for individual patients on an on-going basis to care coordinators. However, this approach requires significant personnel time and is difficult to implement on a long-term basis. One practice following this approach specifically targeted Medicaid Managed Care patients in an effort to optimize staff effort with patient needs and payer priorities. Furthermore, practices without dedicated care coordinators do not have the resources necessary to maintain a consistent focus on reaching out to specialist providers.

3. Implementation of New Office Policies

Feedback from the practice facilitators and TRANSLATE evaluations indicated that a small number of practices experienced some pushback from staff on QI initiatives. **Staff were viewed as resistant to change and suffering from "QI fatigue."** Overcoming this staff-related barrier to system-level change continues to be challenging. **Some participants in the focus groups and interviews felt that providing incentives for staff (i.e., gift cards, bonuses, lunch celebrations) would increase their ability to successfully implement PDSAs while also demonstrating their appreciation of staff efforts.**

Feedback from focus group/interview participants and the TRANSLATE evaluations indicated that practices were more likely to successfully implement workflow adjustments among practice staff if these changes were adopted in the form of new office policies and if the workflows were adaptable to multiple areas of health maintenance – not just cancer screening. The institution of structured pre-visit planning was a common approach adopted in multiple practices, as well as the creation of care teams where responsibilities were shared across several individuals. While practices did face moderate pushback from staff that had changing work responsibilities, this pushback was addressed through increased training. Additionally, these changes impacted not just cancer screening, but all aspects of patient care, and were more readily accepted by staff due to this universal applicability.

Barriers to Cancer Screening

1. Factors of Patient Noncompliance

As in previous project periods, practices participating in the Y3 period overwhelmingly identified patient-related barriers as a primary concern for increasing cancer screening. The primary patient-related barriers identified include:

- Lack of transportation support
- Inadequate insurance coverage and high cost sharing
- Screening service refusal
- Failure to follow through with screening referral
- Lack of knowledge and awareness

Every practice instituted some form of patient outreach and education to address these patient-related barriers during the project period. Some participants in the focus groups/interviews directly commented that many patients refuse screening, and while education, testing options, and resource support do help some patients access services, others are entrenched in their refusals and will never be screened. **Patient non-compliance continues to be a significant issue for practices as they work to increase cancer screening among their patients.**

One barrier that continued to receive particular emphasis during Y3 was lack of transportation. Patients with limited transportation have difficulty arranging plans to travel to and – more importantly – from colonoscopy services. Patients who routinely rely on public transportation cannot use mass transit after a colonoscopy due to the effects of the drugs 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. Some practices in the Buffalo and Rochester regions chose to use project support to purchase bus passes or taxi vouchers for patients facing transportation barriers; the impact of these interventions will be assessed in future project years. **Until an alternate solution is developed, lack of transportation will remain a significant structural barrier to colorectal and breast cancer screening for many patients.**

2. 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 in Y3. 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. **This is a structural barrier that primary care practices are unable to address.**

The lack of clinical integration between primary care and specialist offices was mentioned by several focus group/interview participants as a significant barrier to closing the loop on patient screening. The most pressing issue voiced by participants was that not all specialist provider offices consistently report back to the primary care physician that a patient no-showed, cancelled, or had inadequate prep for a screening appointment. **This lack of**

bi-directional communication placed a heavy burden on primary care offices to proactively contact specialists for this information on patients, and also increased the chance that a patient would fall through the cracks and not receive appropriate care.

3. Special Populations

One practice participating in the Y3 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 was not always able to obtain records of prior screenings. This is an issue not only for documentation, but also for insurance coverage. Insurers will generally not cover tests conducted with more frequency than the standard recommended interval, and patients without records of prior screening may receive additional, duplicative services that are not covered under their insurance. While this practice is unique in the volume of homeless patients served, the issues they are experiencing are not unique and can be found at all primary care practices.

Transportation barriers to screening have been particularly highlighted for colorectal cancer screening through colonoscopy due to the use of anesthesia medications during the procedure that prohibit the use of public transportation options. However, participants from several urban-located practices mentioned in the focus groups/interviews that the barrier of transportation impacted their low-income patients for all types of cancer screening. These practices felt that any cost related to accessing health care services had to be weighed against their patients' daily needs, including the cost of transportation to work and grocery stores. Other practices located in rural locations also faced transportation barriers for their patients due to the distances needed to travel to access specialist care.

As practices continue to successfully implement system-level changes that influence their internal processes to increase cancer screening rates, barriers faced by their patients that result in noncompliance – such as transportation – will become an increasingly targeted focus for improvement and innovation.

VII. Summary of Innovations in Primary Care Practice Improvement Conference

Overview

The *Innovations in Primary Care Practice Improvement Conference* was a one-day event hosted by the project team in May 2016, and held in Canandaigua, NY. The primary objective of the conference was to share innovations and strategies for practice improvement in primary care that result in increased provision of preventive care for patients, with a focus on breast, cervical, and colorectal cancer screening.

The audience for the conference was structured on several tiers. The first tier consisted of physicians, other providers, and staff from the practices that currently or previously have participated in the project. After an initial invitation period was completed, a broader announcement was sent to primary care practices throughout Western and Central NY, consisting of a second tier of attendees. Finally, a third tier of attendees consisted of invitees from partner organizations, including the American Cancer Society, the Upstate Cancer Center, and others. Together with attendees, staff from the project team (including all investigators, practice facilitators, coordinators, and consultants) and staff from the NYSDOH were also in attendance, with many serving as presenters, small group leaders, and conference staff.

The conference included presentations from two keynote speakers; 1) Richard Wender MD from the American Cancer Society, who addressed the challenges of cancer screening guidelines, and 2) John Epling MD MSEd from the U.S. Preventive Services Task Force, who discussed practice improvement and evidence-based medicine. Dr. Epling also served as an investigator on this project. A presentation on the fundamentals of quality improvement was given by a quality improvement advisor, Amanda Norton MSW, who also served as a practice facilitator for the project. Other main features of the conference included an expert panel of members from three primary care practices on the topic of experiences in quality improvement, in addition to workshops on best practices, each of which was moderated by two project team members (one practice facilitator and one physician).

Attendance

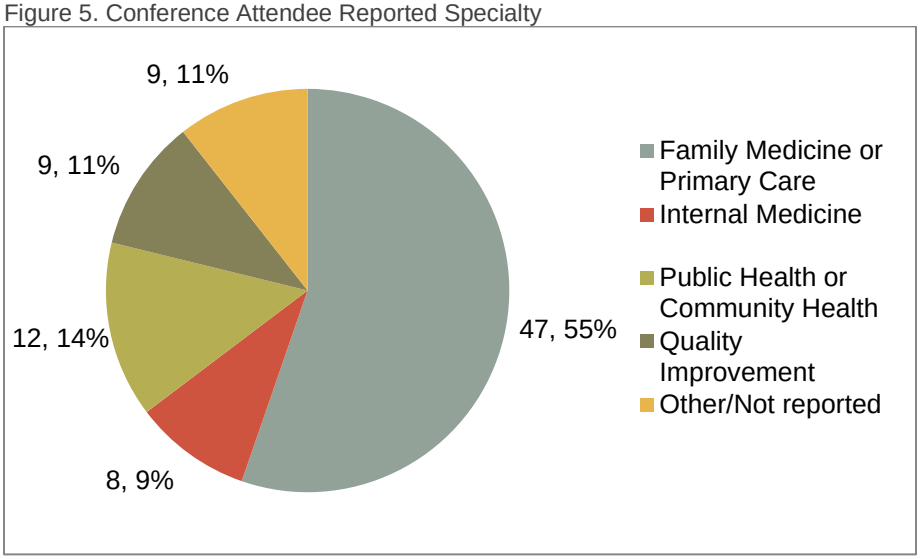
Overall, there were 85 attendees present at the *Innovations in Primary Care Practice Improvement Conference.* Professionals from various locations across New York State attended the event. Most attendees came from the areas of Central New York, Western New York, or the Finger Lakes Region. The event was attended by professionals with a variety of job descriptions (see Table 9). Of the 85 conference attendees, 20 (23.5%) were physicians, 14 (16.5%) were practice managers, and 12 (14.1%) were nurses.

Table 9. Conference Attendee Reported Profession

Job Description	Number of Attendees
Physician (MD or DO)	20
Nurse Practitioner (FNP)	6
Physician Assistant (RPA-C)	1
Nurse (RN or LPN)	12
Social Worker	2
Practice Manager	14
QI Director or Specialist	6
Practice Facilitation Specialist	6
Public Health Specialist	9
Other/Not reported	9
Total	**85**

An assortment of specialties was represented by conference attendees, as shown in Figure 5. Over half (55%) of the attendees reported that their specialty is family medicine or primary care. There was a fairly even distribution of the remaining specialties among attendees, which included internal medicine, public health or community health, and quality improvement.

Figure 5. Conference Attendee Reported Specialty



Evaluation

Evaluation forms were distributed to conference attendees to gather feedback on what they learned or gained from the event, and suggestions for improvement. A total of 56 out of 78 distributed post-activity evaluation surveys were completed by conference attendees (response rate of 72%).

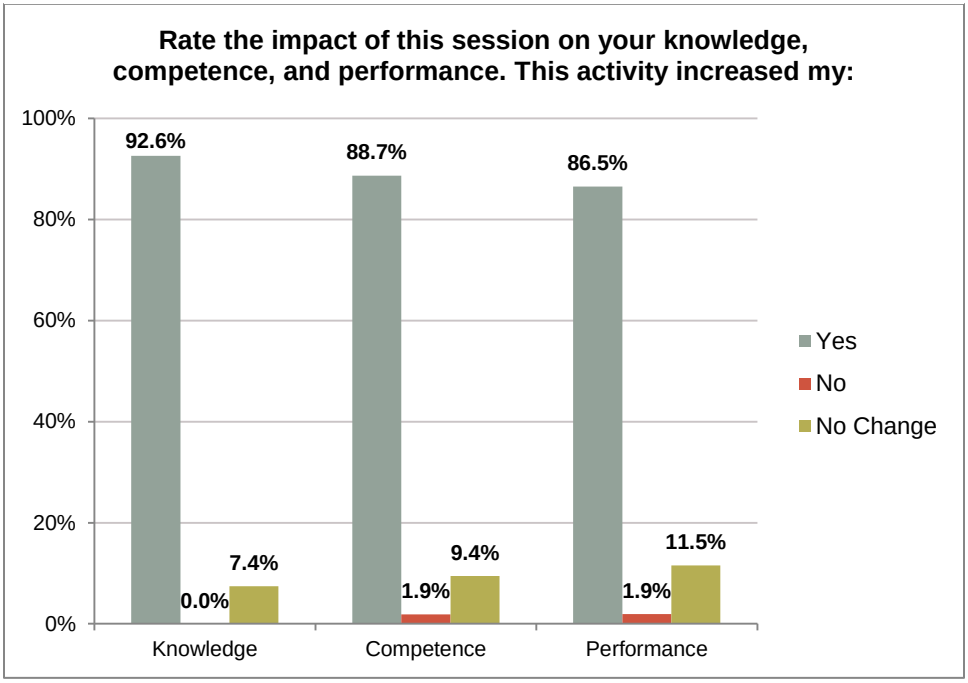
Summary of Conference Impact

All (100%) respondents replied “Yes” when presented with the following questions:

- Was this activity scientifically sound and free of commercial bias?
- Was the program topic appropriate for your needs?
- Did the program have practical clinical value?
- Did the program meet stated objectives?

Respondents were also asked to communicate how attending the conference session impacted their knowledge, competence, and performance. Feedback from this question indicated that 92.6% of respondents felt that their knowledge increased, 88.7% felt that their competence increased, and 86.5% felt that their performance increased as a result of conference participation. These findings are presented in Figure 6.

Figure 6. Conference Impact on Respondent Knowledge, Competence, and Performance



The following list summarizes respondent comments on what topics were perceived as valuable learning points:

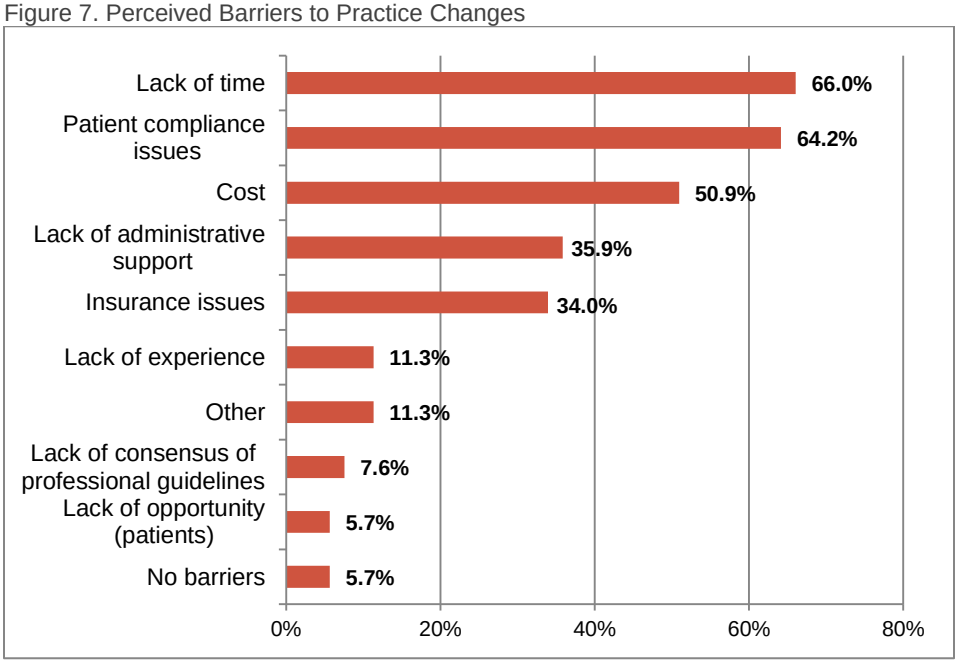
- Updates on cancer screening guidelines and the existing contrasts
- Review of different screening tests (i.e., FIT)
- Shared decision making
- EHR registries
- Quality improvement
- Shared experiences and initiatives from other practices

Practice Changes

Respondents were asked to identify how they will change their practice as a result of this activity (Note: respondents were instructed to select all that apply; total percentages do not sum to 100%). Overall, 51.9% of respondents indicated that they will create or revise protocols, policies, and/or procedures; 29.6% will change management and/or treatment of patients; and 24.1% will implement other changes. Approximately 18.5% of respondents indicated that they will not make any changes to their practice.

Figure 7 presents the distribution of barriers perceived by respondents when implementing changes to their practices. The three most commonly perceived barriers included lack of time (66.0%), patient compliance issues (64.2%), and cost (50.9%). Roughly 5.7% of respondents indicated that they do not perceive any barriers.

Figure 7. Perceived Barriers to Practice Changes



Respondents that selected “Other” were asked to specify what other barriers to practice change are perceived. The following list is a summary of additional barriers:

- EHR data exchange issues
- Staff support and engagement
- Patient fear
- Lack of patient education about prevention and screening benefits
- Transportation

Respondents were asked what other resources they would consider valuable in an effort to increase the provision of preventive care for patients at their practices as an open-ended question. Three individuals commented that the resources in the slides/presentations were useful, and would like access to them for reference. Six respondents listed incentives/money as a resource that is needed for both patients and practices. Seven respondents felt patient education, information sharing, and/or mentoring are valuable, needed resources. Patient transportation was listed as a valuable resource by three individuals.

Recommendations

The majority of feedback provided through the post-activity evaluation surveys indicates that attendees were satisfied with the flow of the presentations and the activities of the *Innovations in Primary Care Practice Improvement Conference*. Overall, respondents reported positive feedback on presentation topics and speaker performance. Areas for future improvement to the conference include:

- Additional time for key speakers to present
- Ensuring speakers have microphones and can be heard clearly by all attendees
- Broader description of services available to primary care practices across the Central and Western New York region

Appendix A: Project Logic Model

Figure 1. Logic Model: Increasing Cancer Screening through Academic Detailing and Practice Facilitation

Mission: Increase breast, cervical and colorectal cancer screening in New York through evidence-based interventions in targeted primary care practices

Core Component	Activities	Measurement Tool	Proximal Outcomes	Distal Outcomes
Administration	▪ Manage & coordinate core activities and programs ▪ Recruit primary care practices serving low-income, diverse populations	▪ Management & administrative structures and databases in place	▪ Number practices enrolled ▪ Number of practices completed	▪ 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)
Academic Detailing	▪ 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	▪ CME attendance sign-in sheets ▪ CME certificates distributed ▪ Post-CME evaluation forms ▪ Volume of durable goods distributed (administrative databases)	▪ 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	
Practice Facilitation	▪ 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	▪ 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)	▪ 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	
Inputs		**Immediate Outputs**	**Proximal and Distal Outcomes**	

Appendix B: Data Collection Materials

I. **Practice Characteristics Survey**

II. **Pre-Post Practice Facilitation Survey**

III. **Focus Group/Interview Script and Structured Guide**

IV. **TRANSLATE and Evidence-Based Intervention Evaluation Rubrics**

CANCER SCREENING ACADEMIC DETAILING AND PRACTICE FACILITATION PROJECT
PARTICIPATING PRACTICE 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?
    - ❍ Yes
    - ❍ No

21. Do you provide fecal testing kits for colorectal cancer screening at your practice?
    - ❍ Yes
    - ❍ No

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 <u>members of the care team</u> 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 <u>patients</u> 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

PROVIDER INFORMATION

1. Practice Name:_____

2. Please indicate your sex:
   - ❍ Male
   - ❍ Female
   - ❍ Prefer not to answer

3. Please select your credentials:
   - ❍ MD, DO, MBBS
   - ❍ NP
   - ❍ PA
   - ❍ MSN
   - ❍ CNM
   - ❍ RN
   - ❍ LPN
   - ❍ MSW
   - ❍ BSW
   - ❍ CASAC
   - ❍ MOA
   - ❍ Other:

4. Please select your job title:
   - ❍ Physician
   - ❍ NP/PA
   - ❍ Practice Nurse
   - ❍ Medical Assistant
   - ❍ Practice Manager or Clinic Manager
   - ❍ Care Manager, Case Manager, or Care Coordinator
   - ❍ Clerical
   - ❍ Information Technology
   - ❍ Other:

CANCER SCREENING

5. In your opinion, how important are each of the following as potential **barriers to increasing the cancer screening rates** in your practice?

PATIENT-RELATED BARRIERS	Not Important	Low Importance	Neutral	Moderate Importance	Very Important
Patient fear of screening procedures	☐	☐	☐	☐	☐
Patient fear of screening results	☐	☐	☐	☐	☐
Patient lack of awareness	☐	☐	☐	☐	☐
Patient lack of insurance/procedure costs	☐	☐	☐	☐	☐
Language barriers	☐	☐	☐	☐	☐
Lack of transportation	☐	☐	☐	☐	☐
Patient embarrassment	☐	☐	☐	☐	☐
Patients do not follow through with recommendations	☐	☐	☐	☐	☐
Patient co-morbidities	☐	☐	☐	☐	☐
SYSTEM-RELATED BARRIERS	Not Important	Low Importance	Neutral	Moderate Importance	Very Important
Not having enough time to discuss screening with patients	☐	☐	☐	☐	☐
Inability to track down date of prior screenings	☐	☐	☐	☐	☐
Inability to track patient progress in completing screening	☐	☐	☐	☐	☐
Long delay in scheduling screening procedures	☐	☐	☐	☐	☐
The cancer screening referral process	☐	☐	☐	☐	☐
Remembering to make screening recommendations	☐	☐	☐	☐	☐
Concurrent care is provided by a specialist (e.g., OB-GYN, GI)	☐	☐	☐	☐	☐
Delay in receiving screening results from specialists	☐	☐	☐	☐	☐
Shortage of trained providers to conduct screening	☐	☐	☐	☐	☐
Organizational focus on efforts other than cancer screening	☐	☐	☐	☐	☐
Lack of fulltime commitment to quality improvement efforts	☐	☐	☐	☐	☐

6. What other barriers to increasing cancer screening rates exist in your practice?

_____

_____

_____

ELECTRONIC HEALTH RECORDS AND CANCER SCREENING

7. Does your practice currently use an EHR-based patient registry to identify and track patients eligible for the following:

	Yes	No	Not Sure
Breast Cancer Screening	☐	☐	☐
Cervical Cancer Screening	☐	☐	☐
Colorectal Cancer Screening	☐	☐	☐

If yes, please answer questions 8-9. If no, skip to question 10.

8. Please rate the degree to which the patient screening data generated from these cancer screening registries accurately reflects of the actual number of patients screened within your practice, on a scale of 0 to 4 (0 = 0% accurate, 4 = 100% accurate)?

0 (0% Accurate)	1	2	3	4 (100% accurate)	Not familiar with registry
☐	☐	☐	☐	☐	☐

9. In your opinion, how effective is the use of an EHR-based patient registry to track cancer screening rates in your practice?

Not Effective	Slightly Effective	Neutral	Moderately Effective	Very Effective	Not familiar with registry
☐	☐	☐	☐	☐	☐

10. In your opinion, how important are each of the following as potential **barriers to utilizing an EHR-based patient registry to track cancer screening rates**?

EHR-RELATED BARRIERS	Not Important	Low Importance	Neutral	Moderate Importance	Very Important
Computer skills of you and/or other physicians/staff	☐	☐	☐	☐	☐
Lack of staff training or knowledge about patient registries	☐	☐	☐	☐	☐
Start-up financial costs to create registries	☐	☐	☐	☐	☐
Ongoing financial costs to maintain registries	☐	☐	☐	☐	☐
Physician/staff skepticism about effectiveness of registries to improve patient care	☐	☐	☐	☐	☐
Lack of personnel support to maintain registries	☐	☐	☐	☐	☐
Lack of personnel support to utilize registries	☐	☐	☐	☐	☐
Inability to accurately record in the EHR when screening has been completed	☐	☐	☐	☐	☐
Reliability of the patient information stored in the EHR	☐	☐	☐	☐	☐
Lack of technical support	☐	☐	☐	☐	☐

11. In your opinion, how beneficial would each of these quality improvement strategies be to improving cancer screening rates in your practice?

QI Strategies	Not Beneficial	Slightly Beneficial	Neutral	Moderately Beneficial	Very Beneficial	I'm Not Familiar
Workflow process mapping	☐	☐	☐	☐	☐	☐
Plan-Do-Study-Act interventions	☐	☐	☐	☐	☐	☐
Patient chart reviews	☐	☐	☐	☐	☐	☐
Practice benchmarking	☐	☐	☐	☐	☐	☐
Provider reminder systems	☐	☐	☐	☐	☐	☐
Patient education	☐	☐	☐	☐	☐	☐
Patient reminder systems	☐	☐	☐	☐	☐	☐
Provider performance feedback	☐	☐	☐	☐	☐	☐
Patient case management	☐	☐	☐	☐	☐	☐
Provider/staff training	☐	☐	☐	☐	☐	☐

I. Questions regarding intervention activities and sustainability

a. This project targeted breast cancer, cervical cancer and colorectal cancer screening. Can you briefly describe your practice's priority focus area(s) across these three cancer types?

i. Probe: for example, did your practice try to implement strategies on all 3 cancers, or did you focus particularly on one cancer type, and why?

ii. Probe: How do your challenges with screening vary by each cancer? How did these challenges shape your strategies?

iii. Probe: **Did your practice implement any new policies related to cancer screening**?

b. What plans does your practice have to continue this work?

i. Probe: how important were the monetary incentives offered under this project (e.g., patient outreach, project stipend)?

ii. Probe: what would be your practice's biggest barrier to increasing screening for each cancer type?

c. How would you describe the level of involvement across the staff at your practice in this project?

i. Probe: was there a particular individual in the practice that championed the project, how?

II. Questions regarding practice facilitator interactions

a. Overall, how useful to your practice was it to have a practice facilitator?

b. What types of quality improvement topics were reviewed by your practice facilitator?

i. Probe: How did you incorporate these quality improvement ideas into your work on cancer screening?

c. Were you the main contact with the practice facilitator? If not, who filled that role?

i. Probe: How important were these relationships in terms of achieving project goals?

TRANSLATE MODEL EVALUATION RUBRIC PRACTICE NAME: EVALUATION PERIOD:

Rubric Element	Score Options				Score	Comments
	1	2	3	4		
T: Target Measures	No cancer screening improvement targets set	Cancer screening improvement targets set, but unrealistic or hard to measure	Cancer screening improvement targets set. Targets are clear and measurable, but implementation is unrealistic	Cancer screening improvement targets set. Targets are clear, measurable, and the implementation plan is clear and feasible.		[please write a brief description of the practice's targets and how they will be measured. Please mention if the practice is working on all three cancer screening groups or only a subset. Please mention if the improvement targets overlap with other practice initiatives, e.g. PCMH]
R: Reminders (clinical decision support, e.g. point of care reminders and guidance)	No clinical decision support available	Clinical decision support is available, but never used	Clinical decision support available. A workflow has been developed for the use of CDS, but is not monitored for consistent use	Clinical decision support available. Workflow has been developed and is routinely monitored for consistent use with every patient		[please write a brief description of the practice's clinical decision support capabilities and implementation. Please make note of any barriers to implementing CDS at this practice. Please note any practice policies regarding this rubric element]
A: Administrative Buy-In (resource allocation - money, time, personnel)	Administration is resistant to allocation of practice resources for this project	Administration agrees to limited practice resource allocation for this project	Administration agrees to resource allocation for this project, but remains disengaged from QI activities	Administration agrees to resource allocation for this project, and is engaged in QI activities and meetings		[please write a brief description of the practice administration's level of engagement, commitment to and support of the QI initiatives adopted under this project]
N: Network Information Systems (registries - population health management)	Practice does not have an information system in place	Practice has the ability to generate a registry. No workflow exists for the registry and it is not used by practice staff.	Practice has the ability to generate a registry. Practice has a defined workflow, but it is not followed on a regular basis.	Practice generates registries on a regular basis. Practice has a defined workflow for utilizing the registry for population health management.		[please write a brief description of the practice's information system and registry use, making note of how the registry is maintained (i.e., paper-based, excel, EMR) and if a workflow is present to utilize the registry regularly. Please note whether a registry is used for each cancer screening target. Please note any practice policies regarding this rubric element]
S: Site Coordinator	No site coordinator is identified for this project.	Site coordinator has been identified for this project, but does not devote much time to practice facilitator or project activities.	Site coordinator has been identified for this project. Site coordinator communicates regularly with practice facilitator, but has limited time to complete QI activities and project deliverables.	Site coordinator has been identified for this project. Site coordinator communicates regularly with practice facilitator, and has dedicated time to complete QI activities, project deliverables, and facilitate project completion within the practice.		[please write a brief description of the practice's site coordinator, describing level of engagement and involvement with the practice facilitator and QI objectives. Please note if the site coordinator is part of practice administration and/or is a clinician. Please note any barriers to engagement]
L: Local Clinician Champion	No local clinician champion is identified for this project.	Local clinician champion is identified for this project, but is largely uninvolved.	Local clinician champion is identified. Is able to moderately support peer-to-peer education and QI activities, but has competing priorities.	Local clinician champion is identified. Is able to enthusiastically support peer-to-peer education and QI activities.		[please write a brief description of the practice's local clinician champion, describing credentials and role in the project. Please note if the local clinician champion is part of practice administration. Please note any barriers to engagement]

TRANSLATE MODEL EVALUATION RUBRIC (CONTINUED)						
A: Audit and Feedback (practice-level; provider-level; patient-level outcome reports)	Practice does not perform cancer screening audit and feedback activities at any level.	Practice performs cancer screening audit and feedback regularly, but not at all levels.	Practice performs cancer screening audit and feedback regularly and on multiple levels. Practice does not widely disseminate the performance data within the practice.	Practice performs cancer screening audit and feedback regularly and on multiple levels. Practice disseminates the performance data within the practice on a regular basis.		[please write a brief description of the practice's audit and feedback activities. Please note if these activities are conducted for all three cancer screening targets. Please note at what levels the audit and feedback is conducted (i.e., practice-level, provider-level) and how it is disseminated across the practice. Please note any practice policies regarding this rubric element]
T: Team Approach (interdisciplinary teams for QI decision-making)	No teams are formed for QI in this project.	Practice has a QI team for this project, but it operates in a top-down approach without input from multiple levels of staff]	Practice has a QI team for this project. QI team involves multiple levels of staff, but not all staff are present at/invited to each team meeting.	Practice has a QI team for this project. QI team involves multiple levels of staff that are engaged in project activities and decision-making at each meeting.		[please write a brief description of the practice's level of team work on this project. Please note what barriers exist to interdisciplinary teams. Please note if your practice has PCMH status. Please note any practice policies regarding this rubric element]
E: Education (all forms of training, both formal and informal)	No opportunities for cancer screening training and education.	Cancer screening training and education available on limited and inconsistent basis.	Practice provides routine cancer screening training and education, but only for certain levels of clinicians.	Practice provides routine cancer screening training and education across all levels of clinicians and staff. This training involves population health management topics.		[please write a brief description of the practice's educational and training opportunities made available to staff on cancer screening topics. Please note the level to which this training focuses on clinical care, quality improvement and population health management. Please note any practice policies regarding this rubric element]

EVIDENCE-BASED INTERVENTION MODEL EVALUATION RUBRIC PRACTICE NAME: EVALUATION PERIOD:

Item	Score Options				Score	Comments
	1	2	3	4		
Client Reminders (written, email, or telephone messages advising patients they are due for screening)	No current system to implement client reminders at the practice.	The practice has a reminder system available, but it is rarely used or has outdated information.	The practice uses telephone, written and/or email reminders routinely.	The practice uses telephone, written and/or email reminders routinely, and supplements with routine follow-up.		[please write a brief description of the practice's client reminder system and level of implementation]
Small Media (videos and printed material to inform and motivate people to be screened)	No current use of small media.	The practice has some small media available, but it is outdated and does not address all 3 cancer screening targets.	The practice has a variety of up-to-date small media available (e.g., brochures, flyers, posters, videos, etc.), but may not be comprehensive in addressing all 3 cancer screening targets.	The practice has a variety of up-to-date small media available (e.g., brochures, flyers, posters, videos, etc.) targeting all 3 cancer screening services.		[please write a brief description of the practice's small media utilization]
One-on-One Education (delivers info to patients about indications for, benefits of and ways to overcome barriers to cancer screening)	No current use of one-on-one education.	Only practice physicians and nurses provide one-on-one education. May or may not be accompanied by supporting materials.	Multiple individuals affiliated with the practice are trained to provide one-on-one education to patients regarding cancer screening (e.g., providers, nurses, care coordinators, referral staff, etc.).	Multiple individuals affiliated with the practice are trained to provide one-on-one education to patients regarding cancer screening (e.g., physicians, nurses, care coordinators, referral staff, etc.), and these discussions are accompanied by small media and client reminders.		[please write a brief description of practice policies and implementation regarding one-on-one patient education]
Reducing Structural Barriers (reduction of non-economic burdens that make it difficult for people to access screening. Can include reducing time/distance to service delivery, modifying service hours, offering services in alternative/non-clinical settings, and simplifying administrative procedures)	No current efforts to reduce structural barriers to screening.	Practice provides some assistance to patients to reduce structural barriers, but inconsistently and not for all 3 cancer screening targets.	Practice provides consistent assistance to patients to reduce structural barriers, but only for one or two of the targeted cancer screening services.	Practice provides consistent assistance to patients to reduce structural barriers for all 3 cancer screening targets.		[please write a brief description of how the practice addresses structural barriers for the 3 cancer screening targets]

Appendix C: Pre-Post TRANSLATE Data

TRANSLATE Scores

Table 1. Site-Specific Changes from Pre- to Post-Practice Facilitation TRANSLATE Element Scores

Practice	Target	Reminders	Administrative Buy-In	Network Information Systems	Site Coordinator	Local Clinician Champion	Audit and Feedback	Team Approach	Education	TOTAL
P1	0	0	-1	0	+2	-1	0	0	0	0
P2	0	0	0	0	0	0	0	0	0	0
P3	0	0	-1	0	0	-1	0	-1	0	-3
P4	+3	+1	0	+1	+1	0	+2	0	+1	+10
P5	0	+1	0	0	+2	0	+1	0	0	+4
P6	0	+1	0	0	0	0	0	0	0	+1
P7	+1	0	0	0	0	0	0	+1	0	+2
P8	0	0	0	+1	0	0	0	0	+1	+2
P9	0	+1	0	0	-1	0	0	0	0	0
P10	0	0	+1	+1	0	0	0	+1	0	+3
P11	0	+1	0	+2	0	0	0	0	0	+3
P12	0	0	0	0	0	0	0	-2	+1	-1
P13	+2	+1	+1	+1	0	+1	+1	0	+2	+9
Avg. Score	+0.462	+0.462	+0.077	+0.462	+0.3077	-0.077	+0.308	-0.077	+0.385	+2.308
Median Score	0	0	0	0	0	0	0	0	0	+2

Evidence-Based Intervention (EBI) Scores

Table 2. Site-Specific Changes from Pre- to Post-Practice Facilitation EBI Scores

Practice	Client Reminders	Small Media	One-on-One Education	Reducing Structural Barriers	TOTAL
P1	0	+1	+1	0	+2
P2	0	+1	0	0	+1
P3	+2	+2	0	0	+4
P4	+1	0	-1	+1	+1
P5	0	+1	0	+2	+3
P6	0	+1	0	0	+1
P7	0	+1	0	+1	+2
P8	0	0	0	0	0
P9	0	0	0	0	0
P10	+1	-1	+1	+1	+2
P11	+2	0	0	0	+2
P12	0	0	0	0	0
P13	-1	+1	+1	0	+1
Avg. Score	+0.385	+0.538	+0.154	+0.385	+1.462
Median Score	0	+1	0	0	+2

PRACTICE: P1				
RUBRIC ELEMENT	**PRE-SCORE**	**PRE-COMMENTARY**	**POST-SCORE**	**POST-COMMENTARY**
Target	4	Goal to improve accuracy of registry; making it more reflective of screening for all 3 cancers.	4	No changes.
Reminders	4	Registry regularly reviewed during pre-visit planning; provider reminders on EMR during visit.	4	No changes.
Administrative Buy-In	4	Monthly meeting between medical director and facilitator; project a regular agenda item in PCMH meetings.	3	Medical director met less frequently as time went on; project remained as agenda item on monthly PCMH meetings.
Network Info. Systems	4	Registries updated monthly for all 3 cancers through Excel spreadsheet, which is reviewed by staff for pre-visit planning; reminders placed in chart for physicians.	4	No changes.
Site Coordinator	1	No specific site coordinator identified; facilitator meets monthly with multidisciplinary PCMH team/	3	No specific site coordinator; PCMH team lead ended up being point person with limited time for project activities.
Local Clinician Champion	4	Medical director of the clinic; highly involved in QI and involves other staff members.	3	Medical director of the clinic; involved in some QI and involved other staff members; limited time to work on the grant.
Audit and Feedback	2	Only practice-level outcome reporting is done for all 3 cancers; reviewed primarily by medical director & PCMH team.	2	Only practice-level outcome reporting is done for all 3 cancers; reviewed primarily by PCMH team.
Team Approach	4	Multidisciplinary PCMH team meets monthly; this project added to monthly agenda; discuss progress, problem-solving, next steps. Level 3 PCMH.	4	No changes.
Education	2	Cancer screening training not provided consistently outside of project.	2	No changes.
TOTAL TRANSLATE	**29**		**29**	
Client Reminders	4	Reminder calls and patient portal messages; physicians follow-up during office visits; scheduling assistance.	4	No changes.
Small Media	3	Patient hand-outs available for 2 cancers in waiting room.	4	Patient hand-outs available for 2 cancers in waiting room. Working on providing patient education videos. Brochures for all 3 cancers handed out on mammo bus.
One-on-One Education	3	Providers, residents, pre-visit planners and patient advocates provide one-to-one education.	4	Providers, residents, pre-visit planners and patient advocates provide one-to-one education. Patient education materials for all 3 cancers on mammo bus.
Structural Barriers	4	Mammography bus offered monthly on-site; health navigator; in-house facilitators for scheduling; transportation services; patient portal.	4	No changes.
TOTAL EBI	**14**		**16**	

PRACTICE: P2				
RUBRIC ELEMENT	**PRE-SCORE**	**PRE-COMMENTARY**	**POST-SCORE**	**POST-COMMENTARY**
Target	4	Clean colonoscopy and mammography registries; patient follow-up for due/overdue; scheduling assistance; survey to identify patient barriers. Level 3 PCMH.	4	No changes.
Reminders	3	Staff assigned to place EMR alerts for providers, who then discuss screening with patients; scheduling assistance. No system in place to monitor consistent use.	3	Staff assigned to place EMR alerts for providers, who then discuss screening with patients; scheduling assistance. Use monitored sporadically.
Administrative Buy-In	4	Medical director assigns staff to clean screening registries and place EMR alerts. Regular check between medical director and site coordinator and/or facilitator.	4	No changes.
Network Info. Systems	4	Registries for colonoscopy and mammography pulled from EMR and maintained in Excel; staff assigned to review and follow-up with patients.	4	No changes.
Site Coordinator	3	Program manager identified as site coordinator; communicates weekly with facilitator. Limited time for project deliverables.	3	No changes.
Local Clinician Champion	4	Medical director of the clinic; also a preceptor for residency program. Oversees project, determines priorities, and informs staff in progress.	4	No changes.
Audit and Feedback	2	At practice-level only; performance data not widely disseminated, only to those directly involved in QI.	2	No changes.
Team Approach	3	Facilitator mainly works with program manager and an MA; medical director oversees project. Information relayed to staff.	3	Facilitator mainly works with program manager and MA; medical director oversees project. Information relayed to staff. MA and nurses assist at times.
Education	2	Informal cancer screening training mainly offered to residents and staff working on registries; training offered on clinical care and QI. Plans for staff to view webinar.	2	Informal cancer screening training mainly offered to residents and staff working on registries; training offered on clinical care and QI. Webinar available for staff to view.
TOTAL TRANSLATE	**29**		**29**	
Client Reminders	4	Staff call patients overdue for mammograms and offer to schedule on mammo bus. Alerts placed in EMR for providers to discuss screening with patients.	4	No changes.
Small Media	2	Use of posters provided through Y2 of grant. Plans to order wall pockets in exam rooms for brochures; otherwise, no room for these materials.	3	Use of posters provided through Y2 & Y3 of grant. Placed wall pockets throughout clinic containing cancer screening information for patients.
One-on-One Education	3	Various clinical staff provide education to patients at points of contact; not accompanied by brochures.	3	Various clinical staff provide education to patients at points of contact; not accompanied by brochures. Obtained anatomical models for education.
Structural Barriers	3	Offers scheduling assistance, social worker for socio-economic barriers; mammo bus on-site weekly.	3	No changes.
TOTAL EBI	**12**		**13**	

PRACTICE: P3				
RUBRIC ELEMENT	**PRE-SCORE**	**PRE-COMMENTARY**	**POST-SCORE**	**POST-COMMENTARY**
Target	4	Working on implementing workflow for tracking patients due for screening; how often reports pulled, who is responsible for follow up.	4	Will work on improved workflow which includes care team; tracking patients due for screening; how often reports pulled; who is responsible for follow up.
Reminders	3	Reminders automatically generated once report from is uploaded into EMR; sets due date for next screening. If patient never screened, provider must place order.	3	In addition to pre-commentary: individual staff assigned to certain QI initiatives but don't have designated time to work on them.
Administrative Buy-In	4	Admin is supportive & engaged in QI; hold regular QI meetings and have a team to work with facilitator.	3	In addition to pre-commentary: clinic is understaffed but willing to commit some time & personnel to project.
Network Info. Systems	3	Registries pulled regularly, and reviewed with providers & staff. Workflow has been created, but not implemented.	3	Workflow not implemented due to lack of staffing.
Site Coordinator	3	Practice coordinator; regularly works on QI efforts, but squeezes in time to work on project & deliverables.	3	No changes.
Local Clinician Champion	3	Medical director; highly supportive of project but has competing priorities.	2	Medical director is supportive of project, but decreased involvement as time went on, relied on site coordinator.
Audit and Feedback	4	Registries pulled regularly, and reviewed with providers and staff. Both practice and provider level reports.	4	No changes.
Team Approach	3	Team consisted of medical director, nurse case manager, nurse manager, & practice coordinator. All provide input but do not all attend meetings.	2	Clinic challenged with being understaffed over last few months. Many staff became less available to work on project. Obtained PCMH 2011, working on 2014.
Education	2	Only what is provided through grant.	2	Mainly what is provided through grant. Guidelines occasionally discussed with providers at QI meetings.
TOTAL TRANSLATE	**29**		**26**	
Client Reminders	2	Phone calls to remind and get overdue patients on mammo bus; verbal reminders during visits.	4	In addition to pre-commentary: reminder letters sent out as well; scheduling assistance provided.
Small Media	1	Practice hasn't used much small media since moving in August 2015. Used to incorporate more.	3	Brochures, posters and DVDs obtained through grant, but materials vary based on cancer type.
One-on-One Education	2	Done by providers during visit, and nurses review education with patient upon discharge.	2	In addition to pre-commentary: also now have anatomical models for providers to use for education.
Structural Barriers	4	Help patients obtain insurance, transportation, find clinics closer to home, scheduling assistance. Done for all 3 cancers; Pap tests done on-site.	4	No changes.
TOTAL EBI	**9**		**13**	

PRACTICE: P4				
RUBRIC ELEMENT	**PRE-SCORE**	**PRE-COMMENTARY**	**POST-SCORE**	**POST-COMMENTARY**
Target	1	New target has not been set at this time. Will be done at kick off meeting or next meeting.	4	Practice has divided into clinical teams that meet regularly to review data and discuss workflows. Data coordinator is works with practice to assist with this.
Reminders	3	CDS and DM/HM system is available, but practice is not monitoring consistently.	4	DMHM is being used more regularly. One provider on QI team has updated formulas. Data coordinator and practice facilitator also using Arcadia to check data.
Administrative Buy-In	3	Administration & providers supportive, but due to time constraints regard QI reports as "someone else's job".	4	Still some resistance to new changes, but overall providers are working hard on these new workflows.
Network Info. Systems	3	Reports and previous data are available but due to staffing and time constraints these reports are often only run by the practice facilitator.	4	Data coordinator and PF work together to pull data. Data are then shared with the teams and nurses call the patients to remind them of needed screenings.
Site Coordinator	3	Site coordinator is set and is open to working on the project, but has very limited time.	4	Data coordinator and practice facilitator work closely with QI team.
Local Clinician Champion	3	LCC is identified and assists other clinicians with QI activities and education, but has very limited time.	3	Practice is experiencing "transformation fatigue", but new workflows seem to be giving some relief on this.
Audit and Feedback	2	Feedback provided at provider meetings; practice feels they do not have staff to do this independently of PF services. Reports focused on breast & CRC (PCMH reporting).	4	Clinical teams meet either monthly or weekly, data is pulled regularly, feedback given to teams at least monthly, data posted in break room for all staff to view.
Team Approach	3	PCMH practice; QI team involves nurse rep, an NP, an MD, and office manager; some with time constraints.	3	Clinical teams have developed and are working well; meet at least monthly but often weekly. PF and QI lead meet 4 to 5 times a week to ensure smooth workflows.
Education	2	Willing to provide training to staff that request it. Difficult due to staffing limitations.	3	Training available but not always in a regular routine. Available to all staff.
TOTAL TRANSLATE	**23**		**33**	
Client Reminders	3	Practice uses Talk Soft routinely, assists with scheduling, but may not always follow up due to staffing & time restraints.	4	Nurses and data coordinator call patients regarding screening needs and follow-up.
Small Media	3	Small media is available but may not be given to patients on a consistent basis, and may not cover all 3 targets.	3	Some small media available.
One-on-One Education	3	Clinicians and nurses provide education; currently no care coordinator, referral staff interactions limited to informing patients of appointment dates.	2	Currently only providers and nurses are providing one-on-one education.
Structural Barriers	3	Scheduling assistance; referrals to help patients find insurance. Pap tests available on-site. Extended hours.	4	Practice provides assistance for all 3 cancer screening targets, though with limited resources.
TOTAL EBI	**12**		**13**	

PRACTICE: P5				
RUBRIC ELEMENT	**PRE-SCORE**	**PRE-COMMENTARY**	**POST-SCORE**	**POST-COMMENTARY**
Target	4	Create and implement workflow to improve upon identifying and following up with patients for any of the 3 cancers with regular use of registry.	4	No changes.
Reminders	2	EMR has capability to put reminders in place, but these functions are not being used consistently for cancer screening, and no set workflow is in place.	3	In addition to pre-commentary: being used more often for with new workflows starting to be implemented; patients due for screening are shown educational video.
Administrative Buy-In	2	Interested but not highly engaged due to competing priorities; understaffed & high turnover. Limited time and staff availability for project.	2	No changes.
Network Info. Systems	2	Registry can be pulled from EMR for all 3 cancers but no workflow right now and it's not used regularly.	2	Staff has no time to review registries; however clinician champion has started to track monthly screening rates.
Site Coordinator	1	None identified at this point; major staff turnover since project Y2. Previous site coordinator as well as her replacement are both no longer on staff.	3	Clinician champion ended up acting as site coordinator; communicated regularly with PF and helped coordinate project activities, but had limited time.
Local Clinician Champion	3	LCC is a physician and is main contact for PF right now. Although interested in the project, competing priorities involve the major staff turnover & understaffing issue.	3	LCC took time to meet with facilitator regularly, decision-making for project and delegating certain activities to staff, although had same competing priorities.
Audit and Feedback	1	No audit and feedback specific to cancer screening being performed at this time due to the previous outlined staffing issues.	2	Audit and feedback for cancer screening is now starting to be used on a practice-wide level in terms of %s of eligible patients in practice who have completed screenings.
Team Approach	1	No QI team established for this project at this time.	1	No QI team established for this project, clinic is too understaffed. PCMH 2011
Education	2	Informal education mainly provided through cancer screening project, and materials provided by facilitator.	2	In addition to pre-commentary: materials occasionally provided by clinician champion at staff meetings.
TOTAL TRANSLATE	**18**		**22**	
Client Reminders	2	Providers address screening during office visits, routinely during annual physical. Sometimes mailing and phone reminders are used as well.	2	No changes.
Small Media	2	Some posters and brochures obtained from PF, but with staff turnover they did not end up obtaining other materials they were interested in during Y2 of project.	3	Videos, brochures, posters used to educate patients about screening, although availability of small media varies for the 3 cancer types.
One-on-One Education	2	One-to-one patient mainly provided by physicians/PA and nurses during office visits.	2	In addition to pre-commentary: accompanied by supporting materials (videos, brochures).
Structural Barriers	2	Staff assist patients with transportation services and offer patients a variety of locations to get screening done for all 3 cancers though not always consistent.	4	Practice started implementing FOBT, and will shortly implement workflow to provide bus passes to patients needing transportation for mammogram and Paps.
TOTAL EBI	**8**		**11**	

PRACTICE: P6				
RUBRIC ELEMENT	**PRE-SCORE**	**PRE-COMMENTARY**	**POST-SCORE**	**POST-COMMENTARY**
Target	3	Target measures for breast and CRC screening in place for PCMH purposes. Due to their population, QI strategies need to be more "creative." Need cervical plan.	3	They enacted QI measures this phase; specifically increasing cervical cancer screening by opening their clinic 2.5 mornings dedicated solely to women's healthcare.
Reminders	2	Uses program called Care Opportunities (CO) to track screenings - only tracks mammograms and CRC screenings currently. Separate from EMR.	3	No changes.
Administrative Buy-In	4	Administration is very dedicated to QI and the site has a QI committee that meets bi-monthly.	4	No changes.
Network Info. Systems	2	CO allows for registries to be printed. However due to the transient nature of this population they are not very practical or useful to the providers.	2	The providers have become more cognizant of the reports and briefly look them over. Again, because they see their patients irregularly the report is difficult to use.
Site Coordinator	3	QI coordinator (relatively new); practice manager and a physician helping & involved in QI.	3	QI coordinator left about 2 months into project. Practice manager became main contact.
Local Clinician Champion	4	Physician; very enthusiastic of any QI strategies to reduce barriers for this population; very supportive of her staff.	4	No changes.
Audit and Feedback	3	CO shows providers where they stand in terms of percentage of breast and CRC screenings - both as a single provider and as a site as a whole.	3	No changes.
Team Approach	4	Very dedicated staff and QI team - and are also PCMH.	4	No changes.
Education	2	Providers try to educate patients but because they may only see them once or twice they try to focus on their particular health issues at that time. They have used educational materials such as flyers and posters.	2	No changes.
TOTAL TRANSLATE	**27**		**28**	
Client Reminders	2	The site tries to remind patients by calling or texting them but usually their phones are not in service.	2	The doctors also try to remind the patients at visits but, again, the population makes follow-up difficult.
Small Media	2	The practice utilizes posters in shelters and gives the patients educational materials for breast and CRC screening.	3	They would like to get instructor from CSP to give informational sessions but that has not started yet.
One-on-One Education	2	If time permits the physician will provide education to the patient. Again, because of the population they try to address immediate health needs first.	2	Trying to be consistent with face-to-face reminders; FIT usage has increased. Dedicated office time specifically to cervical cancer screening allows for an opportunity for women's health education, including mammograms.
Structural Barriers	2	They have used the mammogram bus in the past to address the barrier of transportation and they do have a patient navigator to help schedule appointments.	2	No changes.
TOTAL EBI	**8**		**9**	

PRACTICE: P7				
RUBRIC ELEMENT	**PRE-SCORE**	**PRE-COMMENTARY**	**POST-SCORE**	**POST-COMMENTARY**
Target	1	Overall the site wants to improve their screening rates but no real strategies to do so are in place. Pushback from providers. PCMH initiatives.	2	A few strategies have been put in place - including using their care coordinator more extensively and being a bit more open to suggestions from outside of the practice.
Reminders	3	Care Opportunities (CO) to track screenings - only tracks mammograms and CRC screenings currently. Separate from EMR.	3	No changes.
Administrative Buy-In	2	Practice administration is dedicated to implementing new QI strategies, but providers don't seem entirely supportive. Response was "we don't have time for that".	2	Unfortunately the providers are not very supportive of suggestions for new QI practices.
Network Info. Systems	3	CO allows for registries to be printed. The nurses and practice manager have a workflow they are trying to develop and put into place.	3	The nurses and practice manager enacted a preliminary workflow, relying heavily on their care coordinator that they are testing.
Site Coordinator	3	Practice manager; very responsive and interested in developing a QI plan to increase screening numbers.	3	Practice manager has also recruited a nurse to help in these endeavors.
Local Clinician Champion	2	See above regarding clinicians' involvement under "Administrative Buy-In."	2	No changes.
Audit and Feedback	4	CO shows providers where they stand in terms of percentage of breast and CRC screenings - both as a single provider and as a site as a whole. Monthly reports.	4	No changes.
Team Approach	2	Main QI staff consists of 2 people who do not have much time to devote to QI projects.	3	Improvement seen in terms of dedicating more time to QI activities.
Education	2	Training seems to mostly take place when Cancer Services and PF go in to start these projects.	2	No changes.
TOTAL TRANSLATE	**22**		**24**	
Client Reminders	3	The site was sending letter reminders to their patients; not sure whether this is still occurring.	3	The site was sending letter reminders to their patients and trying to follow-up with phone calls. Nurse responsible for face-to-face patient reminders.
Small Media	2	PF providing brochures and information pertaining to all 3 screenings. Educational DVD being created to play in waiting room.	3	In addition to pre-commentary: bulletin board in waiting room that they dedicate to screening; educational DVDs being played in waiting room.
One-on-One Education	2	Nurses provide most one-on-one education.	2	No changes.
Structural Barriers	2	During the last phase the site did try to remove the transportation barrier but mammo bus told them they couldn't provide services in Monroe County at the last minute. Plans to actively work to reduce barriers.	3	The practice wants to use funds for transportation - whether bus passes, cab fare, etc.
TOTAL EBI	**9**		**11**	

PRACTICE: P8				
RUBRIC ELEMENT	**PRE-SCORE**	**PRE-COMMENTARY**	**POST-SCORE**	**POST-COMMENTARY**
Target	3	The site is a PCMH site. The practice would like to work on all 3 cancer screenings this phase - currently they only track breast and CRC cancer screenings.	3	The office is working to develop a more specific plan to ensure cervical cancer screenings are completed as needed.
Reminders	3	Care Opportunities (CO) to track screenings - only tracks mammograms and CRC screenings currently. Separate from EMR.	3	This site does not particularly care for the CO reports as they are printed in an excel format.
Administrative Buy-In	3	Practice manager is very engaged in the QI process; committed to any QI strategies suggested and is very helpful to the process.	3	No changes.
Network Info. Systems	3	CO allows for registries to be printed. The nurses and practice manager have a workflow they are trying to develop and put into place; only tracks breast & CRC.	4	The care coordinator works off of these registries to send letters/call patients. The registry only tracks breast and CRC screenings.
Site Coordinator	4	Practice manager is the site coordinator; very involved and engaging with the practice facilitator.	4	The practice manager and the nurse care coordinators are very involved and engaging with the practice facilitator.
Local Clinician Champion	4	The practice manager and one of the nurses are the practice champions; both part of the administration and are available as needed.	4	No changes.
Audit and Feedback	4	CO shows providers where they stand in terms of percentage of breast and CRC screenings - both as a single provider and as a site as a whole. Monthly reports.	4	No changes.
Team Approach	3	QI team in place; works hard on implementing new strategies. Providers are not always receptive plus they are down one provider due to maternity leave.	3	The providers are not always receptive - although some strides have been made this phase - with the help of the practice manager.
Education	1	Not entirely sure what opportunities they have in place for education for the providers; will ask at next meeting.	2	Staff can take educational courses/refreshers as requested.
TOTAL TRANSLATE	**28**		**30**	
Client Reminders	3	Written and telephone follow-up as reminders to the patients; only done for mammograms and CRC screening and not in a routine manner.	3	Developed a workflow for this initiative and the nurse care coordinators are extremely receptive.
Small Media	3	The site has models and print media (brochures, posters) pertaining to all 3 cancers.	3	No changes.
One-on-One Education	3	The nurses and care manager are trained to both call the patients with information and to provide when they are seen for an office visit.	3	The nurses also remind patients at face-to-face visits.
Structural Barriers	3	Introduced FIT kits in Y2 and the site was able to use the mammogram bus. No cervical cancer screening barriers addressed at this point.	3	The site will be holding women's educational sessions at the practice and they are also considering using specific 1/2 days dedicated to cervical cancer screening.
TOTAL EBI	**12**		**12**	

PRACTICE: P9				
RUBRIC ELEMENT	**PRE-SCORE**	**PRE-COMMENTARY**	**POST-SCORE**	**POST-COMMENTARY**
Target	3	They have improvement targets but this often gets lost with competing demands.	3	No changes.
Reminders	2	Clinical decisions available but providers don't always trust them. Some providers use them but many ignore.	3	Clinical decisions available but providers don't always use them. It is not monitored for consistency, but worked during this phase to improve utilization.
Administrative Buy-In	2	Administration buys into the project but this is one of several competing demands on the QI team.	2	No changes.
Network Info. Systems	4	Practice registry is strong and significant resources are allocated to updated and cleaning data.	4	No changes.
Site Coordinator	3	Site coordinator is good but has recently been promoted and is struggling to fit this work into new position.	2	Through project phase communication was limited and coordinator seems to struggle with competing demands.
Local Clinician Champion	3	Clinical champion engaged and supportive but interaction with them is difficult. Seems supportive but does not attend routine meetings.	3	No changes.
Audit and Feedback	3	Providers see aggregate data often; site working to use provider by provider data to improve provider engagement.	3	No changes.
Team Approach	3	Strong team, but again clinical champions not often engaged just QI team; nurses never present.	3	No changes.
Education	2	No consistent education/training of staff.	2	We held training with nursing staff that was very well received but education still remains inconsistent across sites.
TOTAL TRANSLATE	**25**		**25**	
Client Reminders	3	Through previous iterations of this work client reminders are strong; receive letter when overdue.	3	No changes.
Small Media	1	Not used at all.	1	No changes.
One-on-One Education	2	Some providers provide education, others do not. Not consistent and not documented.	2	No changes.
Structural Barriers	3	Close partnership with Cancer Services and has mammo on-site. Often working to support transportation and scheduling needs of patients.	3	No changes.
TOTAL EBI	**9**		**9**	

PRACTICE: P10				
RUBRIC ELEMENT	**PRE-SCORE**	**PRE-COMMENTARY**	**POST-SCORE**	**POST-COMMENTARY**
Target	3	Goal to meet the national targets for breast, cervical and colorectal cancer screening, as stated under HP2020. Improvement targets overlap with PCMH and MU.	3	In addition to pre-commentary: They addressed all three cancer screening groups during this period through care coordination and nursing team workflow changes.
Reminders	3	The practice has a pop-up reminder (HM) as well as a care coordination note that appears on every patient chart; both have some limitations.	3	The HM is unreliable and hard to adjust for individual patient needs, but definitely improved across the project period.
Administrative Buy-In	3	Medical director and practice manager very engaged and devoted to this project. Health system administration largely absent and difficult to work with.	4	Medical director, practice manager both very engaged in this project. Starting to also see larger health system become involved by devoting IT resources.
Network Info. Systems	2	EHR can pull patient lists as a registry, but extremely unreliable and hard to replicate registry pulls. Only two individuals in practice have ability to pull these records.	3	Practice has been working with health system IT to develop PCMH reports from EHR. Workflow designed to pull reports once/month to share results during monthly provider mtgs.
Site Coordinator	3	Practice manager; very engaged with PF, QI team and objectives, but the practice overall struggles with full engagement due to overriding responsibilities.	3	No changes.
Local Clinician Champion	3	Medical director; devoted to QI efforts, but peer-to-peer education is limited and often inhibited due to competing demands and lack of practice staff cohesion.	3	No changes.
Audit and Feedback	3	Conducts quarterly EHR data pulls by provider for all 3 cancer screening targets. However, results not widely shared across practice. No formal policies set.	3	Practice will focus on this for next PDSA; will work on cleaning up PCMH reports to be run every month, by provider, and shared at monthly provider meetings.
Team Approach	2	Nurse/care coordinators, the medical director and practice manager in the QI team. None of the practice nurses or other physicians are involved. Often resistance to implementing PDSAs by providers and nurses.	3	For next PDSA cycle, they want to directly involve the nursing staff in the QI initiative development; in the hopes it will generate more buy-in. They are going to focus on increasing cervical cancer screening rates, their biggest area for growth.
Education	2	Practice tries to include educational information during provider meetings, but done inconsistently.	2	The practice does recognize that they need to provide more training for nurses and providers in order to achieve their PDSAs on data entry workflows.
TOTAL TRANSLATE	**24**		**27**	
Client Reminders	2	Reminders via telephone and MyChart. MyChart reminders can be unreliable; phone reminders only done for patients who no-show or cancel appointments.	3	Practice also uses insurance lists to contact Medicaid patients who are overdue for screenings as part of the care coordinator workflow.
Small Media	4	Small media for all 3 cancers in waiting room; posters in waiting area and exam rooms.	3	Practice has not distributed very many of these since they were designed and printed; could be improved.
One-on-One Education	2	Largely left to the physicians, and may not always occur based on type of patient visit (i.e., acute vs. annual).	3	Care coordinators now also providing education on screening for patients that are identified as unscreened.
Structural Barriers	2	Care coordinators to help patients obtain CRC and breast screening, but not cervical. Translation services available.	3	Care coordinators provide education, insurance assistance, scheduling assistance, and at times are able to help connect patients to transportation resources.
TOTAL EBI	**10**		**12**	

PRACTICE: P11				
RUBRIC ELEMENT	**PRE-SCORE**	**PRE-COMMENTARY**	**POST-SCORE**	**POST-COMMENTARY**
Target	1	Team does not set targets; they are unable to review measures easily or often.	1	No changes.
Reminders	2	Reminder system built previously, but was flawed and therefore providers tend to ignore.	3	New reminder system built into EHR this phase and seems to be working well. Still inconsistency in utilization but great improvement.
Administrative Buy-In	2	Administration agrees this work is important but does not have adequate time to dedicate to the effort.	2	No changes.
Network Info. Systems	1	Practice is working to create a registry but this has been a consistent point of difficulty. The team feels their EHR has limited functionality to support the work and has struggled to get anyone with enough time to really work on this.	3	Registry built during this phase, but done with the aid of a student, now that student is gone it's unclear who will follow up on the registry.
Site Coordinator	2	Site coordinator changed and is now the same as the leadership - this makes time difficult. Student engaged but they have limited pull in the organizations.	2	No changes.
Local Clinician Champion	3	Strong clinical champion - who is also leadership but other clinicians are less engaged.	3	No changes.
Audit and Feedback	1	Practice never reviews data, cannot pull their own data routinely, and must hire someone to do it every time they need to look at their data.	1	No changes.
Team Approach	1	There is no team just clinical lead and student.	1	No changes.
Education	2	Training provided to staff but is not incorporated routinely.	2	No changes.
TOTAL TRANSLATE	**15**		**18**	
Client Reminders	1	No system exists.	3	Implemented "TalkSoft" system to robo call patients on registry who are due.
Small Media	1	Providers are not using any small media, and are often not (or not documenting) any conversations around screening.	1	No changes.
One-on-One Education	2	Again conversations are not routinely documented and happen sporadically.	2	No changes.
Structural Barriers	1	No effort here.	1	No changes.
TOTAL EBI	**5**		**7**	

PRACTICE: P12				
RUBRIC ELEMENT	**PRE-SCORE**	**PRE-COMMENTARY**	**POST-SCORE**	**POST-COMMENTARY**
Target	2	They have a structured process and goals with breast cancer screening, but need to establish targeted goals and metrics for CRC and cervical.	2	No changes.
Reminders	2	Have a point of care clinical decision support system, but this not activated for all patients. EMR to be upgraded soon; IT personnel can activate this feature for all patients.	2	No changes.
Administrative Buy-In	4	Administration strongly supports QI; have monthly QI meetings wherein all departments and sites are required to have a representative who shares key metrics.	4	No changes.
Network Info. Systems	2	Practice is joining CHCANYS' CPCI database at the end of January; will allow them to generate patient reports for key metrics. EMR system needs to be optimized for this.	2	No changes.
Site Coordinator	4	The QI director has strong support from the administration, and engages regularly with the PF.	4	No changes.
Local Clinician Champion	4	Medical director; communicates regularly with QI director, and will be able to attend meetings with the PF as well. She has a strong voice for engaging all staff in the QI process.	4	No changes.
Audit and Feedback	4	Holds chiefs of services meetings on a monthly basis, in which provider-specific HQM measures (based on Meaningful Use) are shared.	4	No changes.
Team Approach	4	The QI meetings involve a mixture of nursing staff and physicians, but mostly nurses.	2	Poor team developed, QI director is a gate keeper and cannot get into sites effectively.
Education	2	The medical director used to send out a newsletter to staff, but has not happened in a while. Most education conducted through the monthly QI and chiefs of services meetings.	3	On-site training provided at one site for this project, very well received, but not institutionalized for future trainings.
TOTAL TRANSLATE	**28**		**27**	
Client Reminders	3	The practice uses telephone reminders on a consistent basis. They sporadically use mail reminders, but have a lot of mail returned to sender.	3	No changes.
Small Media	2	Small amount of material available, mostly provided by ACS; want to add posters to exam rooms, and distribute small media around different clinical sites; add language options.	2	No changes.
One-on-One Education	2	Physicians provide one-on-one education, but only during preventive visits.	2	No changes.
Structural Barriers	3	Translation services, nursery/child care, late operating hours 3 days a week. However, if patients are seen for services outside of practice, they cannot address any of those barriers at this time; mostly impacts CRC.	3	No changes.
TOTAL EBI	**10**		**10**	

PRACTICE: P13				
RUBRIC ELEMENT	**PRE-SCORE**	**PRE-COMMENTARY**	**POST-SCORE**	**POST-COMMENTARY**
Target	1	The team has not set specific improvement targets. They are able to look at their data, and do so quarterly but have not established targets.	3	Targets set and reviewed routinely at provider meetings.
Reminders	2	Reminders are added into the patients chart by hand, by the care coordinators; this system has serious limitations.	3	Supports available and utilized by most providers, some discrepancy by cancer (better with mammo and colon than cervical).
Administrative Buy-In	2	Administration - QI has bought in but few resources available and too much on everyone's plate. Leadership buy-in seems to be less, but on the surface is supportive.	3	Administration buys in and had allocated time to the work.
Network Info. Systems	2	Use CPCI which allows them to pull reports, but not clear how this works. Primarily relying on managed care reports (represents an estimated 70% of their population).	3	Practice utilizes CPCI to access registry, care coordinators follow up.
Site Coordinator	3	QI and care coordinators are the site coordinators. All are very engaged but busy of course.	3	Site coordinator engaged and responsive to communication.
Local Clinician Champion	2	Clinical champion was recently identified so participation will hopefully improve shortly.	3	Each site has a local lead.
Audit and Feedback	1	Clinicians get performance reports quarterly but they are unaware of the overall organizational performance or the performance of their peers. Little is done with these reports, just handed out at provider meetings.	2	Some auditing and feedback occurring but not routinely, and patient level outcomes not used.
Team Approach	2	QI & Care coordinators are clearly separate from clinical staff; working to build team will be a core focus of our work.	2	Strong interdisciplinary team.
Education	1	None currently available. Partnering with ACS to conduct education at 3 sites in coming months.	3	As part of this phase of work we trained nursing/provider staff at 2 of the 3 sites.
TOTAL TRANSLATE	**16**		**25**	
Client Reminders	4	Care coordinators handle all reminders with a letter and follow up telephone call. They also meet with patients while in the office to discuss screening needs.	3	As part of this phase they mailed letters to everyone due for the 3 screenings.
Small Media	1	None used at this time.	2	As part of this phase of the work they worked to print information to have at office visits.
One-on-One Education	1	No clear sign of providers providing education, left solely to care coordinators.	2	Great diversity in how the education is happening, routinely not documented.
Structural Barriers	1	No current activity.	1	No changes.
TOTAL EBI	**7**		**8**	